



“I failed, no matter how hard I tried”: A mixed-methods study of the role of achievement in primary school dropout in rural Kenya



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ABSTRACT

Initial access to school is nearly universal in Kenya, but many children who enroll drop out before completing primary school. In this mixed-methods study, we use quantitative data from a randomized control trial involving 2666 upper primary-grade students, as well as qualitative data from interviews with 41 schoolchildren, dropouts, and parents, to examine dropout. Poorer baseline performance on literacy and numeracy assessments predicted a higher risk of dropout. Interviews revealed that children are the primary decision-makers rather than parents. Together, these findings suggest that school quality interventions may be an effective means of reducing primary school dropout in this region.

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1. Introduction

By some measures, Kenya has reached its goal of universal primary education. Nearly all children enter first grade (UNESCO, 2011), and the gross primary enrollment rate has been above 100% since the abolition of official school fees in 2003 (World Bank, 2015). However, these access statistics mask the significant challenges that remain to ensuring that all children in Kenya successfully attend school through the end of grade eight, the final year of primary school. A recent national survey conducted by Uwezo found that 9% of youth ages six to sixteen were not attending school (Uwezo, 2012). One in five is not attending in North Eastern Province and 15% in Coast Province. If children drop out before they have achieved literacy and other basic skills, the massive investments in expanding basic education in Kenya, and other countries in the region, may be for naught.

Many researchers have approached the issue of dropout with specific risk factors in mind—for example, poverty or pregnancy. However, dropout is a consequence of the interactions of numerous context-specific factors (Hunt, 2008), including gender, poverty, and opportunity costs. In order to design policies that will prevent dropout, we must better understand how these various factors impact children's achievement, how achievement is linked

to dropout, and how families make enrollment decisions using information available on the child's school performance, health, the direct and opportunity costs of attending school, school quality, and cultural and social norms. If policymakers can understand the complex interplay of these factors, it may be possible to retain more children through primary school. In order to address these issues, we use data from a prospective, mixed-methods, longitudinal study. Our approach to understanding dropout in one region of Kenya results in a fuller picture than those provided by much of the existing dropout research, as it incorporates the voices of youth in combination with achievement assessments and rich background data.

2. Background and context

In order to reduce primary-school dropout, it is first necessary to understand who drops out and why they do so. Little rigorous data is available on this in the Kenyan context. Prospective longitudinal studies of dropout among Kenyan youth are rare, and cross-sectional studies may lead to biased findings. For example, a cross-sectional study may identify proximal factors affecting dropout risk—perhaps pregnancy or the need to work for pay (Ball, 2012)—but not the earlier factors that put the child on the trajectory toward dropout. In interviews with parents and teachers, proximal reasons for dropout may become the post-hoc rationale for a child's dropout obscuring the underlying trigger factors. However, these cross-sectional studies have identified two risk factors consistently: student age and gender. Additionally, any

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study of dropout in the developing world must consider the impact of poverty, which is consistently related to school participation.

As in most countries, in Kenya, increasing age is a risk factor for student dropout (Buchmann, 2000; Fawcett et al., 2010; Lloyd and Mensch, 2000; Schafer, 2006). Students are often well into adolescence before completing primary school, due to late entry and grade repetition, which puts them at greater risk (Dunne and Ananga, 2013; Mensch and Lloyd, 1998; Sabates et al., 2010; UNESCO UIS and UNICEF, 2015). Social and economic pressures on them to leave school increase with age, as alternatives to school, including paid work and marriage, become more compelling (Kingdon and Theopold, 2006).

Girls are particularly at risk of dropout in rural Kenya. In a study conducted in 1996 in Coast Province, 83% of boys but only 71% of girls aged 12–14 were enrolled in school (Lloyd and Mensch, 2000). More recent DHS data show that 15% of girls ages 10–15 are not in school, compared to 11% of boys (Fawcett et al., 2010). Kenyan girls often have heavy household responsibilities, including cleaning, cooking, and caring for younger siblings, and these tasks may interfere with their completion of homework or school attendance (Elimu Yetu Coalition, 2005; Warrington and Kiragu, 2012). Early marriage is common; nearly one in five rural Kenyan girls ages 15–19 is already married (UNICEF, 2005). A quarter of women ages 20–24 were married by age 18 (UNICEF, 2005). Finally, as in many developing countries, schools may be uncomfortable or even unsafe environments for girls, due to harassment and even abuse from teachers or fellow students (Abuya et al., 2012).

The majority of out-of-school children around the world are poor (Colclough et al., 2000). Using DHS data from 25 sub-Saharan African countries, Lewin (2009) estimated that the probability that children in the top wealth quintile will reach ninth grade is six times that for children in the lowest two quintiles. Studies in Kenya have also identified links between family resources and enrollment (Abuya et al., 2013; Anastasia and Teklemariam, 2011; Buchmann, 2000; Oketch and Ngware, 2010).

While the relationships among student dropout and gender, age, and socioeconomic status are well documented, the impact that academic achievement has on primary-school dropout risk is less so. In this project, student achievement was assessed formally in English, Swahili, and mathematics. We use these assessment data to investigate whether students who were lower-performing at baseline had higher risk of dropout over the two-year study period. We hypothesize that we will detect a moderate effect of baseline achievement on dropout risk; some students excel and still drop out, while others perform poorly and yet are enrolled continuously.

Understanding the relationship between student achievement and dropout will assist in identifying students at risk and in designing support programs. However, understanding of dropout will remain limited until researchers delve more deeply into the family decision-making processes that surround school enrollment and student dropout. Dropout is the result of the complex interaction of background conditions, events, and evaluations of probable outcomes—both positive and negative—by both students and parents. The question of *why* students drop out motivates the use of both quantitative and qualitative methods in this research. Yoshikawa and colleagues (2008) suggest that “integrating [qualitative and quantitative] approaches can bring us closer to understanding a developmental process than either set of methods can on its own” (p. 345). Therefore, in this study—in addition to conducting statistical analyses of dropout risk using observed student outcomes—we conducted open-ended interviews with selected students and parents, with the goal of understanding how families weigh the myriad factors influencing children’s enrollment decisions.

These issues led us to pose the following research questions:

RQ1: Are children with lower achievement at baseline at greater risk of dropout by endpoint?

RQ2: How do parents and children explain the decision to drop out of school? How do families weigh student achievement against other considerations in making the decision that a child will stop attending school?

3. Research design

3.1. Site

The Health and Literacy Intervention (HALI) project, described further below, was implemented in the Kwale County of Coast Province on the recommendation of the Kenyan Ministry of Education. The 101 target schools are located in the Kwale and Msambweni sub-districts. Educational outcomes in this area are poor; student national examination scores are among the lowest in the country (RTI International, 2008). According to a recent study, just 32% of third-graders in Msambweni district could read a paragraph (Uwezo, 2012). In Kwale district, 16% of youth six to sixteen are out of school, while in Msambweni, the out-of-school rate is 17% (Uwezo, 2012). While Kenya as a whole is improving its educational participation and persistence rates, this region is lagging behind.

Kwale District is among Kenya’s poorest; most adults are subsistence farmers while others are market sellers, fisherman, or employees in the tourism industry along the coast. According to data from the Kenya Integrated Household Budget Survey, 75% of Kwale District residents were poor in 2009 (Commission on Revenue Allocation, 2011). Despite being relatively close to Mombasa, Kenya’s second-largest city, residents have little access to services. Just one in ten homes has electricity, and less than 40% of roads are considered to be in at least “fair” condition (Commission on Revenue Allocation, 2011).

3.2. The HALI project

The HALI project was a randomized control trial of two interventions—literacy teacher training and intermittent malaria screening and treatment (Brooker et al., 2010). The two interventions were fully crossed, resulting in four groups. The quantitative data used in this study to predict dropout are from the study’s baseline in 2010. Before the project began, the HALI staff made extensive efforts to explain the project to the community, and to obtain consent and assent from participating children and parents (Okello et al., 2013).

To assess student achievement, the HALI team developed or adapted, and then piloted extensively, a series of tests measuring students’ vocabulary and literacy skills in English and Swahili as well as numeracy skills. The assessments were conducted in groups consisting of 15 students. Each of these assessments had a test-retest reliability over 5 days of at least 0.7 during piloting in 2009. Participating children took these assessments at three points: at baseline in 2010, at mid-point in 2011, and at end-point in 2012. The assessments were administered by local assessors, who participated in a two-week training program prior to data collection.

The interviews were conducted in October 2012. All parents and children whom we approached to interview consented. We interviewed most children and parents separately in order to ensure that the parents’ responses did not influence their children’s; however, several parents of enrolled students chose to remain present during their child’s interview. Most interviews took place at families’ homes, while some occurred at the schools, at parents’ workplaces, or in other public locations. We conducted

Table 1
Demographic description of the sample at baseline.

Variable	Fifth-grade cohort (n = 2666)		Interview sample (n = 21)	
	Enrolled (n = 2427)	Dropouts (n = 239)	Enrolled (n = 10)	Dropouts (n = 11)
Child age at baseline (years)	12.3 (1.5)	13.9 (1.6)	12.2 (1.2)	13.2 (1.7)
Female	51.9%	57.3%	45%	50%
Socioeconomic status	3.1 (1.4)	2.4 (1.3)	4.3 (0.8)	3.2 (1.7)
# of people in household	7.2 (2.6)	7.4 (3.0)	6 (2.9)	7 (2.9)
Parent attended school	69.1%	51.3%	80%	82%

Note: For continuous variables, we list sample standard deviations in parentheses.

all interviews with the assistance of a trained local translator fluent in Swahili, Duruma, and Digo, the three most widely-spoken languages in this area. We recorded all interviews digitally and had them transcribed into Swahili and then translated into English.

3.3. Sample

The sample used to answer our first research question consists of 2666 youth who were enrolled in 101 schools participating in the HALI project in 2010 (Brooker et al., 2010). All were fifth-grade students at baseline. At follow-up, the cohort members would have been expected to be in seventh grade, assuming normal progression.

The interview sample used to answer our second research question was drawn from the fifth-grade cohort (n = 2666), using a two-stage sampling process. We first selected 13 schools randomly from among the 101 participating schools. We next drew a stratified random sample of dropouts and enrolled students from the 13 schools. This process resulted in a sample of 25 children who were enrolled in school at baseline, along with one parent per child, for a total of 50 interviews. A month-long national teacher strike beginning in September 2012 complicated the process of locating students. We located 11 of the 25 children originally sampled successfully. We replaced the children whom we could not locate with other HALI-sample children from the same dropout category and school where possible, using a randomized list of student names. However, in some cases, the limited number of dropouts at a school meant that a dropout was replaced by an enrolled student. The final sample consisted of 41 interviews: 21 with youth and 20 with parents. Among the youth interviewed, 11 were dropouts and 10 were enrolled students. Please see Table 1 below for further descriptive information on the samples.

3.4. Measures

At the second and third assessment points, project staff asked head teachers about the whereabouts of participants who were absent. We derived a measure of dropout from the head teachers' responses using a conservative definition that excluded children who were chronically absent, ill, had transferred to another school or were sent home because they could not pay school fees. Additionally, only children who were labeled dropouts at the third data collection point were coded as dropouts, excluding those who had dropped out earlier and returned to school by the third wave. This conservative definition likely underestimates the number of dropouts in the full sample of 2666.

We used two assessments to measure literacy skills: spelling and silly sentences. Spelling is a continuous variable, scored from 0 to 25, measuring the child's performance on a 25-item English spelling test consisting of words ranging from three to 10 letters. Silly sentences is a 40-item assessment including sentences that are logical or illogical; for example, "do snakes live in the sky?"

Participants are asked to read the sentences silently and choose "true" or "false." The silly sentences items were meant to be very simple to answer for individuals who could read—the goal was to test participants' ability to read short sentences, not their reasoning ability. We used principal components analysis to create a continuous composite of these two assessments, using the sum scores of each. To assess numeracy, we used an assessment scored from 0 to 38 which measured the child's ability to correctly complete addition, subtraction, multiplication, and division problems.

Beyond these question predictors, we added several covariates to our models to improve precision, including a dichotomous variable for gender and a continuous variable for child age in months, at baseline. To control for socioeconomic status, we used a time-invariant composite predictor created from participants' responses to six items measuring household possessions, at baseline (coded 0–5). We include a dichotomous variable indicating whether the parent responding to the survey ever attended school. We have also added a dichotomous variable indicating whether the child was assigned randomly to the HALI Project malaria intervention group, to control for any effects that the intervention may have had on dropout risk.¹

3.5. Data-analytic plan

We used logistic regression analysis to analyze the quantitative data. Negative and statistically significant parameter estimates indicated that stronger performance on a given assessment predicted lower risk of dropout during the study period. We analyzed the interview data using both etic and emic codes. We used etic codes we derived from the literature on school dropout in developing countries, including work by Hanushek et al. (2008); Lewin (2009); Lloyd and Mensch (2000); Wils (2004); and Hunt (2008). We also used open-coding methods to develop emic codes, using the interviewees' words to develop themes (Chamaz, 2000; Strauss and Corbin, 1998). We used Atlas.ti software (version 7.0) to assist in the analysis of the data.

4. Findings

4.1. RQ1: are children with lower achievement at baseline at greater risk of dropout by endpoint?

Over the three waves of data collection between 2010 and 2012, 9% (239) of the fifth-grade cohort dropped out of school. In Table 2, we display baseline means for the student achievement predictors detailed above. The participants were able to correctly answer 29 of the 38 numeracy items, on average, and to comprehend and

¹ Results of analyses suggest that there was no statistically significant effect of the malaria intervention on participants' dropout risk.

Table 2

Univariate descriptive statistics summarizing student performance on selected achievement variables.

Variable	Assessment range	Sample range	Means 5th grade cohort (n = 2666)
<i>Achievement measures</i>			
Silly Sentences	0–40	0–40	29.4 (6.5)
Spelling (5th grade)	0–25	0–19	4.1 (3.7)
Numeracy (5th grade)	0–38	0–38	28.9 (5.7)

Note: Sample standard deviations are shown in parentheses.

respond correctly to 29 of the 40 Silly Sentences items. However, this latter mean must be considered in relation to the chance score—a child who guessed randomly between the two possible responses for each “Silly Sentences” item would score 20, on average. The spelling results were poor, with an average of 4.1 words spelled correctly out of 25. Given that English becomes more predominant as the medium of instruction in the curriculum as students move through the grades, this difficulty with spelling is concerning.

A strong association between academic achievement and later dropout is evident. As displayed in Models 2 and 3 in Table 3, two measures of literacy—spelling and silly sentences—are each statistically significant predictors of dropout when they were entered into the base model separately. However, when included together (see Model 4), the degree of collinearity between them ($r=0.61$) obscures the effect of silly sentences. We therefore created a standardized composite variable representing literacy skills, and used it in place of the two individual literacy predictors in Model 5. In Model 6, we added in a measure of numeracy skills, and found that it also predicted dropout, in the expected direction. As shown in Model 6, baseline literacy and numeracy skills are both statistically significant predictors of dropout in all fifth-grade cohort models in which they appear. Higher scores on these assessments are linked to lower risk of dropout. For example, a student with a literacy composite score one standard deviation above average would have fitted odds of dropout that are 40% lower than those of the average scorer. A student with a numeracy score one standard deviation above average would have fitted odds of dropout that are 17% lower than those of the average scorer.

Table 3

Adjusted odds ratios from logistic regression models summarizing the fitted relationship between school dropout and baseline achievement scores among the fifth-grade cohort (n = 2666).

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Age	1.942 ^{***} (0.103)	1.909 ^{***} (0.102)	1.881 ^{***} (0.102)	1.878 ^{***} (0.101)	1.885 ^{***} (0.101)	1.894 ^{***} (0.102)
Female	1.843 ^{***} (0.289)	1.744 ^{***} (0.275)	1.734 ^{***} (0.274)	1.721 ^{***} (0.272)	1.719 ^{***} (0.272)	1.766 ^{***} (0.282)
Baseline SES	0.812 ^{***} (0.048)	0.826 ^{**} (0.049)	0.837 ^{**} (0.051)	0.839 ^{**} (0.051)	0.837 ^{**} (0.050)	0.830 ^{**} (0.050)
Parent attended school	0.699 [†] (0.112)	0.688 [†] (0.110)	0.697 [†] (0.112)	0.693 [†] (0.112)	0.688 [†] (0.111)	0.678 [†] (0.110)
Silly Sentences		0.944 ^{***} (0.011)		0.978 (0.014)		
Spelling			0.828 ^{***} (0.026)	0.850 ^{***} (0.030)		
Literacy Composite					0.558 ^{***} (0.053)	0.601 ^{***} (0.061)
Numeracy						0.968 [†] (0.013)
Rho	0.075	0.065	0.069	0.068	0.067	0.072
Fitted L2 residual var.	0.268	0.230	0.243	0.241	0.236	0.257
–2LL	1319.038	1290.088	1268.269	1265.936	1271.464	1258.706

Standard errors in parentheses; [†] $p < 0.05$, ^{**} $p < 0.01$, ^{***} $p < 0.001$.

Models also control for the participants' treatment group membership.

While we have included covariates in the models primarily to improve the precision of estimates that summarize the effect of the achievement and attention predictors, the magnitudes and directions of the coefficients on several of these covariates draw attention. Age is a statistically significant predictor of dropout, as are being female and poor. On the other hand, having a parent who attended school appears to be protective, even when controlling for family socioeconomic status. Fifth-graders with a parent who had attended school had two-thirds the odds of dropout during the study period compared to those whose parents had no formal education. We also examined whether any of the covariates had interaction effects—SES x female, female x age, and SES x age. However, we found that none of these interactions were statistically significant predictors of dropout, over and above the main effects of the component variables.

4.2. RQ2: decision-making and the role of achievement

The interview sample of dropouts and enrolled students aligns in many ways with the quantitative analyses presented above. First, the 11 dropouts were, on average, one year older than the 10 enrolled students, though this difference was not statistically significant in this small sample. The dropouts were poorer than the enrolled students in the interview sample ($p=0.07$), and had lower baseline scores on both numeracy ($p=0.10$) and spelling ($p=0.03$). On average, the dropouts in this sub-sample could spell fewer than two of the assessed words correctly at baseline. These children would have been flagged as being at risk of dropout based on the findings of the analyses presented above.

4.2.1. How do parents and children describe the decision-making process regarding dropout?

4.2.1.1. *Youth as decisionmakers.* Research on dropout in developing countries frequently focuses on decisions facing parents—i.e., whether they can afford to continue enrolling all of their children in school. In hierarchical societies like Kenya's, it is generally assumed that the agency to make decisions belongs with parents rather than youth (Oburu, 2011). However, this focus on parental decision-making oversimplifies the complex relationships between parents and their adolescent children.

Youth in Kenya, as in many countries in sub-Saharan Africa, have responsibilities and competencies far exceeding those of their same-age peers in western countries. For example, Kenyan youth may be major contributors to their households—generating income, caring for children and ill adults, and shouldering substantial household duties (Olang'o et al., 2012; Skovdal, 2010, 2011; Skovdal and Andreouli, 2011). Therefore, despite the focus on parents' perception of the value of education in the literature, Kenyan youth should be expected to have at least a voice in deciding whether to continue attending school.

Indeed, in our interviews with the dropouts in this sample, the youth were described universally as the principal educational decision-makers, both by the parents and by the youth themselves. While parents may have wanted to shift the blame for dropout away from themselves, there is little reason to expect that children would be concealing the truth on this point. One dropout, a 15-year-old male who stopped attending in fifth grade, simply said, "My parents told me to just keep on going to school, but I refused." His father was the head of the local school committee, and was embarrassed that he was unable to make his child attend. The father of a female dropout explained that the responsibility to get an education lay with his daughter, and he had little influence on her in the matter:

The student should decide to learn. She will not get to the point of dropping out if she has decided by herself to learn. . . . She had come to me and told me, 'Father, I don't want to continue learning anymore.' So I did not have any choice because when I talked to the head teacher, he told me that once a girl has set her mind on something, it is in everyone's best interests to respect that decision.

Another parent echoed the idea that it is the child's responsibility to commit to learning, saying of his daughter, "In her heart, she has no intention to study at all." His 15-year-old daughter agreed that the decision had been hers, simply stating, "It was myself," but also shared, "I regret the decision . . . I feel really sad. I don't know what to do. I can sit down and think about these things . . . but what can I do? It's just life."

While all dropouts claimed that they had decided independently to leave school, in some cases the situation was more nuanced—poverty, gender, and other factors influenced their options and final decisions. Despite the official abolition of school fees, all 13 schools the sampled youth attended had charged fees for extra teachers, books, or materials. Nine of the 21 interviewees—five students and four dropouts—said they had been sent home to get money for fees or materials. Children who could not gather the required amounts were not generally allowed back in class. Over time, many days and weeks missed due to family financial constraints would clearly contribute to school performance problems. Several dropouts also faced health issues that contributed to their decisions to leave school. Participants' perceptions of themselves as the central actors in their decisions to leave school may in some cases have overstated their actual agency, therefore.

4.2.1.2. Parental roles and responses to children's dropout decisions. Parent-child relationships in Kenya are often described as strictly hierarchical (Oburu, 2011). However, we did not observe this type of strict obedience to parents among the youth in this sample, and the parents of dropouts did not seem to know how to react when their children disobeyed them. One 15-year-old male dropout reported that his parents' response to his decision was to threaten to beat him if he did not return to school. However, they did not follow through on their threat, and he ran away to Mombasa to find work. His mother explained, "He decided himself. I kept telling him to keep learning but he said school had

defeated him . . . I insisted that he go to school but he said, 'I don't understand. What am I going for?'" Several parents reported facing gradual behavior changes that they could not manage, particularly in relation to attendance. The mother of a 17-year-old male dropout said:

At times he goes [to school], at times he doesn't. When he gets to school he's asked 'Why didn't you come to school yesterday and the day before that?' He gives a different reason but the teacher keeps telling him he is truant. So then he doesn't go to school for a week and when he finally attends he's sent to call the parent. Now what do you say as a parent? He ran away from home, you think he's gone to school but he didn't . . . He just decided he'd rather drop out.

Her son said that he did not like the local school—"It doesn't appeal to me." However, there were several other schools in the area where this youth lived, and he had not enrolled in any of the alternatives since dropping out of fifth grade in 2010.

Some parents did attempt to prevent their children from dropping out. A 19-year-old male dropout said, "The way my mother took that issue, she used to force me to go to school despite the problems that I faced. But I refused right there and then because the problems used to face me, not my mother." In the end, his mother admitted there was nothing she could do to change her son's decision. "Now, honestly, someone with his or her own mind, how can you hold that one against his or her will?" Even when parents resisted their child's drop-out decision, they seemed unable to effectively intervene. One father of a dropout blamed Kenya's recent child rights legislation for his inability to keep his daughter, currently 19 years old, in school. He said,

These new rules of children's rights are the ones binding parents from punishing children. When they refuse to go to school, then you have no choice but to listen to the child's decisions. If this child goes to Diani police to report that you did not give them food, you will be jailed for punishing the child.

However, this parent's claims that the legislation interfered with his parenting appeared to be overstated. When asked about the response of the authorities to rampant dropout in the area, the head teacher of one rural school displayed several thick binders full of letters he had written to local chiefs, governing committees, and child rights officers reporting on specific cases. He had never received a response or heard of any action being taken.

It was rare that parents consulted anyone else in the community with a formal leadership role—for example a teacher or village chief—regarding a child's decision to leave school. When they did, it was generally ineffective. One mother said that she had approached the local police and child welfare agency when her son began missing school, to no avail. "I looked for every way, took him to the sergeant for disciplinary action, even went to the person who deals with children's welfare and reported. She also tried but [my son's] answer was I don't want [that school]." She even consulted the local Member of Parliament to see if he could help. Unfortunately, the official told her that "he didn't have the ability to follow up at the time." Three parents reported discussing their child's decision to leave school with extended family members in an attempt to influence the child. In no case, however, did parents' attempts to reach out for support, whether from family members or government officials, change the child's decision.

Schoolchildren and their parents typically attributed the responsibility for dropout in their communities to parents. Parents of schoolchildren frequently blamed dropout on bad parenting, often defined as not being strict enough: "When you see a child has dropped out of school then you know that the parents are not harsh at home, they are weak." However, some also defined bad parenting as not providing for children's basic needs, leading them to begin working, engage in illicit activities, or, for girls, to

find an older boyfriend who could provide food and other necessities. One student said that it was the parent's responsibility to intervene when a child leaves school: "It depends on the individual parent, but if the parent is strict they will find out the reason [the child has dropped out] and take them back."

The assumptions that community members made about dropout and parenting were difficult for many of the dropouts' parents to handle. One father explained that he felt stigmatized when his daughter chose to leave school.

The feelings of people out there are usually, 'Why have you been unable to restrict this child until she has dropped out of school? Why are you hurting the child?' Now at that point they will make you angry until you beat the child and break her arm and be taken to court or even be jailed. Because the things that people on the outside say bring about a lot of hatred. She left school out of her own conviction . . . but people don't know why my girl dropped out of school. [They say] 'Oooh, why have you been unable to control this child?'

This type of judgment from community members made it even more difficult for parents to reach out for help when their children were at risk of dropout; parents would be labeled as bad parents who could not control their children properly.

4.2.1.3. The value of education and the decision to drop out. A common response to the problem of primary school dropout, from government officials, teachers, and parents alike, is that parents and children must be taught the value of education. However, we found that among this sample of youth and parents—of dropouts and of students—education was highly valued. A 12-year-old male student said, "If someone doesn't get educated their life will have problems. And if someone gets educated their life will have joy." A 17-year-old female dropout said that if she had completed her education, "I would have taken care of myself. I wouldn't have wanted anybody else to help me. I would have done everything for myself."

Almost universally, parents said that completing secondary school, and preferably university as well, was the only way to find a good job and make a decent living. Parents were often very disappointed that their children had dropped out. One father, himself a seventh-grade dropout, said, "I felt very bitter because she is my eldest child." The grandmother of a girl who dropped out when she could no longer hide her pregnancy simply repeated several times, "I was pained." The mother of another girl who dropped out while pregnant said, "Up to today I feel like crying, because I allowed her to drop out of school." Only one parent seemed to be unaffected by the child's decision to drop out. He explained, "I took it to be an ordinary decision . . . It's human. Someone might grasp and let go, one might get married and divorce, I took it as a normal decision." On the whole, however, parents and children alike expressed great value for education.

4.2.2. How does student achievement contribute to dropout risk, in comparison to other factors?

Frequently, researchers investigating dropout begin with a potential risk factor—such as pregnancy, drugs, or inability to pay school fees—and then link that risk factor to dropout. The temporal limitations of cross-sectional studies may result in strong associations between these risk factors and dropout. Those problems are real, and they played roles in the stories told by many of the interviewees. However, when the children were asked to describe their trajectories from student to dropout, they did not start with their pregnancy, or the moment when a parent asked them to drop out of school to help provide for the family. The stories of all 11 children who dropped out began with some variation of: "I wasn't doing well in school." As an 18-year-old

female dropout said, "I don't understand. I don't have the mind to understand. I get taught and it goes in through here and out through there." A 16-year-old female dropout explained,

I never understood what was taught in class so I told myself that it's better I leave school. I mean . . . I couldn't even write. I totally couldn't so no matter how hard I worked at school—because I used to be very hardworking—when I came home, I couldn't learn.

One female dropout, 15 years old, never learned how to read: "When I hold a book . . . if it is mathematics, I can do a sum or two but if it is a book, I can tell what this is, what letter this is but joining them and reading them is what I cannot do." As she fell further and further behind her peers, she began to feel depressed: "At times I used to feel like I had never been born. I used to wonder how I could sit and watch my friends understand what is taught in class yet I don't." Eventually her sadness over her inability to perform as well as her peers led her to leave school for good.

The schools attended by the interviewed youth—students and dropouts alike—were not highly supportive environments. The dropouts quoted above, as well as many of the currently-enrolled students, reported frustrating experiences with teachers when they needed extra explanation or support. Eleven of the interviewees reported difficulties with teachers. One 18-year-old female dropout was struggling in school before deciding to leave. In her school, "We just got taught and then the teacher got on their way. Even if you didn't understand you didn't get any help." She repeatedly asked her teachers for assistance. According to the interviewee, her teachers' responses were either, "When I teach I do it once," or to cane her for poor performance. A 17-year-old female reported a similar experience before leaving school: "There were teachers who would come and just write on the chalk board and that's it! If you didn't understand, when you go to ask them, they tell you not to disturb them." Students who were struggling in school clearly had difficulties getting one-on-one time with their teachers. However, Kenyan primary school teachers are dealing with incredibly large classes, making it difficult for them to provide individual attention. Class size was spontaneously mentioned by several parents as a major school quality concern.

Poor academic performance puts children at greater risk of experiencing a number of events that can lead to dropout. Kenyan primary schools are highly focused on competition, partly due to the fact that there are not enough places in public schools in many areas to accommodate all those who would like to continue their schooling (Buchmann, 1999; Oketch et al., 2010). Examination scores define which students will win coveted spots in high-quality secondary schools, and also the public reputations of the schools themselves. All children interviewed could state their most recent exam scores as well as their class rank, and school-wide averages were prominently displayed in offices. Children who ranked near the bottom of the class experienced scorn or corporal punishment from their teachers and parents, as well as teasing from their peers. Reactions from peers were particularly upsetting to the youth. Some reported being laughed at or mocked. Teachers also called attention to children's poor performance in cruel ways. A 15-year-old female dropout explained, "When you do some work and your friends get everything while you miss everything, the teacher would ask you, 'YOU! Why don't you understand?' Such things made me feel like I was being discriminated [against] and that I was all alone." One dropout, a 19-year-old female, was regularly caned at school due to her poor performance. She eventually dropped out, and stated adamantly that she would not allow her one-year-old daughter to attend that school in the future.

Poor performance often leads to repetition. Seventeen of the 21 youth said that they had repeated at least one grade—91% of the dropouts and 60% of the students. Several had repeated more than

once, including a girl who had dropped out of fifth grade at age 17, after repeating second, third, fourth, and fifth grades. Repetition not only indicates that a child is struggling academically, but also leads to stigma and teasing from peers and community members. A 15-year-old dropout ran away from home because he was embarrassed to have repeated so many times. His mother explained, “He’d repeat until he schooled with all his juniors. He’d get angry and said he’s not going to school again. Because when he does an exam he remains [in that class]. His fellows go ahead.” A 17-year-old female dropout had become disheartened after being told she would have to repeat again, asking, “What is the point of me staying in class four for another year and then I might be told to repeat that same class again? I am going to grow old in class four.”

For many dropouts, poor performance made them vulnerable to other risks outside of school. Halima, an 18-year-old dropout, who had left fifth grade the previous year, summarized her performance in school as, “I did poorly. I didn’t get the marks required.” She further explained, “I don’t have the mind to understand . . . the brain is not there.” An orphan living with her elderly grandmother, she had little supervision or guidance. When asked to recall the period before she dropped out of school, Halima said, “There was no advice.” Feeling adrift at school and at home, she found an older boyfriend who was able to help her financially. She soon became pregnant, and then dropped out of school when she could no longer hide the pregnancy. The boyfriend then returned Halima to her grandmother’s house and left the area to find work. During the interview, Halima’s grandmother and neighbors passed by numerous times and made disparaging comments about Halima’s boyfriend, who was not contributing to the support of his daughter. The child was clearly underweight, and appeared much younger than her eight months. When asked about the future, Halima said she felt “hopeless.”

Halima’s case is similar to that of many of the youth in this study, in that the risk for dropout began with poor performance in school—a feeling of being behind the other students and unable to catch up. While the immediate reason for Halima’s dropout was her pregnancy, she was at risk for pregnancy because she saw no future for herself outside of being a wife and mother. Halima said that going back to school was not an option—not because she was a mother, but because “I don’t understand.”

5. Discussion

The data from this mixed-methods study combines to explain dropout from the upper primary grades in this area of rural Kenya. Our quantitative analyses indicate that children who performed poorly in fifth grade on literacy and numeracy assessments were more likely to drop out over the next two years, and that literacy performance was particularly related to continued enrollment. The interview data helps to explain how poor achievement translated into disengagement from school, peers, and teachers, and subsequently led youth to activities that put them at risk for dropout—such as chronic absenteeism, paid work, and sexual relationships. Poor achievement put children at risk for these proximal causes of dropout. As Branson et al. (2014) stated in regard to many academic studies of dropout, “The reason given for dropout may only reflect the event or constraint that prompted the decision as opposed to the root cause of a longer-term problem” (p. 116). The complexity of these decisions is reflected in qualitative research conducted in Kenya (Oruko et al., 2015) and elsewhere in sub-Saharan Africa (Dunne and Ananga, 2013).

As expected, gender and poverty were statistically significant risk factors for dropout. Youth faced increasing opportunities to do other things with their time—work, marriage, childbearing—as they aged. Extensive repetition of grades, on top of late enrollment

in first grade, means that many youth are well into adolescence before reaching the end of primary school, a problem which has not abated since the introduction of free primary education in 2003 (Omwami and Foulds, 2015). This was evident among the interviewees from the fifth-grade cohort, many of whom were 16 or older. Using data that are easily available to teachers and school administrators, it is fairly straightforward to identify students who are at increased risk for dropout in the later years of primary school—those who are poor, female, overage, or poor performers. Students who fall into several of these categories could be the focus of extra dropout-prevention efforts by teachers and communities. However, it is also important to note that these factors were not determinative—many girls and older youth in this study were succeeding in school. In a recent analysis of 12 sub-Saharan African countries, including Kenya, girls who were strong academically were less likely to drop out of school than boys (Kuépié et al., 2015), supporting this study’s findings that achievement may be the root cause of dropout in many cases.

A critical point to understanding dropout in Kenya that emerged from this study is that youth reported that they are making the decisions about their school enrollment, not their parents or caregivers. Yet, in other studies conducted in Kenya, significant proportions of adults have blamed parents’ lack of value for education as being a primary reason for dropout (King et al., 2015). This finding therefore has clear implications for dropout prevention—it is necessary to address the concerns of youth at risk for dropout. If schools meet their needs while providing a plausible pathway to cycle completion, youth will be more likely to make the required investment of time and resources. It is important to note, however, that students’ *perceptions* of agency may in fact be bounded by structural factors that severely limit their power to make their own decisions, and in some cases, poverty or other issues may in fact have been insurmountable barriers.

While the parents of dropouts still saw great value in formal education, they were unsure of what they could do to change their children’s minds regarding re-enrollment. In contrast to the agency expressed by the youth, parents felt they had little control over their children’s behavior. This was exacerbated by the lack of social support available to parents when a child dropped out of school. Most parents did not speak to anyone in the community regarding their child’s decision to drop out, and in no case did a child change his or her decision as a result. The judgment passed by the larger community on the parents of dropouts made those parents less willing and able to ask for help with their children.

In sum, these findings support two key points. First, school quality—and more specifically, instructional quality—is of central importance in the discussion of dropout in Kenya. Youth are making their enrollment decisions based in large part on how well they are learning. As children age and become capable of earning money—whether by watching cattle or operating a motorbike taxi—the scale begins to tip away from attending school, particularly if a child is a poor performer attending a low-quality school. A recent longitudinal study in South Africa found that while youth who repeated grades were at greater risk of dropping out, this effect was attenuated for those who attended better schools (Branson et al., 2014). In this context, school quality interventions should also be considered dropout-prevention interventions. Second, youth themselves are often making their decisions about dropout independently from their parents, and therefore should be treated as young adults with agency by programs and schools. These main findings suggest that the solution to dropout in this region of Kenya will, at a minimum, have to improve the quality of the instruction children receive in school as well as directly address the needs and concerns of youth, particularly in terms of academic support.

5.1. Limitations

As levels of student achievement were not assigned randomly at baseline, the findings we present here cannot support causal inference. However, descriptive summaries of this link between prior achievement and subsequent dropout remain useful, given the paucity of local evidence. Additionally, our reliance on administrators to define student dropout status could result in some incorrect assignments, particularly when children move out of the area. However, the experience identifying and tracking dropouts for the interviews confirmed that the administrators were relatively accurate in their labeling of study participants.

The external validity of the findings from the interviews is restricted to the pool of former students that were still local and traceable. Some of the dropouts were no longer in the district, having gone elsewhere to live with a relative, get married, or look for work. This could bias the results if specific sub-groups, such as the more highly-skilled, are more likely to have migrated. In order to counter these limitations, we also interviewed a sample of youth who were still enrolled, along with their parents. The extent to which their experiences and opinions aligned or diverged from those of the dropouts and their parents strengthened our ability to draw conclusions from the interview data.

References

- Abuya, B., Onsomu, E.O., Moore, D., Sagwe, J., 2012. A phenomenological study of sexual harassment and violence among girls attending high schools in urban slums, Nairobi, Kenya. *J. Sch. Violence* 11 (4), 323–344. doi:<http://dx.doi.org/10.1080/15388220.2012.706874>.
- Abuya, B., Oketch, M., Musyoka, P., 2013. Why do pupils dropout when education is 'free'? Explaining school dropout among the urban poor in Nairobi. *Compare: J. Comp. Int. Edu.* 43 (6), 740–762. doi:<http://dx.doi.org/10.1080/03057925.2012.707458>.
- Anastasia, N., Teklemariam, A.A., 2011. Socio-cultural and economic factors affecting primary education of Maasai girls in Loitokitok District, Kenya. *West. J. Black Stud.* 35 (4), 268–280.
- Ball, H., 2012. Young Kenyan women are less likely to finish school if they have dated or had sex. *Int. Perspect. Sexual Reprod. Health* 38 (4), 220–221.
- Branson, N., Hofmeyr, C., Lam, D., 2014. Progress through school and the determinants of school dropout in South Africa. *Dev. S. Afr.* 31 (1), 106–126. doi:<http://dx.doi.org/10.1080/0376835X.2013.853610>.
- Brooker, S., Okello, G., Njagi, K., Dubeck, M.M., Halliday, K.E., Inyega, H., Jukes, M.C.H., 2010. Improving educational achievement and anaemia of school children: design of a cluster randomised trial of school-based malaria prevention and enhanced literacy instruction in Kenya. *Trials* 11, 93. doi:<http://dx.doi.org/10.1186/1745-6215-11-93>.
- Buchmann, C., 1999. The state and schooling in Kenya: historical developments and current challenges. *Afr. Today* 46 (1), 95–117.
- Buchmann, C., 2000. Family structure, parental perceptions, and child labor in Kenya: what factors determine who is enrolled in school? *Soc. Forces* 78 (4), 1349–1378.
- Chamaz, K., 2000. Grounded theory: objectivist and constructivist models. In: Denzin, N.K., Lincoln, Y.S. (Eds.), *Handbook of Qualitative Research*. 2nd ed. Sage Publications, Thousand Oaks, CA, pp. 509–535.
- Colclough, C., Rose, P., Tembon, M., 2000. Gender inequalities in primary schooling: the roles of poverty and adverse cultural practice. *Int. J. Educ. Dev.* 20 (1), 5–27.
- Commission on Revenue Allocation, 2011. Kenya County Fact Sheets: Kwale. Nairobi: Commission on Revenue Allocation.
- Dunne, M., Ananga, E.D., 2013. Dropping out: identity conflict in and out of school in Ghana. *Int. J. Educ. Dev.* 33 (2), 196–205. doi:<http://dx.doi.org/10.1016/j.ijedudev.2012.04.005>.
- Elimu Yetu Coalition, 2005. The challenge of educating girls in Kenya. In: Aikman, S., Unterhalter, E. (Eds.), *Beyond Access: Transforming Policy and Practice for Gender Equality in Education*. Oxfam, Dorset, UK, pp. 106–127.
- Fawcett, C., Hartwell, A., Israel, R., 2010. Out-of-school Youth in Developing Countries: What the Data Do (and Do Not) Tell Us. USAID, Washington, D.C.
- Hanushek, E.A., Lavy, V., Hitomi, K., 2008. Do students care about school quality? Determinants of dropout behavior in developing countries. *J. Hum. Capital* 2 (1), 69–105.
- Hunt, F., 2008. Dropping out from school: A cross country review of literature. Retrieved from Brighton, UK.
- King, N., Dewey, C., Borish, D., 2015. Determinants of primary school non-enrollment and absenteeism: results from a retrospective, convergent mixed methods, cohort study in rural Western Kenya. *PLoS One* 10 (9).
- Kingdon, G., Theopold, N., 2006. Do returns to education matter to schooling participation? Retrieved from Oxford, UK.
- Kuépié, M., Shapiro, D., Tenikue, M., 2015. Access to schooling and staying in school in selected sub-Saharan African countries. *Afr. Dev. Rev.* 27 (4), 403–414 (10.1111/1467-8268.12156).
- Lewin, K.M., 2009. Access to education in sub-Saharan Africa: patterns, problems and possibilities. *Comp. Educ.* 45 (2), 151–174.
- Lloyd, C.B., Mensch, B.S., 2000. The effects of primary school quality on school dropout among Kenyan boys and girls. *Comp. Educ. Rev.* 44 (2), 113–147.
- Mensch, B.S., Lloyd, C.B., 1998. Gender differences in the schooling experiences of adolescents in low-income countries: the case of Kenya. *Stud. Fam. Plann.* 29 (2), 167–184.
- Oburu, P.O., 2011. Attributions and attitudes of mothers and fathers in Kenya. *Parenting: Sci. Prac.* 11 (2-3), 152–162.
- Okello, G., Jones, C., Bonareri, M., Ndegwa, S.N., McHaro, C., Kengo, J., Brooker, S.J., 2013. Challenges for consent and community engagement in the conduct of cluster randomized trial among school children in low income settings: experiences from Kenya. *Trials* 14, 142. doi:<http://dx.doi.org/10.1186/1745-6215-14-142>.
- Oketch, M., Ngware, M., 2010. Free primary education still excludes the poorest of the poor in urban Kenya. *Dev. Pract.* 20 (4/5), 603–610. doi:<http://dx.doi.org/10.1080/09614521003763095>.
- Oketch, M., Mutisya, M., Ngware, M., Ezeh, A.C., 2010. Why are there proportionately more poor pupils enrolled in non-state schools in urban Kenya in spite of FPE policy? *Int. J. Educ. Dev.* 30 (1), 23–32. doi:<http://dx.doi.org/10.1016/j.ijedudev.2009.08.001>.
- Olang'o, C.O., Nyamongo, I.K., Nyambedha, E.O., 2012. Children as caregivers of older relatives living with HIV and AIDS in Nyang'oma division of western Kenya. *Afr. J. AIDS Res.* 11 (2), 135–142. doi:<http://dx.doi.org/10.2989/16085906.2012.698081>.
- Omwami, E.M., Foulds, K., 2015. The persisting challenge of age-for-grade non-compliance in post-free primary education in Kenya. *Dev. Pract.* 25 (6), 832–842. doi:<http://dx.doi.org/10.1080/09614524.2015.1064860>.
- Oruko, K., Nyothach, E., Zielinski-Gutierrez, E., Mason, L., Alexander, K., Vulule, J., Phillips-Howard, P.A., 2015. 'He is the one who is providing you with everything so whatever he says is what you do': a qualitative study on factors affecting secondary schoolgirls' dropout in rural Western Kenya. *PLoS One* 10 (12), 1–14. doi:<http://dx.doi.org/10.1371/journal.pone.0144321>.
- RTI International, 2008. Early grade reading Kenya baseline assessment: Analyses and implications for teaching interventions design. Final Report. Retrieved from Research Triangle Park, NC.
- Sabates, R., Akeampong, K., Westbrook, J., Hunt, F., 2010. School drop out: Patterns, causes, changes and policies. Retrieved from Paris.
- Schafer, M.J., 2006. Household change and rural school enrollment in Malawi and Kenya. *Soc. Q.* 47 (4), 665–691.
- Skovdal, M., Andreouli, E., 2011. Using identity and recognition as a framework to understand and promote the resilience of caregiving children in Western Kenya. *J. Soc. Policy* 40 (3), 613–630. doi:<http://dx.doi.org/10.1017/S0047279410000693>.
- Skovdal, M., 2010. Children caring for their caregivers: exploring the caring arrangements in households affected by AIDS in Western Kenya. *AIDS Care* 22 (1), 96–103. doi:<http://dx.doi.org/10.1080/09540120903016537>.
- Skovdal, M., 2011. Examining the trajectories of children providing care for adults in rural Kenya: implications for service delivery. *Child. Youth Serv. Rev.* 33 (7), 1262–1269. doi:<http://dx.doi.org/10.1016/j.childyouth.2011.02.023>.
- Strauss, A.L., Corbin, J.M., 1998. *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*, 2nd ed. Sage, London.
- UNESCO UIS, UNICEF, 2015. Fixing the Broken Promise of Education for All: Findings from the Global Initiative on Out-of-School Children. UNESCO UIS, Montreal.
- UNESCO, 2011. Education for All Global Monitoring Report 2011: the Hidden Crisis: Armed Conflict and Education. UNESCO, Paris.
- UNICEF, 2005. Early Marriage: A Harmful Traditional Practice. UNICEF, New York.
- Uwezo, 2012. Are Our Children Learning? Annual Learning Assessment Report. Uwezo, Nairobi.
- Warrington, M., Kiragu, S., 2012. It makes more sense to educate a boy: girls 'against the odds' in Kajiado, Kenya. *Int. J. Educ. Dev.* 32 (2), 301–309. doi:<http://dx.doi.org/10.1016/j.ijedudev.2011.05.004>.
- Wils, A., 2004. Late entrants leave school earlier: evidence from Mozambique. *Int. Rev. Educ.* 50 (1), 17–37.
- World Bank, 2015. World Development Indicators Online Database. <http://data.worldbank.org/data-catalog/world-development-indicators>.
- Yoshikawa, H., Weisner, T.S., Kalil, A., Way, N., 2008. Mixing qualitative and quantitative research in developmental science: uses and methodological choices. *Dev. Psychol.* 44 (2), 344–354. doi:<http://dx.doi.org/10.1037/0012-1649.44.2.344>.