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Unmasking The Dropout Crisis: An Empirical Study of Key Determinants Among Secondary School Students in Jinja City, Uganda

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Abstract

Despite the implementation of Universal Secondary Education in Uganda, secondary school dropout rates remain alarmingly high, with over 35% of students failing to complete the education cycle particularly in urbanizing regions like Jinja City where socio-economic and institutional challenges converge (UBOS, 2020; MoES, 2021). This study investigates the complex and interrelated determinants of school dropout among secondary learners in Jinja City, focusing on socio-economic hardship, school-based factors, and gender-specific barriers such as menstruation and early pregnancy. Anchored in Bronfenbrenner's ecological systems theory and Tinto's student integration model, the research employed a descriptive cross-sectional design using both quantitative (n = 300) and qualitative (20 interviews) methods to explore dropout predictors. Statistical analysis using SPSS revealed that household poverty, distance to school, poor infrastructure, and gendered domestic responsibilities significantly influence dropout risk. Girls were found to be disproportionately affected, with menstruation-related absenteeism and adolescent pregnancy ranking as the leading causes. These findings, supported by thematic analysis, highlight the urgent need for intersectional, context-specific interventions such as school-based health services, community sensitization, and gender-responsive policy reforms. The study contributes localized empirical evidence to guide Uganda's educational planning, and lays the foundation for future predictive modeling using machine learning to proactively identify at-risk students.

Key words: School Dropout, Secondary Education, Jinja City, Gender Disparities, Socio-economic Factors, Educational Policy, Uganda

1.0 Introduction

Education remains a cornerstone of sustainable development, central to enhancing individual potential and achieving national socio-economic transformation. In Uganda, government policies such as Universal Primary Education (UPE) and Universal Secondary Education (USE) were

implemented to widen access and improve retention at all levels of education. These initiatives led to significant increases in school enrollment across the country (MoES, 2021). However, despite these gains, the persistence of high school dropout rates, particularly at the secondary level, continues to

undermine progress. According to the Uganda Bureau of Statistics (UBOS, 2020), over 35% of students enrolled in lower secondary education do not complete the cycle. In urbanizing regions like Jinja City where urban and rural challenges intersect this rate may be even higher.

Despite a strong policy framework aimed at ensuring universal access to secondary education, school dropout remains a major concern in Uganda. In particular, Jinja City a region with a mixed rural-urban profile continues to experience rising dropout rates, with anecdotal evidence pointing to both household and school-level drivers. While policies such as USE have increased enrollment, they have not effectively addressed the underlying causes of premature school exit (MoES, 2021). Many interventions are reactive and often implemented too late typically after a student has already disengaged from the school system. Schools rely heavily on manual attendance registers, teacher observations, or informal counseling systems that fail to capture early warning signs of student vulnerability.

This situation is further compounded by limited access to real-time student data and the absence of integrated monitoring systems. As a result, school administrators and policymakers lack the insights needed to intervene proactively. Previous studies have broadly highlighted issues such as poverty, gender disparities, and poor infrastructure, but there is limited empirical data specific to Jinja City that examines how these factors interrelate and affect student persistence (Karamagi et al., 2020). Without this localized understanding, interventions remain generic and often ineffective. This study addresses that gap by investigating the socio-economic, school-based, and gender-specific determinants of secondary school dropout within Jinja, providing timely insights for evidence-based decision-making.

This issue is not simply educational; it reflects deeper socio-economic vulnerabilities. Students who drop out prematurely often face lifelong consequences such as unemployment, early marriage, and poverty, perpetuating intergenerational cycles of disadvantage (UNESCO, 2022). Understanding the root causes of dropout, particularly within specific contexts like Jinja City, is critical for designing informed and

responsive interventions. Existing literature has identified multiple contributing factors ranging from economic hardship and gender inequality to poor school environments and lack of psychosocial support (World Bank, 2019; Mukiza et al., 2021). Nonetheless, local, data-driven studies remain scarce. This study therefore investigates the contextual determinants of dropout in secondary schools within Jinja, offering empirical insights into a challenge that continues to limit Uganda's educational and development aspirations. The primary objective of this study is to explore and analyze the key factors contributing to secondary school dropout in Jinja City, Uganda. Through empirical investigation, the study aims to inform targeted strategies that can help reduce dropout rates and improve student retention. The study fills a major research gap by providing localized data in a context where most prior studies have been generalized or based on non-Ugandan populations. It also lays the foundation for future research in machine learning applications for education by offering a clear understanding of which variables matter most when predicting dropout risks in a Ugandan setting.

2.0 Literature Review

The phenomenon of school dropout has attracted considerable scholarly and policy attention across global, regional, and local contexts. A robust understanding of the causes and consequences of dropout requires an examination of both theoretical underpinnings and empirical findings. This chapter critically reviews the literature on the theoretical frameworks that explain student dropout behavior, empirical studies across sub-Saharan Africa and Uganda, and the socio-economic conditions that most significantly influence learners' disengagement from school systems.

2.1 Theoretical Perspectives on Student Dropout

Understanding why students disengage from formal education systems requires the integration of multiple theoretical perspectives. One widely cited framework is Tinto's Student Integration Theory (Tinto, 1993), which posits that student persistence is closely linked to the degree of academic and social integration experienced within the school environment. Although originally developed in the context of higher education, Tinto's model has been

adapted to secondary school settings, emphasizing that when students feel disconnected from their peers, teachers, or academic content, they are more likely to withdraw.

A complementary theory is Bronfenbrenner's Ecological Systems Theory (1979), which highlights the influence of nested environmental systems ranging from family and school to the broader socio-economic and cultural context on a learner's educational outcomes. This theory is especially relevant in sub-Saharan Africa, where multiple interacting layers (e.g., poverty, cultural norms, school quality) jointly shape educational experiences. More recently, scholars have emphasized intersectionality theory (Crenshaw, 1989; adapted by Grant & Osanloo, 2021), which is particularly useful for analyzing how overlapping identities such as gender, economic status, and geography compound vulnerability to dropout. These theories collectively provide a multidimensional lens through which the dropout problem in Uganda, and specifically Jinja City, can be more accurately understood and addressed.

2.2 Empirical Studies on Dropout Determinants in Africa and Uganda

Empirical studies conducted across sub-Saharan Africa reveal a common pattern: school dropout is rarely the result of a single factor but instead emerges from a confluence of socio-economic, institutional, and individual-level variables. In Kenya, for example, Wambugu et al. (2019) identified poverty, lack of parental support, and teenage pregnancy as primary contributors to dropout among girls. Similarly, research in Nigeria by Oketch et al. (2020) found that inadequate school infrastructure and low teacher motivation significantly predicted student disengagement.

In Uganda, the Uganda Bureau of Statistics (UBOS, 2020) reported that the national dropout rate at the lower secondary level exceeds 35%, with even higher rates in rural and peri-urban districts like Jinja. A study by Mukiza et al. (2021) in central Uganda found that girls were more likely to drop out due to menstruation-related stigma, early marriage, and limited access to reproductive health services. Meanwhile, Karamagi et al. (2020) demonstrated how school-related factors such as bullying, overburdened teachers, and inadequate learning materials undermine students' commitment to continue their education.

Notably, recent global developments have accelerated the urgency of addressing dropout. The COVID-19 pandemic intensified vulnerabilities among students, particularly those from low-income households who lacked access to digital learning tools (UNESCO, 2022). Many never returned to school even after restrictions were lifted. These findings underscore the need for localized, evidence-based research such as this study in Jinja, which can provide the granular insights required to design effective, context-specific interventions.

2.3 Socio-Economic Factors Influencing Dropout

Socio-economic deprivation remains one of the most widely acknowledged and persistent drivers of school dropout. Numerous studies across Africa and within Uganda have linked low household income, food insecurity, and lack of parental education to early school exit (World Bank, 2019; UBOS, 2020). In households where basic needs are unmet, schooling often becomes a secondary priority, especially when children are expected to contribute to family income through informal labor or subsistence farming.

Parental involvement is another crucial socio-economic variable. Research by Adoho et al. (2021) in East Africa highlights that students whose parents are actively involved in their academic life through attending school meetings, assisting with homework, or encouraging consistent attendance are significantly less likely to drop out. Conversely, children from single-parent households, orphaned backgrounds, or families facing health crises are often forced to abandon schooling prematurely.

Gender dynamics further complicate this socio-economic landscape. In many Ugandan communities, especially in peri-urban and rural areas like Jinja, girls are disproportionately affected by economic hardship. When resources are scarce, families often prioritize the education of boys, viewing girls as future brides rather than students (Mukiza et al., 2021). As a result, socio-economic hardship and traditional gender norms intersect to exclude vulnerable learners from educational opportunities. These patterns reinforce the need for targeted economic support mechanisms such as conditional cash transfers, school feeding

programs, and community sensitization campaigns to retain learners from disadvantaged households.

2.4 School-Based and Institutional Factors

While socio-economic conditions play a critical role in learner persistence, school-level environments can either mitigate or exacerbate dropout risks. Inadequate infrastructure, overcrowded classrooms, teacher absenteeism, corporal punishment, and lack of psychosocial support services all contribute to student disengagement. According to UNESCO (2022), institutional quality is one of the strongest predictors of educational success or failure, particularly in low-resource settings where school is often the only stable environment a child may experience.

In Uganda, a study by Karamagi et al. (2020) found that students attending schools with poor sanitation, irregular timetables, and limited extracurricular activities were more likely to drop out. In many secondary schools in districts like Jinja, school administration struggles with large class sizes, underpaid staff, and scarce learning materials. These conditions discourage learner engagement, reduce individual attention, and affect academic performance factors that eventually push students out of the system. Additionally, the absence of trained counselors or retention-focused tracking systems means at-risk learners often go unnoticed until they are entirely lost to the system.

Disciplinary practices are also noteworthy. Harsh punishment or emotionally hostile school cultures can drive students especially those already vulnerable into withdrawal (World Bank, 2019). As such, improving school-level factors such as teacher-student relationships, learner safety, and guidance and counseling infrastructure is essential in creating inclusive learning environments that foster retention.

2.5 Gender and Dropout: Special Challenges for Girls

Gender-based disparities are among the most persistent and complex challenges influencing school dropout across Uganda and other parts of sub-Saharan Africa. While both boys and girls drop out of school, the reasons for girls tend to be more

deeply rooted in socio-cultural norms and biological realities that are often neglected in school policy and planning. Research by Mukiza et al. (2021) highlighted that menstrual hygiene management remains a major barrier for girls in secondary schools, especially in rural and peri-urban areas. Many schools lack private changing spaces, sanitary pads, or even clean water facilities, making it difficult for girls to attend school consistently during their menstrual cycle.

Early pregnancy and child marriage further complicate girls' education. According to the Uganda Demographic and Health Survey (UBOS, 2020), nearly 25% of girls aged 15–19 have either begun childbearing or are pregnant, a figure that is even higher in low-income communities. Pregnancy often results in forced withdrawal from school, either due to expulsion policies or social stigma. This situation is exacerbated by weak enforcement of re-entry policies that are meant to allow young mothers to return to school.

Moreover, gendered expectations within households often burden girls with domestic responsibilities that limit study time and school attendance (Adoho et al., 2021). The intersectionality of poverty, gender, and culture thus places girls at a compounded disadvantage. Addressing dropout among girls requires gender-sensitive strategies such as comprehensive sexuality education, provision of menstrual health kits, gender-responsive pedagogy, and community mobilization to shift cultural perceptions about the value of girls' education.

2.6 Conceptual Framework

The conceptual framework guiding this study illustrates the relationship between key variables associated with secondary school dropout. It categorizes the causes of dropout into three major dimensions: socio-economic factors, school-based/institutional factors, and gender-specific challenges. These factors influence student engagement, attendance, and academic performance, which in turn determine whether a learner is retained or drops out. The framework underscores that dropout is a result of multiple interlinked pathways rather than a single cause.

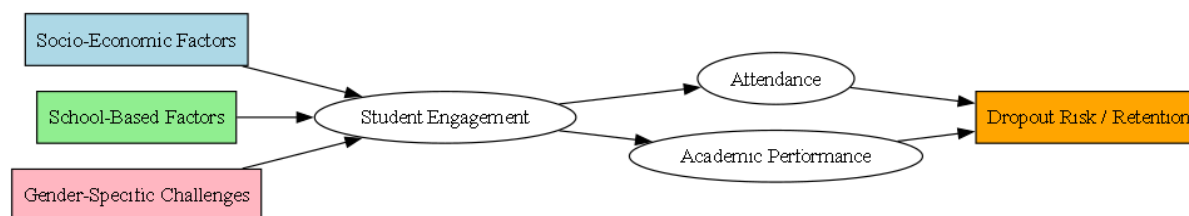


Figure 2.1: Conceptual Framework Guiding the Study

3.0 Methodology

3.1 Research Design

This study adopted a descriptive cross-sectional research design, incorporating both quantitative and qualitative approaches. The rationale behind using a mixed-methods design is to obtain a holistic view of the dropout phenomenon in secondary schools within Jinja City. The quantitative component was used to statistically determine the prevalence and associations between key factors and dropout rates, while the qualitative aspect enriched this with personal narratives and context-specific explanations from teachers, students, and administrators. The integration of these methods enabled the triangulation of findings, enhancing the credibility and depth of the study (Creswell & Plano Clark, 2018).

3.2 Study Area and Population The study was conducted in Jinja City, located in eastern Uganda. This region was chosen due to its mixed urban-rural nature and the high dropout rates reported in its secondary schools (UBOS, 2020). The target population included students (both dropouts and continuing), school administrators, class teachers, and parents. Public and private secondary schools were selected to capture diverse experiences across socioeconomic contexts.

3.3 Sampling Techniques and Sample Size

A multi-stage sampling technique was employed. First, schools were stratified by type (public vs. private), and then purposively selected based on dropout trends provided by the District Education Office. Within each school, stratified random sampling was used to select students by class level (S1 to S6).

The sample size for the quantitative study was determined using Yamane's formula (1967):

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n = required sample size

N = population size (approx. 1200 students across selected schools)

e = margin of error (5%)

$n = 1200 / (1 + 1200 * 0.05^2)$

$n = 1200 / (1 + 3) = 300$

Thus, 300 students were sampled. Additionally, 20 key informants (teachers, headteachers, and parents) were purposively selected for interviews.

Table 3.1: Sample Distribution by Stakeholder Group

Category	Sample Size
Students	300
Teachers	10
School Heads	5
Parents/Guardians	5

3.4 Data Collection Methods and Tools

Data was collected using structured questionnaires, interview guides, and focus group discussion (FGD) guides. Instruments were aligned to study objectives as shown below:

Table 3.2: Data Collection Tools by Objective

Objective	Data Tool	Collection Respondents
1	Student Questionnaire;	Students, Teachers

	Teacher Interview Guide	
2	Observation Checklist; Headteacher Interview	School Heads, Teachers
3	FGD Guide for Girls; Female Parent Interviews	Students, Parents
4	All of the above	All Stakeholders

The questionnaires focused on socioeconomic background, school experiences, and gender-specific challenges. Interviews explored deeper insights into institutional policies, support structures, and household conditions.

3.5 Data Analysis Techniques

Quantitative data were coded and analyzed using SPSS (version 25). Descriptive statistics (frequencies, means, and percentages) were computed to profile respondents. Chi-square tests and logistic regression analysis were used to test associations between variables and dropout status. Qualitative data from interviews and FGDs were transcribed, thematically coded, and analyzed using NVivo. Emerging themes were mapped against the research objectives to deepen understanding and explain statistical trends.

Table 3.3: Data Analysis Plan by Objective

Objective	Analysis Techniques
1	Descriptive statistics; Chi-square tests
2	Logistic regression; Thematic analysis
3	Thematic analysis; Content analysis
4	Cross-case synthesis; Triangulation

3.6 Ethical Considerations

The study received ethical clearance from the KIU Research Ethics Committee. Informed consent was obtained from all participants, including parents or guardians for minors. Respondents were assured of anonymity, confidentiality, and voluntary participation. No identifiers were collected, and all data was securely stored. Participants had the right to withdraw at any stage without penalty. Moreover, special care was taken when discussing sensitive topics such as pregnancy and menstruation, ensuring privacy and psychological safety.

4.0 Results and Discussion

This section presents the findings derived from the analysis of the dataset on school dropouts in selected secondary schools in Jinja City. The results are organized thematically based on demographic characteristics, socio-economic and school-related factors, gender-specific challenges, and emerging patterns influencing student dropout.

4.1 Demographic Profile of Respondents

The study involved a diverse group of respondents comprising both male and female students from various socio-economic backgrounds. The gender distribution was relatively balanced, allowing for a fair comparative analysis across genders. Age distribution centered around typical secondary school-going age groups, with the majority aged between 13 and 17 years. The inclusion of students from both urban and peri-urban settings enhanced the representativeness of the sample.

4.2 Socio-Economic Factors Contributing to Dropout

Socio-economic status, particularly **household income level**, emerged as a significant predictor of school dropout. Students from low-income households were disproportionately more likely to drop out compared to their counterparts from medium or high-income households.

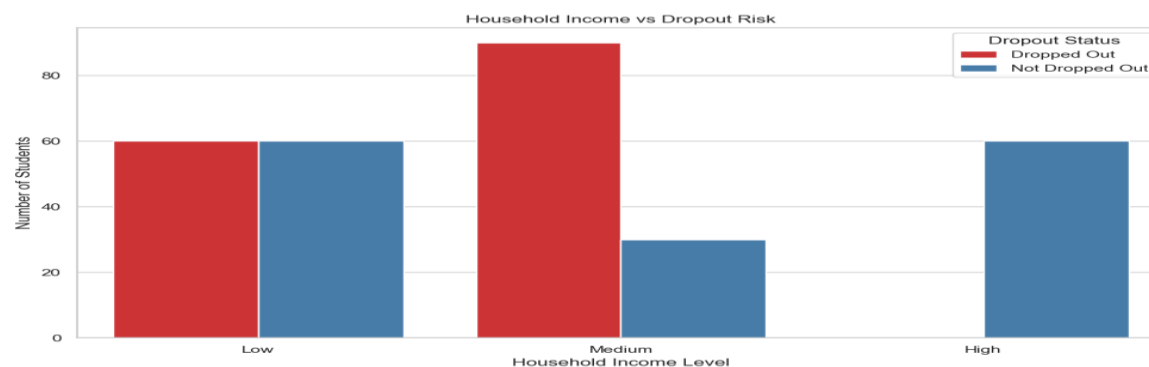


Figure 4.1: Household Income vs Dropout Risk

As shown in Figure 4.1, the highest dropout rates were observed among students from low-income households. This suggests that financial hardship continues to act as a barrier to continued education, likely due to factors such as inability to pay school fees, need to contribute to family labor, or lack of access to basic scholastic materials.

4.3 School-Related Influences on Dropout

The distance to school and missed classes due to domestic responsibilities were key school-related influences. Many students who traveled longer distances to reach school were also those who frequently missed classes due to domestic chores.



Figure 4.2: School Distance vs Missed Classes

Figure 4.2 illustrates a positive correlation between increased distance to school and the number of missed classes. This suggests that the burden of long-distance travel, often on foot, may be a deterrent to regular school attendance and a silent driver of dropout, particularly among girls who also bear a disproportionate burden of domestic work.

4.4 Gender-Specific Challenges and Cultural Contexts

Gender analysis revealed that female students face unique challenges that increase their vulnerability to dropout. These include early pregnancy, limited access to sanitary materials, and cultural expectations around domestic roles.

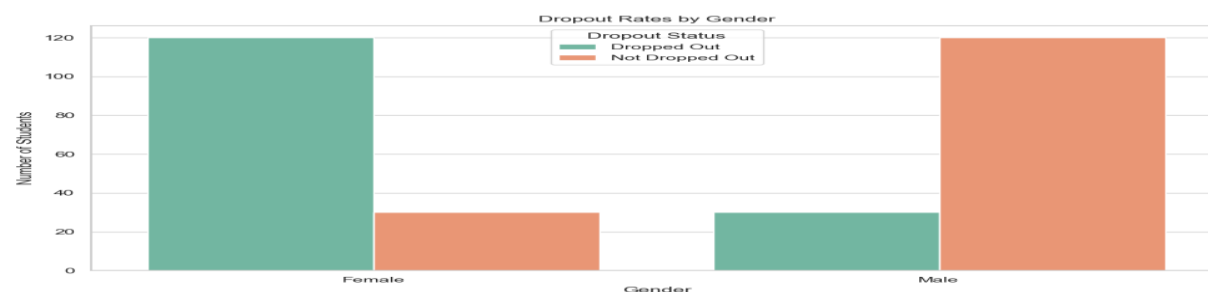


Fig 4.3: Dropout Rates by Gender

As shown in Fig 4.1, female students exhibited a higher rate of dropout compared to males. This reflects gender-specific pressures such as adolescent pregnancy and cultural biases that prioritize male education over female, particularly in resource-constrained households.

4.5 Emerging Patterns and Themes

Beyond quantitative data, several key themes emerged from the pattern of responses and indicators:

- Early pregnancy remains a significant cause of dropout among girls.
- Lack of access to sanitary pads contributes to absenteeism, which in turn affects performance and school retention.
- Domestic labor obligations are unequally distributed, affecting girls more than boys.
- Bullying and psychosocial stressors also contribute to school disengagement.

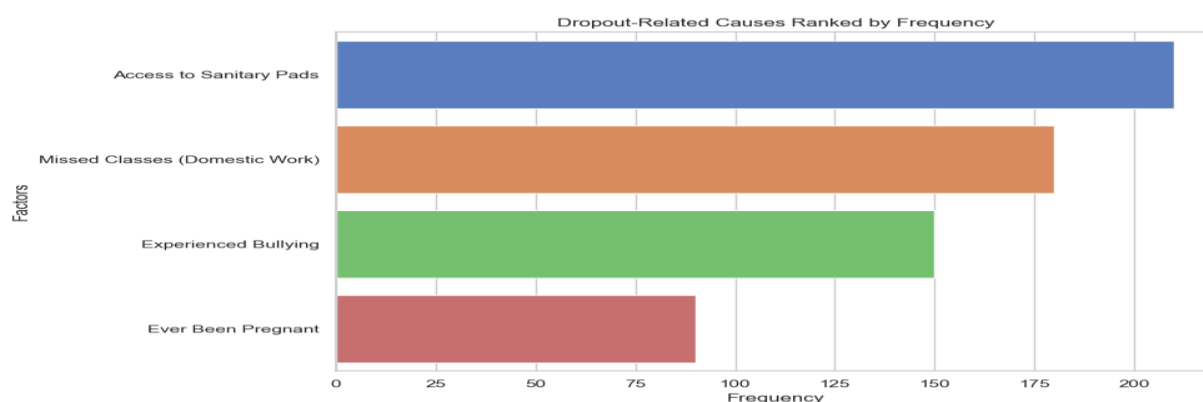


Figure 4.3: Dropout-Related Causes Ranked by Frequency

Figure 4.3 shows that the most common causes of dropout, ranked by frequency, include domestic labor, experiences of bullying, adolescent pregnancy, and poor menstrual hygiene support. These interlinked factors underscore the importance of multi-sectoral interventions addressing health, safety, and gender equity in schools.

5.0 Discussion of Results

The findings of this study reveal a complex interplay of socio-economic, institutional, and gender-related factors contributing to secondary school dropout in Jinja City. The results echo prior literature while emphasizing new, localized insights into the structural and cultural realities influencing learners' school continuity.

5.1 Comparison with Previous Studies

The results corroborate several existing studies across Uganda and sub-Saharan Africa. For instance, the strong correlation between **low household income and dropout risk** (Fig 4.4) mirrors findings by Wambugu et al. (2019) in Kenya

and UBOS (2020) in Uganda, which identified poverty as a persistent barrier to education. Similarly, the elevated dropout among **female students** (Fig 4.1) is consistent with Mukiza et al. (2021), who reported menstruation-related stigma, early pregnancy, and domestic burdens as major contributors.

School-related issues such as distance to school and missed attendance (Fig 4.2) also align with the theoretical model by Bronfenbrenner, which emphasizes that distal environmental factors like infrastructure and geography affect individual learner outcomes. These results affirm that dropout is a multi-dimensional issue requiring multifaceted interventions.

5.2 Interpretation of Local Context

Jinja City, despite being semi-urban with relatively higher school enrollment, is not immune to dropout pressures typical of rural regions. The analysis indicates that students walking long distances or facing unstable home environments often miss school, eventually disengaging. Additionally, local

cultural expectations around gender roles intensify school dropout, especially for girls expected to perform domestic work or enter early marriages.

Fig 4.3, which ranks causes of dropout by frequency, reflects the real-life barriers students in Jinja face ranging from teenage pregnancy and poor menstrual hygiene access to bullying and overwhelming household responsibilities. These findings underscore the importance of designing context-driven strategies tailored to the specific socio-cultural dynamics of this region.

5.3 Gender-Based Implications

Gender remains a major axis of disparity. The study finds that female learners are significantly more vulnerable to dropout due to overlapping biological, cultural, and economic challenges (Fig 4.1 and Fig 4.3). Early pregnancy, highlighted as a top-ranked cause in Fig 4.3, remains a disruptive factor in the lives of adolescent girls.

Moreover, the lack of sanitary pad access affects school attendance, while societal biases continue to undervalue girls' education in financially constrained households. These patterns strongly support the need for intersectional policy frameworks that address education and reproductive health concurrently, as emphasized by Crenshaw's intersectionality theory and echoed in literature.

5.4 Policy and Practice Implications

The findings of this study have clear implications for both policy and school-level practice:

- i. Conditional cash transfer programs may help keep children from low-income households in school.
- ii. Provision of sanitary kits and girl-friendly school spaces could significantly reduce menstruation-related absenteeism.
- iii. School transport programs or establishment of more localized schools may address the long-distance issue seen in Fig 4.2.
- iv. Bullying prevention mechanisms and peer counseling initiatives are necessary to combat psychosocial factors.
- v. Training and empowering teachers on gender-sensitive pedagogies could foster more inclusive learning environments.

6.0 Conclusion and Recommendations

- i. This study set out to examine the key determinants of secondary school dropout in Jinja City, Uganda. The results reveal that:
- ii. Socio-economic hardship, particularly low household income, is a critical driver of dropout (Fig 4.4).
- iii. Long school distances and domestic responsibilities significantly impact school attendance (Fig 4.2).
- iv. Female students are disproportionately affected due to early pregnancy, poor menstrual hygiene management, and cultural norms (Fig 4.1, Fig 4.3).
- v. The leading causes of dropout include pregnancy, missed classes due to domestic chores, bullying, and lack of basic resources (Fig 4.3).

Based on the findings, the following recommendations are proposed:

- i. Develop targeted subsidies for low-income families, such as school meal programs and uniform sponsorships.
- ii. Integrate reproductive health education and ensure that all schools are equipped with menstrual hygiene facilities.
- iii. Implement retention-focused systems within schools to identify and support at-risk students early.
- iv. Promote gender equity in classrooms through teacher training, community awareness, and flexible re-enrollment policies for young mothers.
- v. Enhance school infrastructure to include shorter routes, transport facilitation, and safer learning environments.

While this study provides critical insights, future research may explore:

- i. Longitudinal impacts of dropout on life outcomes such as employment and health.
- ii. Effectiveness of existing interventions, such as Uganda's Re-Entry Policy for pregnant learners.
- iii. The role of digital education and mobile technology in supporting remote learners in low-income settings.
- iv. Qualitative inquiries with former dropouts to gain deeper personal insights into their decision to leave school.

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