

SOCIO-ECONOMIC FACTORS INFLUENCING PRIMARY SCHOOL DROPOUT AMONG HOUSEHOLDS IN KITUI EAST SUB-COUNTY, KENYA

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ABSTRACT

Despite national reforms like Free Primary Education and the push for universal transition to secondary school, school dropout remains widespread in Kitui East Sub-County. This study examines the socio-economic factors associated with school retention, focusing on parental financial status, education, and involvement. A mixed-methods design was adopted, drawing a sample of 377 households from a population of 17,497 through cluster, random, and purposive sampling. Quantitative data were analyzed using descriptive statistics, Chi-square tests, and logistic regression, while qualitative data were thematically analyzed. The results show that 48.7% of households report being unable to afford schooling, which is associated with three times the odds of dropout (OR = 3.20, 95% CI: 1.54–6.62). Financial constraints further increase the risk of dropout (OR = 2.44, 95% CI: 1.20–4.98). Higher parental education is protective, with diploma (OR = 0.34, 95% CI: 0.14–0.84) and degree holders (OR = 0.24, 95% CI: 0.09–0.66) less likely to report dropout. Literacy practices such as reading educational materials (OR = 0.41, 95% CI: 0.19–0.87) and parental involvement through school visits (OR = 0.31, 95% CI: 0.13–0.73) significantly reduce risk. A larger family size is associated with a higher likelihood of dropout (OR = 2.04, 95% CI: 1.08–3.86). Thematic findings reinforce these quantitative results, linking irregular income, high schooling costs, and limited literacy practices to decisions to withdraw children from school. The study indicates that household income security, parental literacy, and active engagement in education are the key household-level factors associated with pupil retention in a rural Kenyan sub-county.

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INTRODUCTION

Universal Primary Education remains central to global education agendas, yet progress has slowed. Estimates suggest that the number of out-of-school children and youth rose by about 6 million in 2023 to roughly 250 million worldwide, while primary-completion rates increased only marginally, from 84% in 2015 to 87% in 2023 (UNESCO, 2023), a pace insufficient to meet Sustainable Development Goal 4 (Reimers, 2024; Soudien et al., 2022). The COVID-19 pandemic worsened exclusion through prolonged school closures, economic strain, and rising teenage pregnancies, leaving global youth literacy and adult-education participation largely stagnant (Ramaiya et al., 2023; Soudien et al., 2022).

Household socioeconomic status remains one of the strongest and most consistent predictors of educational outcomes. Empirical evidence shows that wealthier families translate education policies into higher retention and completion, while poorer households remain constrained by poverty, limited parental education, and household labor demands (Evans & Yuan, 2022; Maldonado et al., 2022). These findings suggest that policy reforms, although necessary, are insufficient without interventions that directly address household-level barriers affecting children's schooling.

Kenya reflects these global patterns. National estimates indicate that out-of-school ratios increased between 2021 and 2022 (Wafubwa et al., 2024). Exclusion is most severe in arid and semi-arid counties, where drought, household labor pressures, and limited educational infrastructure exacerbate dropout risks (Lanyasunya, 2024; Muthami et al., 2023; Yusuf & Ikiugu, 2024).

The scientific problem addressed in this study is the limited empirical understanding of how household-level factors interact to influence primary-school dropout in rural Kenyan settings. While existing studies highlight individual correlates,

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such as income, distance to school, or parental education, few have examined how these variables jointly shape dropout decisions within specific local contexts. This knowledge gap constrains the design of context-responsive interventions that strengthen school retention.

This article, therefore, investigates household determinants of primary school dropout in Kitui East Sub-County. It employs a convergent mixed-methods design that integrates household surveys and key-informant interviews to capture both statistical patterns and local perspectives. The paper proceeds with the conceptual and theoretical framing, outlines the methodology, and presents and discusses the findings. Lastly, it concludes with implications for education policy and practice in Kenya.

LITERATURE REVIEW

This chapter presents the theoretical framework that guided the study and reviews relevant literature on the social and economic factors that affect children's educational outcomes. It highlights the key factors that influence school retention and academic achievement, providing a broad context for understanding the issues at hand. The chapter also identifies gaps in existing research that the study aimed to address. Furthermore, it outlines the conceptual framework, illustrating the interrelationships between the variables that guided the study's investigation.

Theoretical Review

The study drew on Social Capital, Human Capital, and Ecological Systems theories to structure the analysis of household-level determinants of school dropout. Social Capital theory, advanced by Putnam, holds that networks, norms, and trust provide access to information and support (Van Bakel & Horak, 2024). It assumes that social relations can create or restrict opportunities. A key limitation is that not all networks are supportive because some reinforce exclusion and privilege (Toyon, 2022). This limitation was acknowledged by distinguishing between bonding and bridging ties and by controlling for household socio-economic status to reduce bias. Despite this, the theory was valuable for operationalizing parental involvement and local networks as measurable forms of support.

Human Capital Theory, advanced in the mid-20th century by economists such as Gary Becker, explains education as an investment that builds skills, enhances productivity, and improves future earnings for individuals and societies (Nadezhina & Avduevskaia, 2021). It assumes that households make rational choices about allocating resources to schooling (Aslam et al., 2024). A limitation is that it tends to treat parental education as both an outcome and a determinant, which can create risks of multicollinearity and endogeneity. In this study, robustness checks were applied, and education was treated as an explanatory variable while avoiding causal claims. The strength of this theory was in linking parental literacy and qualifications to household decisions about school continuation.

Ecological Systems Theory, developed in the late 20th century by Urie Bronfenbrenner, explains that child development is influenced by dynamic interactions across interconnected systems, including the family, school, community, and broader environment (Tudge et al., 2022). It assumes that individual outcomes cannot be understood apart from broader structures (Hayes et al., 2022). However, the theory risks being applied too vaguely unless external factors are clearly specified and measured. In this study, it complemented the other two theories by incorporating external variables such as distance to school, local labor markets, and drought exposure, grounding dropout analysis in the broader institutional and environmental context.

Together, the three theories addressed one another's weaknesses. Social Capital focused on relational resources but risked ignoring structural constraints, which Ecological Systems captured. Human Capital explained how parental education and literacy influenced household investment decisions, but did not fully account for external shocks, which the ecological lens covered. Ecological Systems, while broad, was sharpened by the concrete mechanisms of Social and Human Capital. This complementarity allowed the study to capture both household-level decisions and the wider forces shaping school dropout in Kitui East Sub-County (Amali et al., 2023; Akbayrak & Douglas, 2022; Yang & Sanborn, 2021).

Empirical Review of Literature

Household income has long been recognized as a determinant of schooling outcomes, but evidence remains context-specific. In Norway, parental unemployment was shown to lower completion rates (Askeland et al., 2025). In India, longitudinal data linked household wealth to school retention (Kumar et al., 2023), although family processes such as parental monitoring were not explored. Across Africa, poverty has been consistently associated with dropout: in Zimbabwe, children from low-income households were more likely to leave school (Runhare et al., 2021); in Nigeria, parental income strongly predicted retention (Roman et al., 2022); in Kenya, inability to afford uniforms and levies was identified as a key barrier (Kerei et al., 2022; Kotiano et al., 2022); and in Cameroon, economic hardship limited attendance (Ewondo Mbebi, 2023). However, many of these studies used broad income categories or urban-based samples, limiting insight into rural households affected by shocks such as drought or crop failure. The present study improved on this by examining affordability at the household level and integrating both routine and shock-related constraints into survey and interview data.

Parental literacy is another central factor influencing school dropout. In Ethiopia, parental literacy increased the likelihood of keeping children enrolled (Kim et al., 2022). In Zimbabwe, children of literate parents had higher attendance probabilities (Sibanda et al., 2021). In Kenya, parents with secondary education were more involved in supervising homework and attending school meetings (Owino et al., 2023). Evidence from Asia and East Africa further supports this pattern: in Pakistan, literacy enhanced participation in PTAs (Abid et al., 2021), while in Tanzania, literate parents were more engaged in school committees (Kigobe et al., 2021). A limitation in these studies is that literacy was narrowly measured as formal schooling or years of education, overlooking functional skills such as reading circulars or interpreting sensitization

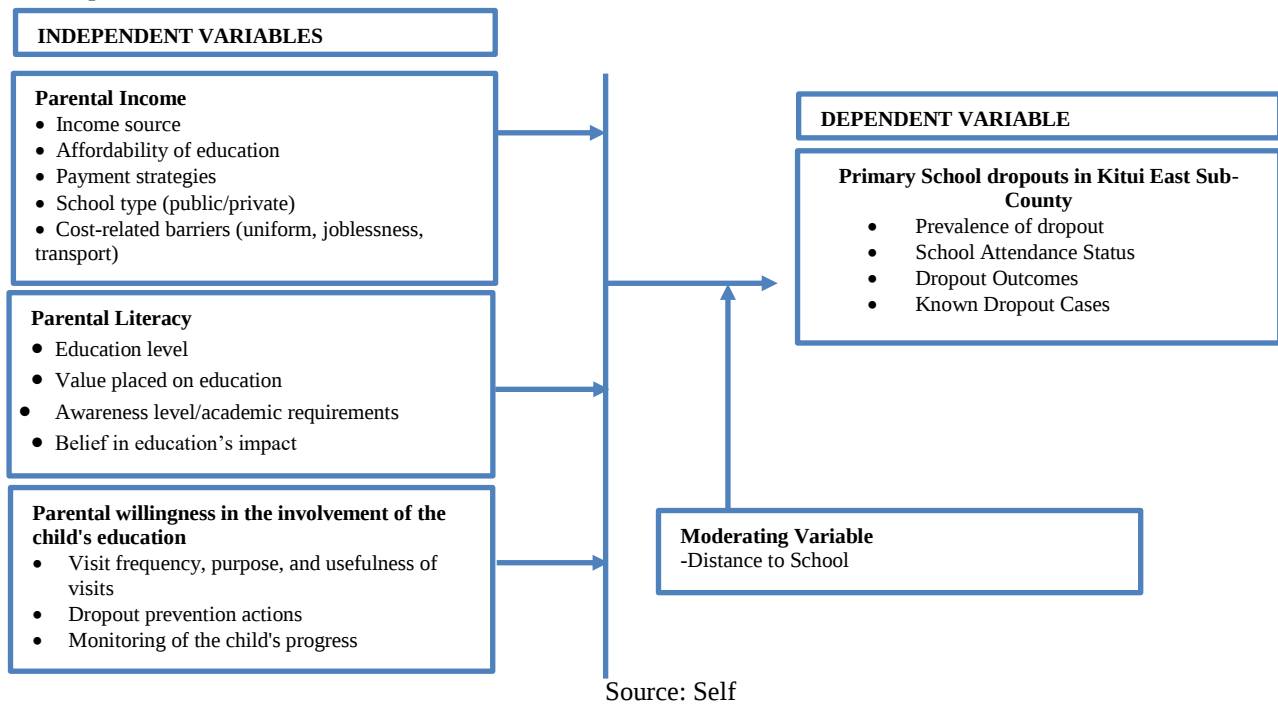
messages. The current study addressed this gap by combining indicators of formal education with measures of functional literacy, allowing for a more comprehensive assessment of parental influence.

Parental involvement has been widely shown to reduce the risk of dropout. In Indonesia, family support and monitoring directly lowered dropout probabilities (Fatimah et al., 2021). In Norway, close supervision and parental expectations provided strong protection against disengagement (Schmid et al., 2021). Comparative evidence across several countries found both home-based and school-based involvement critical for retention (Yang et al., 2023). In Spain, continued parental engagement sustained enrollment (Gil et al., 2021), while in Zambia, participation in school committees improved retention (Mulubale, 2022). In Tanzania, consistent family monitoring promoted regular attendance (Mwinyi et al., 2024). In Kenya, involvement through PTA activities and supervision reinforced persistence (Muthami et al., 2023). Nevertheless, most of these studies relied on cross-sectional or qualitative data, limiting causal inference. Few explicitly tested whether involvement moderated other household-level disadvantages, such as poverty or long distance to school. This study expanded the scope by treating involvement as both a direct factor and a potential buffer against adverse socio-economic conditions.

Despite the consistency of findings across income, literacy, and involvement, several methodological limitations recur. Studies in Ethiopia and Zimbabwe equated literacy with the highest qualification, while Kenyan evidence did not test whether literacy buffered against income shocks. Pakistani and Tanzanian research relied on cross-sectional data, preventing causal conclusions. Similarly, income-focused analyses often failed to account for how shocks or distance amplified household vulnerabilities. Evidence on involvement rarely tests interactions between family behavior and structural barriers. This study addressed these limitations by integrating survey and interview methods, combining formal and functional literacy measures, and testing interaction effects (e.g., income $\times$ distance and literacy $\times$ income) using logistic regression.

The study was guided by a conceptual framework that modeled dropout, measured at both household and community levels, as the dependent variable. Figure 1 summarizes the conceptual model, showing how household resources, parental behaviors, and contextual constraints interact to shape dropout risk.

Conceptual Framework



The independent variables were parental income, literacy, and involvement, with distance to school serving as a moderating factor that intensified the effects of low income on dropout risk. The framework was anchored in Human Capital Theory, emphasizing education as a household investment; Social Capital Theory, highlighting parent–school–community linkages; and Ecological Systems Theory, situating dropout within layered household and community contexts. Together, these theories complemented one another by linking resources, behaviors, and environments. At the same time, their limitations — such as Human Capital Theory's focus on individual returns and Social Capital Theory's neglect of structural poverty — were offset through integration.

MATERIALS AND METHODS

The study used a mixed-methods design, combining structured household questionnaires and key informant interviews to examine socio-economic determinants of drop-out at the primary school level in Kitui East Sub-County. This predominantly rural Kitui County is home to the Kamba community, whose socio-cultural practices shape household-level decision-making regarding education. The sub-county has an estimated population of about 123,000 people and approximately 17,500 households distributed across six wards: Mwitika, Nzambani, Chuluni, Kyamatu, Endau, and Kaliku (Kimanzi et al., 2024).

Livelihood is subsistence-based on farming, and household income is therefore at the mercy of fluctuations in rainfall and regular droughts. Poor transport facilities, the distance to school, and restricted access to secondary schools further limit the resources of resource-poor households (Wafubwa et al., 2024). Kitui East was selected purposively because it offers a setting within which family-level variables are most important to educational success. The area experiences high dropout rates, as noted by the Ministry of Education, and thus represents a well-suited case for examining socio-economic pressure at the family level. This setting provided a suitable backdrop for examining how the stability of income, literacy levels, and active parental engagement influence school attendance choices within the study's household-level framework.

The sample of 377 households was computed using the Krejcie and Morgan formula for a finite population and distributed proportionately to the six wards. Households were randomly sampled within wards from official rolls to ensure equal selection probability (Dubey & Kothari, 2022; Hazari, 2024). Household heads or their senior members in their absence were selected as respondents. Of 377 questionnaires distributed, 267 were returned and accepted as valid, with an overall response rate of 71 percent. Non-response checking between respondents and the sampling frame was by demographics and ward representation; weighting and sensitivity analysis were applied where differences threatened representativeness.

Instrument development and validation followed standard protocols. Questionnaires and interview guides were reviewed by experts and piloted in Kitui Central Sub-County with 37 individuals, representing 10% of the target sample (Taheri & Okumus, 2024). The Content Validity Index was 0.87, and Likert-type scales measuring parental income, literacy, participation, and attitudes toward dropout were very reliable (Cronbach's $\alpha = 0.85$). Item-total correlations and exploratory factor analysis validated construct validity. Quantitative SPSS analysis involved descriptive statistics (means, percentages, and standard deviations), chi-square tests, and binary logistic regression with dropout coded as a dichotomous outcome variable (1 = dropout, 0 = non-dropout). Qualitative interview and focus group discussion data were transcribed, coded deductively and inductively, and used to contextualize survey trends. Triangulation among quantitative and qualitative sources enhanced knowledge and substantiated the conclusions to a greater extent (Creswell & Plano Clark, 2023).

Results were presented systematically, beginning with descriptive statistics of household socio-economic status and demographics: means, percentages, and standard deviations were used to characterize household income, parental involvement, and literacy rates. Cross-tabulations and chi-square tests examined the association between dropout and household variables, and logistic regression estimated the predictors of dropout and their relative contributions. Qualitative focus group and interview stories were woven together to reinforce quantitative trends, ensuring both numerical information and household opinions are heard. Tables and figures were used to highlight statistical results, with narrative summaries bridging these to qualitative results for cohesion and understanding.

Ethical permission was obtained from the university research ethics committee, and a research permit was issued by the National Commission for Science, Technology and Innovation (NACOSTI). The respondents were informed of the purpose, procedures, and voluntariness of the research, with advance written consent before data collection. Anonymization and secure handling of data ensured confidentiality, and reports on findings were presented only in an aggregated form. Such measures ensured compliance with ethical standards for research on human subjects.

RESULTS AND DISCUSSIONS

This chapter reports the findings of the study on the social and economic factors associated with school dropouts in Kitui East Sub-County. The results of the study were organized according to the objectives, focusing on parental income, literacy, and willingness to invest in their children's education. The discussion relates the findings to prior empirical research and theoretical perspectives to present a holistic view of the main determinants of dropout.

Effects of Parental Income on School Dropouts

The first objective of the study was to determine the effects of parental income on school dropout rates in Kitui East Sub-County. The findings are summarized below:

Table 1. Household Economic Factors Affecting Children's Education (N = 267)

Question Category	Response Option	Frequency	Percentage (%)
Household's source of income	Selling livestock	89	33.3
	Business	89	33.3
	Formal employment	45	16.9
	Other source	44	16.5
Ability to afford education	Yes	137	51.3
	No	130	48.7
If yes, how do you manage? (n = 137)	Savings	45	32.8
	Bursaries	45	32.8
	Family support	47	34.3
Type of school attended	Public schools	222	83.1
	Private schools	45	16.9
Challenges in catering for education	Jobless household	178	66.6
	No money for a uniform	45	16.9
	No transport to school	44	16.5

The primary sources of household income were livestock sales (33.3%), small-scale business (33.3%), formal employment (16.9%), and others (16.5%). Slightly more than half of respondents (51.3%) could manage their child's

education, while 48.7% reported hardship. Reports from households that could manage education came from 32.8% who used savings, 32.8% who utilized bursaries, and 34.3% who asked family members for support. Public schools make up the primary education setting (83.1%), alongside severe headwinds such as joblessness (66.6%), inability to afford uniforms (16.9%), and limited transport (16.5%). Therefore, the data show that household income instability significantly affects educational access. Just under half of households do not include primary education expenses in their budgets, which is clearly a significant financial burden. Family support is a coping mechanism, but drawing on it also has its challenges, as you cannot assume that all relatives are reliable. Qualitative data illuminates this further. One respondent stated

"We do not have enough money to support all our children's needs, especially when things are bad. Sometimes we cannot afford both food and school fees."

Another reported:

"When we do not have enough, relatives sometimes help, but it is not always guaranteed, and sometimes they too are struggling."

These statements underscore the vulnerability of formal income sources and the insufficiency of informal support. Families are frequently faced with trade-offs and basic needs, which increases the risk of dropping out of school. The results reported in this study are consistent with previous studies. Kotieno et al. (2022) found that income volatility among rural households in Eastern Kenya is a significant cause of dropout, particularly in households that depend on livestock or small-scale businesses. Kumar et al. (2023) also reported that low-income households, most of whom are employed informally, experience a high rate of educational interruptions, particularly due to income loss. This study confirms similar experiences articulated in Kitui East and highlights that low formal employment opportunities compound this vulnerability.

In general, parental income is a strong determinant of school attendance and risk for dropout. Families experiencing financial insecurity are forced to face difficult decisions between basic needs and educational requirements. To minimize the risk of school dropouts among families facing these pressures, formal policy interventions, such as bursaries, uniform support, and transport support, are needed. However, for sustainable long-term interventions, a program to create stable climate-resilient income opportunities for households needs to be developed.

To explore this relationship further, we cross-tabulated household income source and education affordability and used a Chi-square test of independence. Our assumptions were met: each respondent contributed their information once, expected cell counts were greater than 5, and both variables were categorical. The results are presented in Table 2.

Table 2. Cross-Tabulation of Household Source of Income and Ability to Afford Child's Education (N = 267)

Ability to Afford Education	Selling Livestock	Business	Formal Employment	Other Sources	Total
Yes	45 (16.9%)	50 (18.7%)	30 (11.2%)	12 (4.5%)	137 (51.3%)
No	44 (16.5%)	39 (14.6%)	15 (5.6%)	32 (12.0%)	130 (48.7%)
Total	89 (33.3%)	89 (33.3%)	45 (16.9%)	44 (16.5%)	267 (100%)

Chi-square value (χ^2): 15.29; Degrees of freedom (df): 3; P-value: 0.0016

The analysis shows a statistically significant relationship between household income source and the ability to afford children's education (χ^2 = [value if available], p = 0.0016). Households engaged in business or formal work had the highest likelihood of affording education compared to households that depended on livestock or informal income. This shows that predictable income can improve a household's capacity to support education, while climate-sensitive livelihoods can create uncertainty that disrupts educational continuity. Climate-related shocks, notably prolonged droughts and erratic rainfall, have direct impacts on households reliant on livestock, reducing household incomes and forcing children to miss school. One respondent indicated that:

"When there is drought and I cannot sell any animals, my children stay home because I cannot pay school levies or buy uniforms."

This observation aligns with Kerei et al. (2024), who linked income volatility in Eastern Kenya's pastoral zones to higher dropout rates. The present study extends their findings by providing statistical evidence (p = 0.0016) and demonstrating real-time household responses. Applying Resource Dependency Theory, families that depend on climate-vulnerable resources face greater educational risk because their ability to fund schooling relies on unpredictable external conditions. In contrast, families with formal employment or diversified income demonstrated more consistent support for children's education. This explains why households with unstable income often rely on irregular support networks or make trade-offs prioritizing survival over schooling. These results extend Kumar et al. (2023) by showing that not only low income but also the reliability and source of income are central determinants of school access in rural Kenya. Beyond financial constraints, cultural and gendered dynamics exacerbate dropout risk, particularly for girls. Respondents reported early marriage, domestic caregiving responsibilities, and traditional gender expectations as barriers. One participant noted:

"My daughter dropped out after class six to help take care of her siblings... we could not afford boarding, and the day school is far."

This statement illustrates how financial constraints force families to prioritize immediate household needs over education, particularly for girls, and how distance and boarding costs exacerbate the risk of dropout. These findings corroborate those of Kotiano et al. (2022), showing that economic hardship and gender roles intersect to increase female dropout rates. The study further links these patterns to both financial instability and environmental stressors, highlighting how climate-sensitive livelihoods amplify the educational risks for girls.

Overall, school dropout in Kitui East emerges from the combined effect of income volatility, climate-related shocks, and entrenched gendered expectations. Households dependent on unpredictable income sources, such as livestock sales, face a higher risk of interrupted schooling, while cultural norms, including early marriage and domestic responsibilities, intensify the impact of financial instability. These insights underscore that strategies addressing school retention must account for this intersection, as measures targeting only financial support, climate adaptation, or gender norms in isolation are unlikely to mitigate dropout risk fully.

Effects of Parental Literacy on School Dropouts

The second objective examined how parental literacy influences school dropout in Kitui East Sub-County, focusing on educational level, the value placed on children's education, siblings' educational attainment, and exposure to educational sensitization messages. The analysis considered both formal education and informal learning or vocational experience, recognizing their potential to support children's schooling. Of 267 respondents, 44.9% held a certificate, 3.7% a diploma, and 1.5% a university degree, while 49.8% had no formal education. Despite low literacy levels, all respondents reported valuing education for their children. However, only 33.3% had read sensitization materials, and two-thirds reported that siblings had not completed school, suggesting a pattern of educational discontinuity within households. The findings are summarized in Table 3.

Table 3. Effects of Parental Literacy on School Dropouts (N = 267)

Characteristic	Category	Frequency	Percentage (%)
Education level	Certificate	120	44.9
	Diploma	10	3.7
	Degree	4	1.5
	None	133	49.8
Value education for children	Yes	267	100
	No	0	0
Siblings completed education	Yes	89	33.3
	No	178	66.7
Read sensitization messages	Yes	89	33.3
	No	178	66.7

Qualitative data reinforced these trends. Parents without formal education emphasized the importance of schooling despite limited capacity to assist academically:

"I never went to school myself, but I want my children to go far. Even if I do not understand their books, I always tell them to work hard." (Female, 48 years, Kaliku ward)

A respondent shared:

"No one in my family finished school. My older children also dropped out because we did not see education as necessary back then. Now I regret it." (Male, 52 years, Zombe ward).

Another participant remarked.

"Sometimes I have to choose between sending them to school or buying food; it is a hard choice," (Male, 49 years, Chuluni ward).

One of the community leaders interviewed observed:

"Many parents in this area say they value education, but without the skills to help with homework or follow up on school matters, children often lack motivation and drop out when challenges arise." (Key Informant, Kitui East)

These findings illustrate that while parents express strong educational values, low literacy and systemic barriers limit effective engagement. Applying Bronfenbrenner's Ecological Systems Theory, parental literacy affects dropout risk across multiple layers: at the microsystem level, parents' direct interactions are constrained by literacy; at the mesosystem level, weak home-school connections reduce support; at the exosystem level, outreach efforts are often text-based and poorly adapted; and at the macrosystem level, social norms and poverty cycles reinforce disengagement.

The patterns also reflect the uneven distribution of cultural Capital (Bourdieu, 1986). Parents with diplomas or degrees possess institutionalized and embodied knowledge that facilitates navigation of school systems. In Kitui East, many parents rely on practical skills rather than formal literacy, which does not indicate disengagement but suggests they are underserved. Sensitization efforts reached only 33.3% of respondents, likely reflecting a mismatch in format rather than a lack of interest, consistent with Yang et al. (2023), who emphasize oral, peer-led, or radio-based approaches in low-literacy contexts. Intergenerational dropout trends observed among 66.7% of respondents support Kim et al.'s (2022) findings that educational behaviors persist across generations due to systemic exclusion rather than personal choices. In Kitui East, dropout is shaped by interactions across ecological layers: household poverty (microsystem), communication gaps with schools (mesosystem), and underinvestment in rural education (exosystem and macrosystem).

While parents clearly value education, their capacity to support learning is undermined by low literacy, limited institutional engagement, and structural constraints. This suggests that interventions should target multiple levels of the ecological system. Microsystem-level approaches include parent workshops using oral, visual, and participatory methods. Mesosystem-level strategies could strengthen school-community collaboration through local media, churches, and community centers. Exosystem-level interventions could deploy mobile campaigns in local languages, focusing on mothers

and caregivers. At the macrosystem level, policy initiatives promoting adult education, gender equity, and support for families with multiple dropout cases are necessary.

Effects of Parental Willingness to Be Involved in Children's Education on School Dropouts

The study examined how parental willingness to engage in their children's education influences school dropout in Kitui East Sub-County. Table 4 presents the survey findings.

Table 4. Effects of Parental Willingness to be Involved in Children's Education On School Dropouts

Question	Response	Frequency	Percentage (%)
Do you visit the school to check on your child's progress?	Yes	178	66.7
	No	89	33.3
If yes, how frequent?	Every week	59	33.3
	Every month	89	50
	Termly	30	16.7
	Never	0	0
Are the visits helpful?	Yes	178	66.7
	No	89	33.3
Do you think the size of your family affects your involvement in their education?	Yes	223	83.3
	No	44	16.7

A majority of parents (178 of 267, 66.7%) reported visiting schools to monitor their children's academic progress. Among these, 50.0% visited monthly, 33.3% weekly, and 16.7% termly. All parents who reported school visits engaged to some extent, and 66.7% perceived these visits as helpful. A substantial 83.3% of respondents acknowledged that a large family size limited their involvement, highlighting how household composition constrains active engagement. These results suggest a relationship between parental involvement and reduced dropout risk. Regular school visits provide parents with timely information on academic performance, behavioral issues, and emerging needs, positioning them to intervene early. Conversely, parents who do not engage regularly may leave children without guidance or oversight, increasing the risk of absenteeism, disengagement, and dropout. Large families exacerbate this effect, reducing the individual attention each child receives and the capacity for consistent monitoring.

Qualitative insights reinforce the survey data. Parents emphasized the motivational and monitoring role of school engagement:

"They help me know the progress of my children."

"The more the parent helps, the more it encourages the children to learn and perform well in school."

A different parent highlighted the role of education level in influencing involvement:

"The more educated the parent, the more they encourage the children to learn." (Female, 35 years, Kaliku ward)

School officials observed that parents with multiple school-age children or limited financial resources often struggle to remain actively involved in their children's learning. The present study confirmed this pattern: many parents value education but face daily constraints such as time pressure, limited literacy, and a lack of transport or money for school activities. Comparable evidence from other contexts also shows that consistent parental involvement, both at home and in school activities, reduces dropout risk and supports retention (Abid et al., 2021; Kim et al., 2022; Mulubale, 2022; Owino et al., 2023; Yang et al., 2023). However, the findings here challenge the idea that changing parental attitudes alone will improve engagement. Belief in education does not automatically translate into active support when households face structural and economic barriers. Effective strategies must therefore go beyond awareness creation; they should address material constraints, offer flexible participation options, and strengthen parents' functional literacy so they can practically support their children's schooling.

In sum, the greater parents' willingness to be involved, the lower the risk of dropping out of school; however, this protective effect is constrained by factors such as family size and economic pressures. It is unlikely that any interventions to promote engagement, without addressing these structures, will be fully effective. Evidence demonstrates that targeted interventions, such as flexible visitation schedules, formal parent workshops, and community approaches to support larger or vulnerable families, will enhance engagement and reduce dropout rates.

Regression Analysis

To understand how socio-economic factors influence primary school dropout in Kitui East Sub-County, a binary logistic regression was conducted. A school dropout within a household served as the dependent variable, while scoring 1 indicated Yes and 0 indicated No. The independent variables are divided into three groups: parental income, parental literacy, and parental willingness to participate in their children's education. Multiple indicators represented each variable. Two binary indicators measured parental income by assessing the household's ability to pay educational expenses and past financial difficulties related to schooling. The study examined parental literacy using two measures: the parents' educational attainment (None, Certificate, Diploma, Degree) and their ability to read educational sensitization materials. The analysis of parental involvement consisted of three elements: school visit frequency and the impact of family size on parents' participation and school attendance.

The odds ratios for individual variables were estimated using logistic regression, controlling for the other factors, to understand the impact of a set of separate socio-economic factors on school drop-out. The overall fit statistics, including

the Chi-square test, Nagelkerke R^2 , and classification accuracy, were used to assess the model's goodness-of-fit and predictive power. The results are displayed in Table 5.

Table 5. Logistic Regression Analysis Predicting Likelihood of School Dropout

Predictor	B	SE	Wald	df	p	Exp(B)	95% CI for Exp(B)
Parental Income							
Cannot afford education (1 = Yes)	1.162	0.378	9.438	1	.002**	3.197	1.543 – 6.624
Financial constraint experienced (1 = Yes)	0.893	0.362	6.097	1	.014*	2.443	1.198 – 4.981
Parental Literacy							
Certificate (ref = None)	-0.781	0.41	3.628	1	0.057	0.458	0.205 – 1.024
Diploma	-1.065	0.437	5.949	1	.015*	0.344	0.142 – 0.836
Degree	-1.439	0.518	7.724	1	.005**	0.237	0.085 – 0.658
Reads education materials (1 = Yes)	-0.904	0.386	5.486	1	.019*	0.405	0.188 – 0.873
Parental Willingness to Be Involved							
Visits school (1 = Yes)	-1.177	0.442	7.081	1	.008**	0.308	0.130 – 0.729
Frequency of visits (ref = Never)							
Termly	-0.322	0.418	0.593	1	0.441	0.725	0.319 – 1.648
Monthly	-0.845	0.387	4.768	1	.029*	0.43	0.201 – 0.921
Weekly	-1.208	0.437	7.646	1	.006**	0.299	0.126 – 0.709
Family size limits involvement (1 = Yes)	0.712	0.327	4.744	1	.029*	2.038	1.77 – 3.861

Model Statistics: Chi-square = 48.782, df = 11, $p < 0.001$; -2 Log Likelihood = 251.216; Nagelkerke $R^2 = 0.292$; Classification Accuracy = 72.3%

The results show that parental involvement in children's education significantly reduces the incidence of dropout. Parents who visited their child's school had 69.2% lower odds of reporting a dropout (OR=0.308, $p=0.008$). The more frequently parents engaged, the stronger the effect: once-monthly visits translated into a 57% reduction (OR= 0.430, $p=0.029$); weekly visits resulted in a 70.1% reduction (OR= 0.299, $p=0.006$). On the other hand, households with a larger family size had twice the odds (OR=2.038, $p=0.029$) of reporting dropout. Financial instability remained a strong predictor: parents who could not afford to send a child to school had over 3 times the odds of experiencing dropout (OR=3.197), and parents who reported prior financial instability had 2.44 times the odds. Higher parental education was associated with a lower likelihood of dropout: OR for diploma holder = 0.015344 ($p = 0.015$); OR=0.237rep=0.005s = 0.237 ($p = 0.005$). Engaging with sensitization materials was also negatively associated with dropout rates (OR = 0.405, $p = 0.019$), suggesting that access to knowledge is a complementary mechanism to formal education in supporting retention.

Qualitative data corroborate these findings. Participants noted:

"It is hard for us to keep the children in school when we cannot afford the fees, and many times, I have seen my children drop out because of the financial challenges" (Participant 12).

"We are struggling with school fees, and when we do not have money, our children end up leaving school to look for work" (Participant 34).

"I know that when I went to school, I understood the value of education and have made sure my children stay in school" (Participant 46).

These statements show how financial instability restricts schooling and how parental literacy shapes supporting actions. Social Capital Theory explains that frequent visits to schools build bonding capital and solidify trust-based relationships, thereby deepening educational engagement. Bronfenbrenner's Ecological Systems Theory provides a framework for understanding these impacts. Parental engagement at the microsystem level supports children directly; interactions at the mesosystem level provide a connection for home and school; however, exosystem and macrosystem factors that constrain engagement (e.g., work obligations, number of children at home) affect educational engagement. Human Capital Theory depicts how parental education and informal learning from sensitization materials increase opportunities to support children.

In summary, higher parental engagement, literacy, and stable household income are associated with lower dropout rates. However, these findings are tempered by household size and larger socio-economic pressures. Therefore, efforts to prevent school dropout must address these intertwined aspects rather than focus on single-dimensional factors. The data reflect chronic systemic vulnerabilities: barriers to involvement may be mounting or long-standing, hindering motivated and present parents as well.

CONCLUSIONS

This study sought to explore how household income, parents' literacy level, and active parental engagement influence dropout in Kitui East Sub-County. The findings reveal that economic hardship and larger family size are strongly associated with an increased likelihood of dropout, while greater parental education, literacy practices, and parental engagement reduce the likelihood of withdrawal. Homes with unstable incomes were the most at risk, whereas stable-income homes were more likely to keep children in school. Parental diplomas or degrees and their reading of instructional materials were key buffers, whereas parent visitation to school, especially weekly or monthly, dramatically reduced the odds of dropping out.

These findings make three main contributions. First, they quantify household-level factors using logistic regression, giving a direct statistical estimate of school dropout risk. Second, they treat parental literacy and participation as independent protective factors rather than by-products of income. Third, they show how interactions between income insecurity, literacy,

and household size accumulate to affect household decisions, and provide a mechanism-based account of dropout in a rural Kenyan setting.

Theoretically, the results confirm perceiving school retention as a result of both household economic and social capital. In practice, the results confirm the importance of programs that enhance access to education and retention, combining flexible school fees, bursaries, and material support, as well as parent-teacher forums organized through parents' livelihoods. For county education boards and school authorities, the results highlight the value of interventions that address both financial and literacy constraints simultaneously.

There are several limitations to be borne in mind. The descriptive survey design used here restricts causal inference. Income and literacy were measured in broad categories, which could mask within-group heterogeneity or bias downward the effects of functional literacy. There is a possibility of non-response bias, with 29 percent of households not responding, and parental take-up may be endogenous, dependent on unobserved traits such as motivation. Finally, results are particular to Kitui East County and may not be generalizable elsewhere.

Follow-up studies should use quasi-experimental or longitudinal designs to assess causality, employ ongoing and functional measures of income and literacy, and employ econometric methods to adjust for endogeneity. Comparative studies at the regional level would increase external validity, and detailed item-level reporting should be standard practice to improve reproducibility.

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