

Improving learning outcomes and transition to secondary school through after-school support and community participation



African Population and
Health Research Center



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Preamble

The goal of the project is to 1) promote access to and 2) improve the quality of secondary education among girls who live in the informal urban settlements. The project also demonstrates how an education intervention with parental and community support can address the inter-generational inequality of access to education.

The outcomes of this project are improved learning outcomes, improved attendance, and increased transition to secondary school for girls. The project's immediate impact is to improve learning outcomes and transition to secondary school among girls from poor urban households. In the long run, it is our hope that a generation of more mothers with secondary level education shall result, hence improved child and maternal health outcomes.

AUTHORS

Benta Abuya, PhD
Principal investigator
babuya@aphrc.org

Njora Hungi, PhD
Co-author
nhungi@aphrc.org

Gerald Mahuro
Co-author
gmahuro@aphrc.org

Nelson Gichuhi
Co-author
nmuhia@aphrc.org

Moses Ngware, PhD
Co- principal investigator
mngware@aphrc.org

Maurice Mutisya
Co-author
mmutisya@aphrc.org

Milka Nyariro
Co-author
milkanyariro@gmail.com

Mambe Shem
Co-author
erp_tls@aphrc.org

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Abbreviations

APHRC	African Population and Health Research Center
CBO	Community-Based Organization
DID	Difference-In-Difference
FGD	Focus Group Discussion
FPE	Free Primary Education
GPS	Global Positioning Satellite
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
IDI	In-depth Interview
ISH	Individual Schooling History
KCPE	Kenya Certificate of Primary Education
KII	Key In-depth Interviews
NGO	Non-Governmental Organization
NUHDSS	Nairobi Urban Health Demographic Surveillance System
PGI	Parent/Guardian Involvement

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The views and opinions expressed in this report are entirely those of the authors and do not necessarily reflect the views of the donor.

Executive Summary

The overall goal of this study was to improve learning outcomes and transition to secondary school through community participation and after-school support among disadvantaged girls in urban informal settlements of Nairobi. The three-year *improving learning outcomes and transition to secondary school* study began in 2013 and is set to end in 2015. The study is being implemented in two informal urban settlements of Nairobi, Kenya called Korogocho and Viwandani, by two CBOs: Miss Koch and U-Tena respectively. The evaluation was conducted by APHRC. The baseline survey was conducted in June 2013, and the intervention started in July of the same year. A mid-term evaluation survey was conducted in May and June 2014, and the end-term in June and July 2015. The expected outcomes of the study were: improved learning outcomes and transition to secondary schools for girls in grades six, seven and eight from poor households. The end-term evaluation was conducted with the aim of establishing the impact of the study after three years of implementation.

The intervention study adopted a quasi-experimental design, with two treatment groups and one comparison group. The intervention package consisted of parental counseling; subsidy to join secondary grade 1 for those girls transiting and who had met the selection criteria; after-school homework support in mathematics and literacy by community mentors; and life skills education. The first treatment group (referred to as 'treatment 1' or 'T1') received the complete intervention package. The second treatment group ('treatment 2' or 'T2') received the intervention package minus the parental component, while the 'comparison' group will receive the subsidy at the end of the program in January 2016 when transiting to secondary grade 1.

Key Study Outcomes

- Overall, the intervention increased transition of girls to secondary school by 15 percent and 21 percent among treatment 1 and 2 respectively when compared with the comparison group.
- The intervention did not have an effect on homework and homework support by household members.
- Parental counseling and subsequent involvement in their girl's education played an important role in instilling significant positive aspirations; girls better resisted negative peer influence, while the after-school support with homework led to increased interest in schooling among girls in treatment groups.
- Over and above the life-skills mentorship given to the girls in the treatment groups, parental counseling led to significant reductions in aggressive, rebellious, and reckless behaviors.
- Girls in both treatment groups experienced improved outcomes in math. The impact of T1 and T2 groups across time were about the same, meaning that the after-school homework support worked well with or without the parental component.

- The interventions demonstrated no significant difference in literacy. T1, T2 and comparison group scores on the overall literacy test over time were about the same. The qualitative narratives show general improvement in girls' school work. This is attributed to the continued improvement in numeracy as a result of the after-school support.
- There has been improved communication between parents and their daughters due to parental interaction during the counseling sessions.
- There has been an unintended, positive effect of the intervention on other community members, attributed to the positive attitude that both girls and their parents adopted after attending both after-school support and counseling sessions.

Key Programmatic Messages

- Providing disadvantaged girls with after-school learning opportunities can effectively improve their learning outcomes. This improves their competitiveness during selection for limited secondary school places.
- Mentoring girls on 'growing up' and linking this to their schooling life, coupled with parental counseling, proved to be very effective in enhancing the girls': (i) education aspirations (ii) schooling interest (iii) self-confidence, while also (iv) reducing the likelihood of indulgence in risky social behavior.
- The involvement of parents and the promise of a secondary school subsidy, complemented by the after-school support, improved transition rates to secondary education among girls from poor urban households. In the case of the intervention, it improved transition by at least 20 percentage points.
- Targeted interventions open up more education opportunities for disadvantaged girls. For example, three of the participating girls joined prestigious and better-resourced national schools in Kenya. Another three qualified for the competitive "Wings to Fly Scholarship".
- Involving education managers and the local community is critical to the success of the intervention.

Map showing Kenya and study sites

Figure 1: Map of Kenya

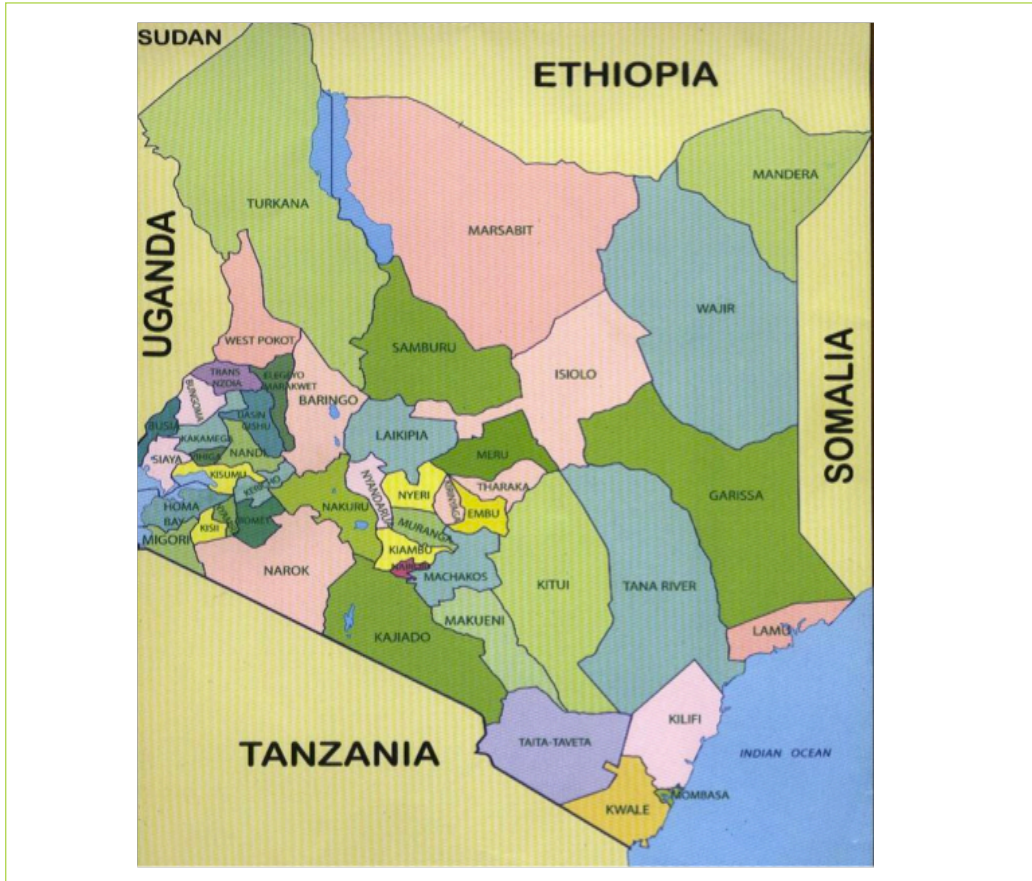
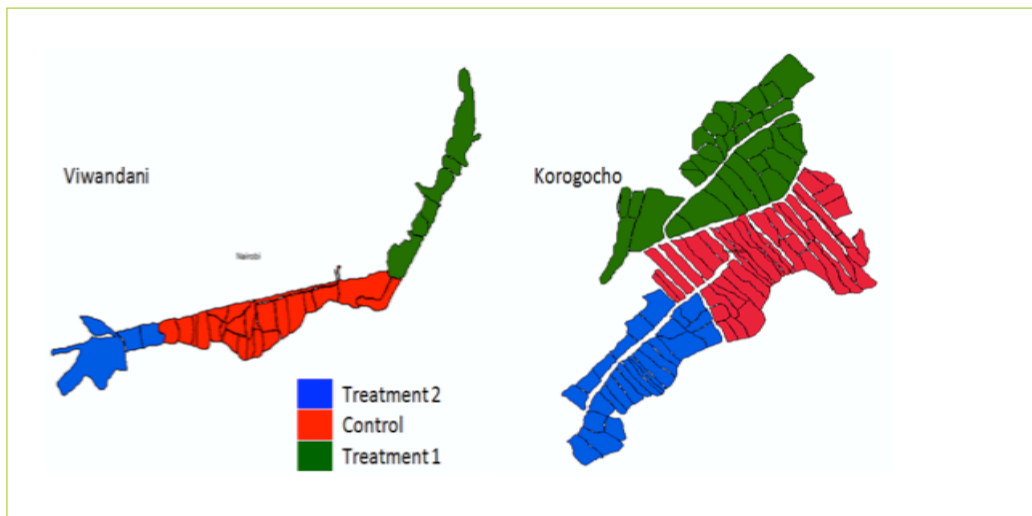


Figure 2: Intervention and control areas within two study sites in Nairobi



1

INTRODUCTION



1.1 Background

Quality education is a prerequisite to assist in making rational choices and enhance opportunities in life. Education better prepares individuals for healthier lives, to generate higher incomes than their less-educated peers, and participate in civic life. For girls and women, education is critical to reducing household poverty. At the national level, an educated workforce yields great dividends, including a citizenry that is well-adjusted and better able to compete and co-operate in a global economy, consequently enabling greater socio-economic development (World Bank, 2004). Access to education is not only a human right, but it is also the foundation for the recognition of all other rights.

However, for the benefits of education to be realized, completion of primary school is not an end in itself; it must be accompanied by successful transition into secondary school. Particularly for girls, secondary school education brings proven benefits interrelated with accrued benefits to society (Hervish & Feldman-Jacobs, 2011; Rihani, 2006; UNESCO, 2012). Research evidence has established that girls' secondary education results into lower fertility rates, smaller family sizes, and improved health and economic status of women (Hervish & Feldman-Jacobs, 2011). For example, the odds of infant death declines by between 5 percent to 10 percent for each additional year that a mother spends in school (UNESCO, 2013). In terms of socio-economic growth, it is projected that a 1 percent increase in women enrolled in secondary school produces a 0.3 percent growth in the annual per-capita income (Dollar & Gatti, 1999), and improves girls' future earnings between 10-20 percent (World Bank, 2004).

Girls' secondary education is related to enhanced social benefits through reduced exposure to sexual harassment, better political and civic involvement, and reduced risk of trafficking of young women for labor and for sex. Secondary education provides girls with the ability to protect themselves from HIV/AIDS by not only improving their knowledge of the disease and how to prevent it but also in initiating a change in the way they think, thereby increasing the probability of adopting self-protective behavior (Rihani, 2006). Access to secondary education and beyond provides girls with a new sense of responsibility, making it possible for them to shape their own future without leaving it entirely in the hands of their fathers or future husbands (Murphy & Carr, 2007).

Despite the documented evidence of the benefits that accrue from secondary education for girls, challenges remain, especially for the poorest. Research from APHRC longitudinal data showed that in 2009-2010, children in poor households were less likely to make a transition into secondary school. For example, only 52 percent of children in the bottom two quartiles of household wealth transitioned to secondary school, while 58 percent in the middle two quintiles and 61 percent in the top quintile of slum households. Overall, in 2009/2010 the transition rate for pupils residing in the urban slums of Nairobi was 59 percent, compared to 88 percent for pupils in non-slums households.

Research evidence showed that 47 percent of children in urban informal settlements in Kenya attend non-state primary schools. This proportion was highest in Nairobi, which recorded 63

percent. Non-state informal schools for the poor are ill-equipped and most teachers are not well-trained (Ngware et al., 2013). Moreover, girls are more likely to be subjected to negative social behaviors such as rape, incest, sexual and physical abuse, and early pregnancies and marriages. A longitudinal study by Okigbo, Kabiru, Mumah, Mojola, and Beguy (2015) involving 1,927 adolescent girls aged 12 to 19 living in Korogocho and Viwandani, two of Nairobi's urban informal settlements, revealed that 6 percent had experienced sexual debut. Due to the girls' household economic distresses, they are forced to engage in activities such as transactional sex, prostitution or abusive relationships with older men in return for basic necessities. The end result is emotional distress, poor academic performance, and eventual school drop-out (Okigbo et al., 2015).

It is against this backdrop that APHRC designed this education intervention study, in partnership with the community-based organizations Miss Koch and U-Tena, targeting adolescent girls in the two urban slums in Nairobi. The aim was to improve girls' learning outcomes through support for homework, increased parental involvement, and transition to secondary school. This report documents the end-term results of a three-year education intervention study begun in 2013. The evaluation component of the study involved three data collection points: baseline in mid-2013; mid-term in 2014; and end-term in 2015. Implementation started in July 2013 just after baseline data was collected in June 2013, to provide an understanding of the baseline characteristics of the population in the two slum sites prior to intervention.

1.2 The intervention

The study deployed a multi-pronged education intervention approach. Intervention components included: 1) after-school support and mentoring for girls; 2) subsidized primary to secondary school transition and 3) parent and community leader sensitization on girls' education. See (Abuya et al., 2013, 2014) for the comprehensive description of the intervention. The intervention involved two treatment arms and one control arm at both study sites. The intervention was implemented by Miss Koch in the Korogocho site and by U-Tena in Viwandani. As a result of being engaged in the project, the community based organizations have enhanced their capacity in the past three years in terms of M&E which will be useful in tracking the input and output indicators of the expanded project design.

Treatment 1 (T1) included after-school homework support in numeracy and literacy; mentoring in life-skills for the girls; parental counseling; and a secondary education transition subsidy for those scoring 250 and above on the Kenya Certificate of Primary Education (KCPE) examination.

Treatment 2 (T2) included after-school homework support in numeracy and literacy, mentoring in life-skills to girls, and a transition subsidy for those scoring 250 and above on the KCPE, but without parental counseling. The control group received no intervention, other than a secondary education transition subsidy for those who scored 250 and above in the KCPE examination at the end of the study period.

In 2013, 62 after-school sessions were conducted, half for numeracy and half for literacy. Additionally, there were 10 life-skill mentorship sessions offered to the girls and six counseling sessions for the parents of the girls in T1.

The number of sessions later increased in 2014 to 84 after-school support sessions, divided equally between numeracy and literacy; 12 life-skill mentorship sessions; and four parental counseling sessions. At the time of writing, implementers had completed 72 of an expected 84 after-school sessions, 10 of 12 life-skills mentorship sessions and three of four parental counseling sessions. All the components of the intervention ceased on 7th November 2015, however the transition subsidy will be awarded to the last cohort (both treatment and control) in January 2016.

At the end of the intervention, 230 after-school sessions, 34 life-skills mentorship sessions and 14 counseling sessions will have been completed. Transition subsidies were awarded to girls who scored 250 out of 500 marks, thereby passing the government-determined minimum threshold for transition to secondary, to cater for the non-tuition costs associated with transitioning to secondary form one. After 2013 exams, 71 of 270 girls were awarded the subsidy; the number increased to 92 of 364 girls after the 2014 exams.

1.3 Theory of change

The theory of change posits that addressing low educational participation among poor and marginalized girls in informal urban settlements requires comprehensive awareness and understanding of social and economic drivers. Therefore, it was important to use a multi-pronged approach involving a combination of interventions. In implementing the interventions, we selected girls who had already experienced academic success as role models to mentor others. This was critical as they were able to coach their younger counterparts in ways to overcome common challenges. It was anticipated that the interventions would improve learning and the quality of education by providing after-school support, enhancing educational aspirations, and increasing parent and community support for girls' education. Change was demonstrated in the increase in the number of girls completing primary, transitioning to secondary school, and improving test scores in numeracy. KCPE test scores were also higher than at baseline.

To achieve the intervention study aims and objectives, the following research questions were asked:

- i. Does after-school learning support lead to improved learning outcomes?
- ii. Does subsidizing the cost of the first year of secondary school improve the likelihood that girls will transition to secondary school?
- iii. How does improved awareness of the challenges confronting girls in accessing education among parents and community leaders lead to increased support and improved learning outcomes?

The evaluation team hypothesized that:

- i. Provision of after-school support with homework in numeracy and literacy for vulnerable girls from community-based positive role models will improve learning outcomes
- ii. Subsidizing the cost of the first year of secondary school will increase the likelihood that girls transition to secondary education
- iii. Community conversations with parents and community leaders will improve learning outcomes and transition to secondary school.

1.4 Sampling procedures

1.4.1 Quantitative and schooling components

We adopted a quasi-experimental study design for this pilot phase of the intervention involving two treatment and one comparison group in each of the two study sites. At each site, households with girls aged 12 to 19 years in 2013 (aged 12-19 years in 2013) were identified. Each study site was divided further into three zones using GPS coordinates of the housing structures. Two zones were selected as treatment zones and the third as the comparison. During listing, vital data on the girls and their households was collected including their age, grade, school name, household head name, and location. This was the foundation of a database that helped to track the girls. The end-term survey followed the same procedures employed during the baseline and mid-line. In total, 1,271 girls aged 12 to 19 years in grades 6, 7 and 8 were identified at baseline. The same number of girls was followed during mid-line, irrespective of their schooling and migration status. At mid-line, 7 percent could not be followed-up, a proportion that increased to about 20 percent by end-term, leaving a total of 1,011 girls.

1.4.2 Qualitative component

Thirty-nine qualitative interviews were conducted with parents, after-school support mentors, counselors, implementers, chiefs, village elders, and girls selected from both sites. These groups were engaged through focus group discussions (FGDs), key informant interviews (KIs) and in-depth interviews (IDIs). Parents of girls in grade 8 participated in the focus group discussions, which included six focus group discussions with parents (two in T1, two in T2 and two in the control group); two FGDs with mentors; and one FGD with counsellors from Korogocho. In addition to the FGDs there were 12 IDIs with girls. There were also KIs with the chief¹ of each site, 12 with village elders², two counselors in Viwandani and representatives of each implementing partner. Anticipated focus group discussions with counselors in Viwandani did not materialize despite repeated attempts, so adjustments were made to conduct KIs instead. (See Appendix A, B, C, D for the participant distribution by site and by treatment zone).

¹The chief is a government representative responsible for several villages

²Village elders are selected by the community members and each represent their village

Selection of parents: A list of parents/guardians in the two treatment zones (T1, T2) and a comparison zone (C) was generated for each site, separated by sex, and a random selection of 10-12 parents was made from each category to constitute single-sex FGDs in each zone.

Selection of girls: The sampling of girls was done purposely from each category so as to include girls from both treatment and control zones. Two girls were selected from each group at each study site, for a total of 12. In-depth interviews were conducted within their schools after seeking consent from the school head teachers and parents.

Selection of community leaders: Community leaders included local area chiefs and village elders. Two chiefs and 12 village elders were selected from Korogocho and Viwandani and key informant interviews conducted. The two chiefs were the local leaders in the two sites, while the village elders represented the various villages within Korogocho and Viwandani.

Selection of implementers: Two representatives involved in the day-to-day management of the project were selected from U-Tena and Miss Koch Kenya. Key informant interviews were conducted with this group. These interviews focused on experiences in running the project, staffing, mobilization, community sensitization, capacity building, monitoring and evaluation, lessons learned, challenges, and recommendations.

Selection of mentors and counselors: This group was purposely selected for focus group discussions. However, key informant interviews were conducted with two counselors in Viwandani as noted previously. In total there were 19 mentors and counselors selected: 12 from T1 and seven from T2.

1.5 Training

Training of field interviewers for the end-term evaluation was conducted in mid-June 2015. Of 22 recruited trainees, 20 were shortlisted to collect data. Trainees were taken through project objectives, data collection tools (both qualitative and quantitative) in order to learn data collection skills. Role-playing was a central training focus so that trainees could better meet the training objectives. Tools were piloted with the trainees at both study sites to ensure full comprehension of the evaluation questions as well as the role of field interviewer. Data collection tools were reviewed after the training and adjusted accordingly. The pilot was especially important since electronic data collection was used for this round of data collection, as opposed to paper-based tools used at baseline and mid-line.

1.6 Data collection

Data collection was conducted over a three-week period in late June and early July 2015. Quantitative household survey tools included an individual schooling update questionnaire, individual behavior/life skills questionnaire, and parental/guardian involvement questionnaire. Of

the sampled 1,271 girls, data collectors were able to update information for 1,011. Literacy and numeracy tests were also administered to 200 of a targeted 431 girls in grade 8. A brief description of the survey and qualitative tools used is given below:

Individual schooling update questionnaire: This questionnaire collected data on the girls' schooling history and attendance, including type and location of school, absenteeism, change of school, grade repetition, and extra tuition.

Individual behavior/life skills questionnaire: This questionnaire collected data on girls' educational goals and aspirations; self-confidence; personal behavior; substance abuse; sexual activity; source of information on sex, drugs, smoking, and alcohol; and knowledge of HIV/AIDS and other sexually transmitted diseases. In addition, the tool also examined myths about puberty, sex, and HIV/AIDS. Lastly, the tool surveyed important lessons the girls had learned from attending life-skills sessions.

Parental/guardian involvement questionnaire: This questionnaire collected data on parental involvement in the education of girls in the community in terms of provision of resources, checking their homework and follow-ups to know how, with whom, and where their girls spend their time. The tool investigated whether parents/guardians understand their role in girls' education, as well as their awareness of the challenges and barriers preventing success.

Literacy test: This test assessed girls' literacy skills by testing listening, comprehension, reading, writing, and speaking. In addition, the girls' spelling, punctuation, coherence, paragraphing, and handwriting were assessed through a composition exercise. For consistency, the same tool was used throughout from baseline to end-term.

Numeracy test: The aim of the tool was to assess three learning domains in numeracy: knowledge, comprehension, and application. It focused on the curricular outcome areas of numbers and operations, patterns and algebra, geometry, measurement, and basic statistics. The same numeracy tool was used from baseline to end-term for consistency.

Parents' FGD protocol of questions: This tool was used to investigate parental understanding of their roles and that of the community related to girl education, to understand the challenges that impede access to education for girls, and to determine parental opinions about the impact of the intervention for girls in the community.

Girls' protocol of questions: This tool explored the girls' understanding of their role and that of the community in supporting their education, as well as what benefits were incurred from the project. It also sought to pinpoint challenges encountered by project participants, and to understand from their perspectives whether the project was beneficial to them.

Community leaders' protocol of questions: This tool was used to investigate community leaders' understanding of their roles and the role the community should play in supporting girls' education, and to investigate community leaders' opinions on the impact of the intervention among girls in the community.

Counselors' protocol of questions: This protocol explored the degree of understanding among counselors about their responsibilities in supporting the girls, and the role the community should play in encouraging girls' education; their understanding of the challenges affecting their work as counselors; and what can be done to mitigate or resolve these challenges to improve their work.

Mentors' protocol of questions: This protocol sought to infer the degree of understanding among the mentors of their roles and responsibilities, and the role the community should play in encouraging girls' education; their understanding of the challenges affecting their work as counselors; and what can be done to mitigate or resolve these challenges to improve their work.

Implementers' protocol of questions: This tool was more focused on the management of the project by the two implementers. It specifically sought to understand their experiences in running the project.

1.7 Analysis

Data analysis was conducted using a mix of approaches. Descriptive data analyses are presented in terms of frequencies and percentages. A difference-in-difference (DID) regression analysis was then used to establish the impact of the intervention for continuous indicators: literacy and mathematics scores. A DID model was applied to each pair of comparisons. Where DID was significant, an intention-to-treat analysis was conducted by fitting a regression model and controlled for baseline imbalance. Co-variables that were controlled for included: baseline scores; the grade as a proxy measure of the period of exposure; type of school; household wealth; family size; study site and household head's education, age, and sex.

Data analysis in this report was restricted to both the baseline conducted in June 2013 and end-term done in June 2015. However, the end-term data was redefined as the mid-term (conducted in June 2014) for observations of girls who were in grade 7 in 2013 and end-term (conducted in June 2015) for observation of girls who were in grade 6 in 2013. This redefinition was necessary because upon completion of grade 8 and subsequent ending of primary-level education they no longer qualified to participate in the intervention intended for girls preparing for the primary-to-secondary transition.

As illustrated in Table 1.1, the grade 6 girls on recruitment were expected to participate in all rounds of data collection; grade 7 were expected to participate in both baseline and mid-line; and grade 8 participated only in the baseline. Table 1.1 also shows the duration of exposure, which is three, two, and one year(s) respectively for grade 6, 7, and 8 cohorts. The design of the intervention provided an opportunity to evaluate impact using the grade 8 KCPE examination.

Table 1.1: Expected exposure to the intervention and progression by grade cohort

Grade at baseline	Baseline June 2013	Mid-line June 2014	End-term June 2015
Grade 6	Grade 6	Grade 7	Grade 8 (KCPE)
Grade 7	Grade 7	Grade 8 (KCPE)	
Grade 8	Grade 8 (KCPE)		

All qualitative data was tape-recorded and transcribed verbatim. A coding schema was generated both inductively and deductively, with deductive coding largely based on the research questions guiding the end-term study and inductive coding informed by thematic areas that emerged but were not necessarily defined in the initial research questions.

These codes were mainly adapted from the mid-line evaluation as well as from listening to the interview voice records and reading the first set of transcripts. Coding was done using NVIVO software and a coding report generated for interpretation. Analysis was conducted using a constant comparative method by putting together similar expressions under the same theme and sub-themes (Ryan & Bernard, 2003).

1.8 Limitations

The study had two limitations. One of the limitations was attrition, a function of registered girls being lost to follow-up in subsequent data collection waves. This was attributed to reasons such as out-migration of the households from the demographic surveillance area and transfer of girls to other schools. This did not impact the study sample as it was factored in during the sampling calculations at baseline. The second limitation was the enlisted girls not attending the sessions as intended.



“ The interventions would improve learning and the quality of education by providing after-school support, enhancing educational aspirations, and increasing parent and community support for girls’ education. ”

2

END-TERM IMPACTS



2.1 Status of girls at end-term

Table 2.1 shows the grade level distribution of all of the girls at end-term. Overall, by end-term, about 20 percent of the girls were lost to follow-up. About 30 percent of the girls, most of whom were in class six at baseline, are currently in grade 8; another 36 percent have transitioned to secondary school. Very few girls (<1 percent) enrolled at commercial colleges.

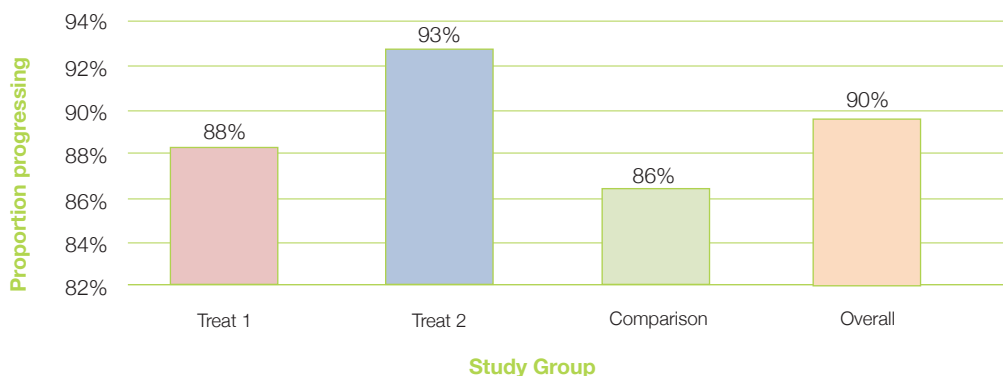
Table 2.1: Status of girls at end-term

Grade/Level	Treat 1 (n=350)	Treat 2 (n=505)	Comparison (n=416)	Total (n=1271)
Grade 6	1.71	0.40	0.72	0.87
Grade 7	4.29	4.75	3.85	4.33
Grade 8	26.57	31.49	29.81	29.58
Form 1	20.00	19.01	20.91	19.91
Form 2	15.14	17.43	16.11	16.37
Commercial college	1.14	0.59	0.00	0.55
Not in school	5.71	9.11	8.17	7.87
Unknown/traced	25.43	17.23	20.43	20.54
Total	27.5	39.7	32.7	100

NB: Treat 1=Treatment 1, Treat 2=Treatment 2

Figure 3 shows the proportion of girls who progressed to the next grade between 2014 and 2015, exempting those who were in grade 8 at mid-line. Among the girls followed to end-term, information was further disaggregated based on progression as shown in Figure 3. Analysis for progression was restricted to those girls in primary school and not in grade 8 as at mid-line. There was no significant difference in grade progression rates between sites. T2 recorded the highest progression rate, at 93 percent; the comparison site was the lowest at 86 percent.

Figure 3: Grade progression rate for girls in primary school between 2014 and 2015



2.2 Impact on transition and homework support

Table 2.2 provides a summary of the impact of the intervention on transition to secondary school, homework and homework support. The extra school tuition is different from the after-school support provided by the intervention. While tuition is most often school-led, with the subject teachers in charge, after-school support is provided by community mentors in selected centers where girls from different schools meet and receive homework assistance and support for subjects they themselves consider to be challenging. The analysis is restricted to those enrolled in primary school and compares the baseline and mid-line/ end-term information. For the transition data, unlike other project indicators, comparison was made between those who transitioned between 2013/2014 (grade 8 of 2013) and 2014/2015 (grade 8 of 2014).

Transition: The project increased transition significantly within the treatment groups compared to the control group, but not between the treatment groups. The impact on transition to secondary school was significantly higher in Treatment 1 (13 percentage points) and Treatment 2 (17 percentage points) compared to the control. Among the girls who enrolled in secondary school in 2015, 45 percent transitioned to private secondary schools. This was an increase from 41 percent observed in 2014. When comparing Treatment 1, which featured additional parental counseling and sensitization with Treatment 2, the DID is negative (-3.4 percentage points before adjusting and -4.5 percentage points after adjusting for baseline covariates) and was not statistically significant. The theory of change postulated that parental support plus counseling would lead to greater awareness among parents of the need to support their girls' education, leading to improved performance and a greater likelihood that they would transition to secondary school. The results, however, suggested that this intervention did not result in a significant increase in the number of girls continuing to secondary school.

Girls who scored 250 marks and above in the primary exit exam were awarded a financial subsidy to facilitate their transition to secondary school. The subsidy covered non-tuition related costs of joining secondary school, and it was anticipated that this would motivate the girls to

improve their performance. However, given the design³ of the intervention, it was impossible to attribute the increased transition exclusively to the incentive but instead to a combination of the intervention factors.

Table 2.2: Intervention impact on transition and homework support

Indicator	Unadjusted DID			Adjusted DID ⁺		
	T1vsC	T2vsC	T1vsT2	T1vsC	T2vsC	T1vsT2
Transition	13.3*	16.7**	-3.4	15.4**	20.5**	-4.5
Comes home with homework	-2.4	-2.6	0.2	-2.6	-2.9	0.3
Supported in homework within the household						
<i>Always</i>	-9.1**	-4.4	-4.1	-9.1**	-4.8	-3.6
<i>At least usually</i>	-25.6***	-1.8	-23.8***	-25.9***	-1.7	-23.4**
<i>At least sometimes</i>	-2.1	1.4	-3.5	-2.2	2.7	-2.9
<i>Never</i>	0	-2.3	-2.2	0	-3.6	1.8
Completes homework						
<i>Always</i>	3.6	4.7	-1.1	6.7	7.1	0
<i>At least usually</i>	-2.5	-6.2	3.7	-2.2	-5.6**	3.5
<i>At least sometimes</i>	-1.3	-0.1	0.8	-1.2	-1.5	0.3
<i>Never</i>	-	-	-	-	-	-

*** p<0.01; ** p<0.05; * p<0.1

T1=Treatment 1; T2=Treatment 2; C=Comparison; DID=Difference-In-Difference

⁺Adjusted for wealth, school type, study site, household size, household head age, education and gender and exposure period (grade at baseline)

Homework support: The intervention provided after-school homework support for the girls, specifically focusing on mathematics and literacy. The girls received two sessions of homework support weekly. Schools give homework daily, so household support is critical. Parents were asked whether anyone oversees their daughters' homework using a Likert scale for responses ranging from 'always' to 'never'. Most parents said that homework supervision occurred 'at least usually' or 'always'. The 'at least sometimes' category shows insignificant homework support between the study groups. Very few parents report their girls to 'never be supported' in homework. With regard to completion of homework, we see an insignificant difference between

³ The study design did not control independently for subsidy only. The only difference between treatment 1 and 2 was the parental component. Therefore, the design does not allow for an assessment of the impact of the subsidy.

groups. We speculate that this may be due to confounding variables, for example the support given by the teachers, teacher characteristics, classroom interactions, or other variables.

2.3 Girls' behavior and life-skills component

A child with a positive outlook, goals and attitudes is more likely to achieve better results in activities she values (Jessor & Jessor, 1977). Helping children discover this positive outlook, especially those children and youth living in difficult environments such as urban slums, can have a positive impact on their ability to progress educationally as well as reducing the risk of engagement in deviant social behavior. A meta-analysis of more than 60 interventions to support aspirations and attitudes aiming to have a positive impact on educational attainment by Beng, See, and Davies (2012) found a positive association between the two. Other evidence from a longitudinal study involving 1,927 unmarried adolescents aged 12 to 19 years in high-poverty settings in Kenya (Nairobi slums), by Okigbo et al. (2015) revealed that parental communication with their opposite-sex child (father to daughter and mother to son) significantly delays sexual activity and reduces risky behaviors among adolescents. In this section, we estimate the impact of the intervention packages on girls' engagement in risky behavior (as an intermediate outcome) and learning achievement (as an ultimate outcome) using a multiple linear regression with interaction to estimate the impact.

The analysis involves running two models: the first (null) is a fixed model with no covariates (intervening variables) while the second one adjusts for girls' age, household head education level, gender and age, household size, and wealth index. The two models were used to estimate the educational ambitions and risky behavior (aggressive, rebellious, and reckless) based on perceptions expressed by participants. Educational ambition is a composite indicator of aspiration, interest in schooling, self-confidence, and negative peer influence. The girls were asked to rate their perceptions on a battery of questions deemed to measure aspiration, interest in schooling and self-confidence using a five-point Likert-type scale where a rating of 1 was "low score" and 3 or 4 or 5 was "higher score". To measure peer influence, a four-point Likert scale was used where rating of 1 was "lack of" and a rating of 4 meant "existence of" negative peer influence. The ratings from the battery of questions were then subjected to a data reduction method which gave a standardized regression score for each participant. This enables comparisons to be made between groups. For example, when comparing T1 Vs T2 in aspiration, interest in schooling and self-confidence, T1 is the reference category and therefore a positive difference favors T1, while a negative difference favors the T2.

As Table 2.3 shows, girls in T1 demonstrated significantly higher educational aspirations. Despite girls in treatment 2 receiving life-skills mentoring, their aspirations were significantly lower by 22 percent compared to those in the control arm in null and controlled models. The parental counseling component included in the interventions provided to girls in T1 may have helped instill positive educational aspirations. Results also demonstrated a lower self-confidence amongst girls in T1 by 31 percent compared to those in T2.

Girls in T2 expressed greater self-confidence than girls in the control group. This implies that life-skills mentoring as part of the intervention worked well and that the anticipated additional

benefit of parental counseling to improve a girl's self-confidence, as provided to the girls in T1, had less of an impact.

Girls in the T1 group did record a greater interest in schooling: about 62 percent and 56 percent over T2 and the control groups respectively. Girls in T1 also reported a 40- and 20 percent lower susceptibility to negative peer influence compared to their peers in T2 and control group. However, girls in T2 (they received life-skills mentoring and after-school support) had 21 percent higher chances of being peer influenced as compared with those in the control arm. The implication is that parental counseling for girls in treatment 1, may have led to enhanced supervision and/or monitoring which in turn led to lower peer influence among T1 girls.

Table 2.3: Intervention impact between treatment groups

		T1 vs T2 (N=846)		T1 vs C (N=760)		T2 vs C (N=908)	
		Beta	Sig	Beta	sig	Beta	sig
A. Educational ambitions							
Aspirations	Null	0.269	0.005**	0.048	0.633	-0.222	0.018**
	Controlled	0.269	0.004**	0.048	0.631	-0.222	0.015**
Self-confidence	Null	-0.308	0.001***	0.028	0.788	0.336	0.000***
	Controlled	-0.308	0.001***	0.028	0.787	0.336	0.000***
Interest in schooling	Null	0.618	0.000***	0.564	0.000***	-0.053	0.546
	Controlled	0.618	0.000***	0.564	0.000***	-0.053	0.543
Peer influence (negative)	Null	-0.402	0.000***	-0.195	0.077*	0.207	0.016**
	Controlled	-0.402	0.000***	-0.195	0.077*	0.207	0.016**
B. Risky behavior							
Aggressive behavior	Null	-0.284	0.010**	-0.265	0.014**	0.019	0.828
	Controlled	-0.284	0.010**	-0.265	0.014**	0.019	0.828
Rebellious behavior	Null	0.220	0.011**	0.128	0.192	-0.092	0.357
	Controlled	0.220	0.011**	0.128	0.192	-0.092	0.357
Reckless behavior [^]	Null	-0.556	0.000***	-0.356	0.000***	0.200	0.027**
	Controlled	-0.556	0.000***	-0.356	0.000***	0.200	0.027**

NB: *** sig at 1 percent, ** sig at 5 percent and * sig at 10 percent; E=end-term and B=baseline; T1=treatment 1, T2=Treatment 2 and C=Control

Adolescence marks the transition between childhood and adulthood is characterized by diverse active physical, emotional, mental and social changes. Peer influence begins to have greater impact than familial influence, presenting new opportunities and challenges (Singh & Das, 2011). This stage usually marks debut of sexual activities, greater exposure to drug and substance use, and negative social behavior through experimentation due to influence from peers and lack of self-control. Adolescents may indulge in risky behaviors in search of their value and independence, which, in extreme cases, may lead to the development of unhealthy habits and relationships, possibly leading to illness and premature death (Okigbo et al., 2015).

Deviant behavior was assessed in three categories: aggressive, rebellious and reckless. Aggressive behavior was measured using a five-point Likert scale where a rating of 1 meant “lack of” and 5 meant “existence of” aggression. Rebellious and reckless behaviors were measured using a binary response where 1 meant “involved”, and 0 “otherwise”. A negative coefficient will therefore correlate to an absence of the behavior in the reference group.

From Table 2.3, girls in T1 were significantly less aggressive than girls in T2 and control groups. This may suggest a correlation between parental counseling and reduced engagement in aggressive behavior. In the rebellious aspect, the girls in treatment 1 significantly engaged in rebellious behavior by 22 percent compared to girls in the treatment 2. This would seem to imply a negative correlation when measured against diminished aggressive behavior observed in T1. It may also be explained that the life skills and parental counseling component of the intervention interacted in ways that the girls to feel that they were ready to take more risks. However, these risks did not include sexual activity. However, these same girls in treatment 1 significantly abstained from sex by 56 percent and 36 percent compared to their peers in treatment 2 and control groups respectively. On the other hand, the girls in treatment 2 reported to significantly engage in sex by 20 percent compared to girls in the control arm. The implication is that the parental counseling given to parents of girls in treatment 1 is complementing abstinence to sexual related activities among girls in T1.

2.4 Girls’ achievement in numeracy and literacy

Education researchers have expressed concerns over the declining quality of education in Kenya under the Free Primary Education (FPE) policy, which has resulted in many children going through the school system without acquiring the basic skills needed for day-to-day living, or to pursue secondary education (Glennerster, Kremer, Mbiti, & Takavarasha, 2011; Hungi et al., 2010; KNEC, 2010; Ngware et al., 2013; Onsomu, Nzomo, & Obiero, 2005). UWEZO (2013) results showed that only 29 percent of pupils enrolled in grade 3 could read and understand an English story for grade 2, and only 32 percent passed a grade 2 level mathematics test. Moreover, in the 2007 Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ) study that involved 4,436 grade 6 pupils drawn from across Kenya’s eight provinces at the time, only 19 percent and 5 percent were ranked in the top two competency levels in reading literacy and mathematics, respectively (Hungu et al., 2010).

In terms of comparison by pupil sex, studies have reported boys outperforming girls in mathematics, but have found little or no difference between the literacy levels of boys and girls. In terms of socio-economic status, pupils from low-income households (such as those found in urban slums) have consistently reported poorer performance than their wealthier peers (Hungu & Thuku, 2010a; Hungu & Thuku, 2010b; KNEC, 2010; Ngware et al., 2013; Onsomu et al., 2005).

This sub-section focuses on the impact of the intervention on girls' mathematics and literacy achievement. The results presented here were derived from literacy and mathematics tests developed from the official primary school curriculum for grades 6, 7 and 8 in Kenya. For each subject, the same test was used across grade levels at baseline and also at end-term. During baseline, grades 6, 7 and 8 test data for each subject were equated using Rasch measurement techniques, allowing valid comparison of test scores across grade levels.

Test scores for each subject were transformed into a common scale with a mean of 400 and a standard deviation of 100. Baseline and end-term test data were equated, meaning that valid comparisons within each subject can be made between baseline and end-term. Data from the mathematics and literacy tests were also analyzed using content domains (curriculum or specific subject areas) and Bloom's cognitive domains. For mathematics, four content domains (numbers and operations, measurement, space, and data) and four cognitive domains (knowledge, comprehension, application, and analysis) were considered. For literacy, the content domains considered were reading, speaking, writing and listening. Cognitive domains for literacy were not included in the analysis because the items in the literacy test were not mutually exclusive and could fall in more than one cognitive domain.

2.4.1 Difference in difference (DID) analyses

Results for the mathematics and literacy tests are displayed in Table 2.4 and Table 2.5. For the overall mathematics scores, results in Table 2.4 indicate that the DID between the two treatment groups was not statistically significant, demonstrating that the difference in intervention packages did not enhance results in mathematics. The results further show that the DID between T1 and C groups (34.7 - Rasch standardized score points) was positive and significant at 1 percent level while that between T2 and C groups (24.4) was also positive and significant the same 1 percent level. There were considerable differences between both T1 and T2 and the C group, which means that the intervention itself was useful in boosting overall mathematics performance, as well as, specifically, in measurement and space and data.

There were also clear advantages in terms of mathematics cognitive domain associated with receiving the treatment interventions.

Table 2.4: Intervention impact on mathematics achievement

	DID		
	T1 vs C	T2 vs C	T1 vs T2
a) Overall mathematics score	34.7 ***	24.4 **	10.2
b) Mathematics content areas			
<i>Numbers</i>	22.5 *	21.1 *	1.4
<i>Measurement</i>	36.1 ***	18.4 *	17.6
<i>Space and data</i>	65.7 ***	43.4 ***	22.3
c) Mathematics cognitive areas			
<i>Knowledge</i>	23.6 **	3.3	20.4 *
<i>Comprehension</i>	36.4 ***	44.2 ***	-7.8
<i>Application</i>	32.3 ***	8.5	23.8 **
<i>Analysis</i>	39.6 ***	31.0 **	8.7

Table 2.5: Intervention impact on literacy achievement

	DID		
	T1 vs C	T2 vs C	T1 vs T2
a) Overall literacy score	-6.3	10.9	-17.2 **
b) Literacy content areas			
<i>Reading</i>	-7.2	19.3*	-26.5 **
<i>Writing</i>	-11.2	-45.9***	34.7 ***
<i>Speaking</i>	-3.2	4.1	-7.3
<i>Listening</i>	-3.0	-46.9***	43.9 ***

NB: *** sig. at 1%, ** sig. at 5% and * sig. at 10%; T1=Treatment 1, T2=Treatment 2 and C=Comparison; Time effect = The difference between the end-term and baseline for the comparison group, or what would have happened in the absence of the intervention. The C group acts as the control for T1 and T2; when comparing T1 and T2, T2 acts as the control.

There was no statistically significant difference in overall literacy between the treatment groups and the control, as shown in Table 2. 5. Nor did the additional interventions offered to T1 have any impact on any of the specific literacy content areas considered. Surprisingly, the DID results show that girls in T2 were significantly outperformed by those in the comparison group in writing and listening domains. Thus, it would seem that neither of the two interventions had desirable impacts on literacy achievement. These findings contradict those in mathematics achievement. It could be that the interventions focused more on supporting the girls in mathematics than in literacy. It could also be that the mentors found it easier to provide support in mathematics than in literacy because of their own facility – or lack thereof – with English.

2.4.2 Multiple regression analysis

As a follow-up to the DID results, the effects of the interventions on the overall mathematics scores were examined in multiple regression models, controlling for key potential intervening factors that might not have been perfectly balanced across treatment and comparison groups, and are known or hypothesized to be predictors of learning outcomes. Three separate regression models were run to make comparisons in each model, controls were made for student baseline score, student age, grade level, site, household characteristics and household poverty index. Parallel analyses were not conducted for literacy achievement because the DID results indicated no impact.

The results of the regression analyses are displayed in Table 2.6. After considering student achievement in mathematics at baseline and other key predictors of learning achievement, there were significant differences between each of the two treatment groups and the control group – with the girls in each treatment group outperforming those in the control group by about 25 score points (this is equivalent to 0.25 SD on the original Rasch scale). However, the performance of the girls in the treatment groups was comparable. These regression results are consistent with the mathematics results reported using the DID approach. The intervention had a positive impact on mathematics achievement.

Table 2.6: Regression model for mathematics achievement

Variable	Model 1: T1 vs C (n=445)			Model 2: T2 vs C (n=532)			Model 3: T1 vs T2 (n=519)		
	Coeff.	95% CI		Coeff.	95% CI		Coeff.	95% CI	
		Lower	Upper		Lower	Upper		Lower	Upper
<i>(Constant)</i>	330.1	224.6	435.5	397.6	299.8	495.4	350.4	256.8	444.0
Baseline score	0.3 ***	0.2	0.4	0.3 ***	0.2	0.4	0.3 ***	0.2	0.4
Girl age	-2.5	-9.0	3.9	-5.7 *	-11.7	0.4	0.6	-5.3	6.5
Site: Viwandani	-10.7	-35.5	14.1	-5.7	-30.1	18.7	19.7	-6.6	46.0
Group									
<i>Treatment 1</i>	25.2 ***	9.0	41.3				0.7	-14.5	15.8
<i>Treatment 2</i>				25.4 ***	10.6	40.2	ref		
<i>Comparison</i>	ref			ref					
HH characteristics									
<i>Male HHH</i>	5.3	-12.7	23.4	-1.7	-18.4	14.9	8.4	-8.2	25.0
<i>Age of HHH</i>	0.1	-0.6	0.8	-0.3	-0.9	0.4	-0.1	-0.8	0.6
<i>Household size</i>	1.0	-3.2	5.1	2.1	-1.7	6.0	-1.0	-4.9	2.9
Wealth background									
<i>Middle</i>	1.3	-20.1	22.7	-2.1	-22.1	17.8	-11.1	-33.7	11.5
<i>Least poor</i>	16.3	-14.1	46.7	-4.7	-33.2	23.9	-21.3	-51.7	9.1
Class									
<i>Standard 7</i>	-4.1	-24.1	15.8	20.7 **	1.6	39.9	-10.6	-29.3	8.2
<i>Standard 8</i>	-18.6	-45.3	8.2	-8.0	-33.4	17.5	-23.5	-48.2	1.2

NB: *** sig. at 1%, ** sig. at 5% and * sig. at 10%; T1=Treatment 1, T2=Treatment 2 and C=Comparison; HH=Household and HHH=Household head, because in some instances

3

REFLECTIONS ON THE IMPACT OF THE EDUCATION INTERVENTION



This section highlights the narratives from the beneficiaries: girls and their parents, community leaders, as well as the implementing partners of the project (Miss Koch and U-Tena). These narratives aim to show a cumulative reflection about the three-year intervention and were drawn from focus group discussions (FGDs) with parents of girls in grade 8 and their mentors, and in-depth interviews and key informant interviews with community leaders, girls in grade 8 and implementing partners in the two sites. This section highlights the benefits of the intervention from the following participants: community gatekeepers, parents, mentors, counselors, girls, and implementing partners. Thereafter we focus on the key lessons learned, some of which have informed phase II of the study.

The following main thematic categories identify the end-term impacts of the intervention: improved performance in school in literacy and numeracy and its ripple effects; effects of improved knowledge in life-skills and counseling (improved communication, improved self-consciousness, improved self-esteem, aspiration for post-secondary education, forging a path for younger girls, and a platform to share views by parents).

3.1 Improvement in performance in school

Improvements in literacy and numeracy were highlighted by the qualitative narratives, illustrating the barriers to learning that confront girls from poor households in urban informal settlements including a lack of opportunity and time to learn and do their homework. When parents have to work and girls take on a greater share of the household tasks, it limits their time and ability to focus on school work. The narratives reveal a consensus that – even if it is not manifested directly in the test scores – there is a perception that the girls have improved. Girls who directly benefited from the after-school homework support said that the program helped even with basic understanding of the concepts being studied in school. Parents of grade 8 students said their daughters were doing well academically and expressed satisfaction with the milestones their daughters were able to accomplish as a result of the program. A parent in Viwandani explained:

... [I] am very grateful for this program that you started. I see my daughter is going on well education-wise...Like now, there is that other week that you came at home and they were taught not to walk with bad groups... (FGD, Female Parents, Viwandani, T2).

Improvement in literacy and numeracy has potential to radiate to improvement in other subjects; many girls noted that they were doing better in science and social studies as a function of participating in the program. A mentor in Viwandani said, “...OK, some of the girls, ... have improved in mathematics and in English...When they improve in English that means that they can improve in science, social studies, CRE, and other subjects” (FGD, Mentors Viwandani).

Moreover, the success realized in the after-school program in literacy and numeracy led to improved achievement by the girls in the KCPE in 2014. Three girls from Korogocho were for

the first time absorbed in the Wings to Fly scholarship program sponsored by the MasterCard Foundation in partnership with Equity Group Foundation. A mentor from Korogocho explained:

...I think it has achieved ... but maybe 80 or 70 percent, because for the first time in the history of Korogocho I heard that some pupils from this area are being taken by Wings to Fly. I do not know whether it had happened earlier... (FGD, Mentors, Korogocho).

Community leaders also emphasized the benefits of the project, noting that not only have grades improved across all subjects taught in schools but that girls are now motivated to continue performing well.

A community leader explained:

... I will also say that another strategy that we have used in this program...is assisting children in the evening and over the weekends to do their homework. This homework strategy...has assisted them to pass well in the exams. They have all improved. Those who were getting grade D are now getting B, those who were getting C are now getting A, because of APHRC and Miss Koch Kenya, and of course with us and the community accepting these children to be assisted to do their homework...So, and they have really improved and are actually motivated. That is the word I would use; motivated and they have improved in their homework... (IDI, Community Leader, Korogocho).

3.2 Effects of improved knowledge in life-skills and counseling

3.2.1 Improved communication

At the baseline, there was a consensus among parents and community elders that improved girls education was not the responsibility of schools alone. Rather, parents, and community members needed to play their own substantive role as part of a collaboration with the education system itself. A collaborative model was introduced at the schools where the interventions were implemented, emphasizing communication among stakeholders and a shared commitment to ensuring the highest possible achievement for the girls themselves.

The key message from the parents at baseline pointed to the importance of communication among stakeholders engaged with girls' education, which by the mid-term point of the project shifted to the need for better communication at household level. At the end-term, the narratives showed that both messages were heard and internalized, leading to enhanced communication overall.

The girls enrolled in the project also identified improved communications at home – specifically with their fathers – as one of the more valuable outcomes. A girl in grade 8 explains:

...Personally, it has really assisted me. I started attending the project since its inception... and, I just want to tell you people, thank you very much...*Some time back it was very difficult for me to approach my father even to just request him for anything, or to just*

open up to him about any issues that may have been disturbing me [Emphasis added]. I think it [the intervention] should just continue because it is really assisting a lot of girls. And the more it assists the girls the more the parents also receive knowledge... (IDI, Girl, Korogocho, T1).

Parents have also reported that they were able to connect more easily with their daughters and relate to the challenges they faced. A counselor in an FGD in Korogocho explained:

...For me I think that parents have become free and open with their children. Communication between them has improved and parents have been listening to their children very well, unlike before when they would be scolding their children every now and then. Also...parents will talk to us if they have any issues with the children. They call us and tell us, the child is doing such and such a thing then the three of us sit down and resolve the problem ... (FGD, Counselors, Korogocho).

The effect of the intervention in opening communication channels between parents and their daughters was underscored by the implementing partners. This open communication is allowing parents to internalize the importance of educating girls. A representative of the implementing agency explains:

...when we have parental meetings, they usually say that I learned how to communicate with my daughter during counseling sessions. There are those who are very free with their kids they can even...Fathers, I have an example like this father who said that I am very free with my daughter...So, something that has helped these parents to see the importance of investing in girl child education and that it is worth it... (IDI, Implementer, Korogocho).

The communication process has been extended to the girls and their mentors. There are now more open channels for communication and interaction and for asking, and answering, questions – unlike sometimes tense classroom settings. A mentor in Viwandani said:

...When they are back at their normal schools, if the teacher is moving fast with the topic and that student does not understand, she cannot ask the teacher depending on the attitude of the student towards the teacher. So, when that student comes to this project she has the freedom of speaking out and saying [“Teacher, I did not understand this, can you please elaborate”] or she can even come earlier before we start the normal session, she can get time to go through that...(FGD, Mentors, Viwandani).

From the narratives of participants and beneficiaries, there is value in harnessing the benefits of the parental component of the intervention in order to keep the dream of their daughters’ education alive. The beneficiaries are in consensus that open communication between girls and their parents is critical for building an academically supportive relationship. The narratives have shown that communication channels opened at the household and then at the community level.

3.2.2 Improved self-consciousness

The knowledge that girls gained while attending life-skills sessions has resulted in improved self-consciousness. Being more self-aware has led to greater self-confidence and has reduced the potential negative influences of their peers. A girl in Korogocho explained what she had learned in the life-skills training:

... There are those times when you were just about to start your monthly cycle (periods). One was really afraid because there was nobody who had at least taken you through what was going to happen to you as you got older...Hence you thought that you were really sick during those days but having attended those classes (referring to the life-skills), one has come to really understand life...So, whenever that day comes, you just go through it in a normal way... (IDI, Girl, Korogocho, T2).

3.2.3 Improved self-esteem

The project has improved the self-esteem of girls, exemplified by the growth shown during the sessions as they continued over the three years of the project. The narratives show that they are more comfortable interacting with one another.

...When we started, there are some girls who could not talk, even if they were sharing something. They had that low self-esteem, but now they can raise up their hands, they can give their opinions on something they are discussing...It has helped me on how to deal with girls of such age, understanding them, how you can help them if they have a problem (FGD, Mentors, Viwandani).

Moreover, girls in the program reiterated that as a result of being exposed to life skills, they have been able to earn knowledge on how to negotiate with other people. They now have the self-confidence needed to do what they know to be right, ignoring negative influences. A girl who is part of the program explained:

... In other words, getting to know other people so as not to stick only to yourself, and get to negotiate with others so as to know what else is going on around you... You see before I could easily get influenced into doing something bad but after really understanding that I am a girl, nowadays nobody can just come and mislead me easily... (IDI, Girl, Korogocho T2).

3.2.4 Aspiration for post-primary education

The after-school support and the mentorship in particular have helped girls be more focused, more directed and less likely to stray from the path toward secondary and post-secondary education. For some of the girls, their household responsibilities are less of a distraction than they were before, and they are able to keep their priorities straight. A mentor said:

...It has changed them academically and even the activities at home. If for example they are told to fetch water and clean the house, they can do it faster so that they get back to their studies.

They don't just sit and watch movies or move around to see their friends, at least they have learned something, they have known what to give priorities in their lives. That is the situation... (FGD, Mentors, Viwandani).

As a result of the after-school support and mentorship sessions, the girls were more confident in their ability to perform at a higher level in school and to strive to seek admission for secondary school.

...I have seen it. And these mentorship sessions actually have boosted the education of these girls. I have seen a girl from this slum end up going to Alliance Girls High school, which is a rare case to see. We really appreciate these mentoring sessions... (FGD, Mentors, Viwandani).

Perhaps most importantly, there has been a cosmic shift among these girls who, previously, expected that their schooling would end in grade 8. Admission to secondary school is now more within their grasp and the benefits of more schooling are more concrete. A mentor said:

...OK, at first when they were coming they had this mentality "girls from the slums, they can only get as far as class 8. If you see most of their parents never went to secondary school. So I have seen now they have now that urge to finish class 8 and move on to secondary school because now they know education is the key to success... (FGD, Mentor, Viwandani).

The parents agree that aspiration to education beyond primary school was taking root among girls in the urban informal settlements. Contrary to the belief by the community that girls born and brought up in the slums do not aspire to secondary education, a parent in Korogocho noted:

... And most of all she should be somebody who will be respected. I say this because here in Korogocho, the girl child is not always appreciated and recognized. Because, what people think is that any girl who has been brought up in Korogocho never really aspires to reach anywhere in their lives... (FGD, Male Parents, Korogocho, T1).

Parents continue to have high aspirations for their daughters. The main motivation for this is that parents want their daughters to have better lives than they themselves had. Moreover, parents also want their children to be well-educated in order to lift the entire family out of poverty.

3.2.5 Laying groundwork for future role models

The narratives from participants at mid-term highlighted the trickle-down effects of the intervention to other community members. The unintended positive effect was attributed to

the positive attitudes that both girls and their parents adopted after attending both after-school support and counseling sessions. Girls transferred learned life skills to their siblings at home, while parents transferred what they had learned in counseling sessions to other parents in the community. At the end-term, parents viewed their daughters as role models for other girls and future leaders within the community. A father of a girl in grade 8 who attended a male FGD explained:

...First of all I expect her to be a good leader because since that program started I have realized that she has even become a good role model in the home. She is trying to show her siblings in the house what they need to do in all ways. ...And therefore even for me as I see that, I am so pleased because at least she is now acting as a first-born child...And therefore I am expecting her to be a good leader in society one day after the completion of her school. She should be a leader in class and also outside of her school (FGD, Male Parents, Korogocho, T2).

3.2.6 A platform to share views by parents

In addition to improved communication, parents saw the counseling sessions as a platform for sharing the challenges they face in providing their children with education and providing insight into how they had resolved them. This open forum for candid communication allowed parents to find affinity and develop new relationships for mutual support through the turmoil of raising adolescents. Sharing allowed them to motivate one another and keep each other on track in their support of their own daughters' schooling.

... We sit with them (refers to parents) as a group and we talk so much. We open a platform for discussion because sometimes we also ask them "what would you like us to discuss in the next session?" So, you get some views from different parents and what parents give is what maybe they get from their kids. Maybe they have an issue and maybe they have been unable to handle it with their kids maybe at a certain level. But now when it comes to the counseling session, you now hear from different people: 'if it were me I would have done this and this and this' so they also get other views from different people and I think that is also something else those parents should apply as they deal with their kids. (IDI, Male Counselor, Viwandani).

3.3 Vital lessons learned during the course of the intervention

This section covers vital lessons that were shared by participants during the discussions. Some of the outstanding lessons include: concerted effort in support of girls' education by all stakeholders; improved community vigilance and a commitment to integrate children's issues within broader community structures; better role modeling from community leaders; and a wider application of the mentoring concept so as to extend it to all children in the community.

3.3.1 Concerted effort in support of girls' education by all stakeholders

The sentiments expressed in the narrative by community leaders at mid-line in support of girls' education, have persisted. At baseline, parents identified a need for unity of purpose and collaboration in ensuring that girls attend and continue with school. A multi-pronged approach was proposed to bring parents, community leaders and teachers together to forge a working relationship with the girls. At the end-term, the emphasis on collaborative efforts was maintained. There is an identified need for girls' education to be a community-wide issue, with community-level role models to influence household decision-making around girls' attendance at school and transition to secondary school. Community members should look out for one another and not stand by and watch their girls get lost. Equally, however, it was reinforced that the impetus must come from parents themselves; waiting for handouts or community help is not acceptable. A male parent in an FGD in Korogocho explained:

...What I can only add is that, you know as the male parent, sometimes my daughter may have an issue which she cannot tell me. And maybe she will only be able to tell the mother or a close friend... I urge all of us, in case a girl tells you something, please just tell the parents ...In case any parent hears something about any child at all, just go to the parents and tell them...So, that they can do a follow-up...(FGD, Male Parents, Korogocho).

3.3.2 “The community must be vigilant”

The importance of a concerted effort by community members in ensuring that girls attend school was echoed by the community leaders. They felt that the community “must be vigilant” to ensure that issues around girls' education are not taken for granted. The general consensus was that community members should be stewards not only of their own daughters' education but of all girls in the community so they do not risk being lost. A community elder in Korogocho reported:

...The *community must be very vigilant* [Emphasis added]. This is because the girl-child is very weak by nature. And the weakness in their part has a lot to do with boys. Once a girl starts getting involved with boys, that is almost the end of her education...However, if the community could be just a bit more vigilant in such a way that once the community notices what is going on around them, then they can take quick action to save the girl-child...” (IDI, Village Elder, Korogocho).

The mentors felt that successful community engagement in support of girls' education will be predicated on effective communication. Girls should no longer be able to feel like they can skip school and not get caught.

...When we enhance good communication, which is effective good communication. If they see a girl doing something wrong they should come and talk to us and also talk to their parents. This will improve the communication and a good life to them... (FGD, Mentors, Viwandani).

Teachers, too, have a role to play beyond the classroom. It was acknowledged that sometimes parents do not behave appropriately when they interacted with teachers, and that it was important for parents and teachers to work together, rather than at cross-purposes, in service to their daughters' education. A parent attending an FGD in Korogocho reiterated:

But there are certain parents that when the child has done something wrong in the school, instead of trying to find out what it is, they just go straight to school to mishandle and to tell off the teachers...Personally, I do not find that as being appropriate...So, I think that the parents and the teachers should be speaking with one voice, and especially when it comes to disciplining of the children... (FGD, Male Parents, Korogocho).

3.3.3 Integrate children's issues within the broader community structures

Community leaders also expressed the need to integrate children's issues in community administrative structures, such as *Nyumba Kumi* clusters. *Nyumba Kumi* is an initiative started in October 2013 as part of a national reinforcement of community policing. This was an initiative through which members of a neighborhood were supposed to know at least 10 of their next-door neighbors so as to enhance security at the village level.. The qualitative narratives from the community leaders advocated for a children's desk to be incorporated within the *Nyumba Kumi* initiative so that information on children vulnerable to dropping out of school can be reported. In this way the community could take steps to prevent school absenteeism. This initiative reinforces the need to draw in all community stakeholders, including parents and teachers, to support girls' education.

Implementation of this initiative would help to reinforce community-level unity and support for education for all, not just the girls involved in the interventions, but all children in Viwandani and Korogocho. A village elder explained:

...[We had] very regular meetings at the village level. In addition to community meetings, they also need to have children's desks at the village. In fact *Nyumba Kumi* cluster needs to have a children's desk, so that any child who has dropped out of school... any child who has challenges in the education is able to raise it, and give reports at that level of the cluster. So, that is what we need to do differently. This is because currently we do not have active children's desks at the cluster level or at the smallest level in the villages... (IDI, Chief, Korogocho).

3.3.4 Role modeling by key individuals in society

Role modeling and mentorship by successful individuals in society who are in employment, were emphasized as critical to motivate the community on the importance of education. Such individuals would share the practical experiences and advantages earned through hard work and achievement. Role models would be both mentor and motivator, evolving perceptions to

demonstrate that being born in a slum does not deprive you of opportunities for success. A mentor explained:

...I think the community is failing to some extent because these girls, some of them do not realize the reason why they are going to school. Some of them go to school just because they see others going to school, and it is their right to go to school...So, what the community can do is to get guest speakers for them and especially those who have prospered and came from the [the slums], went through the same kind of life. So they should bring such people to talk to these girls so that they can motivate them... (FGD, Mentors, Korogocho).

For parents, these successful individuals would then validate what they have been telling their daughters with regard to the benefits of education. A male parent in Korogocho explains:

...So that even our girls can be able to see that whatever we have been telling them is really true in that if you are properly educated you will reap the fruits of your education. If these ladies come back to the slum and they are able to give a talk to these girls, they will realize that whatever we have been telling them about education is true... (FGD, Male Parents, Korogocho T1).

This recommendation has been incorporated in the next phase of the project, in which successful leaders in their respective areas of work will be invited into the slums to give motivational talks.

3.3.5 Need for mentorship to cover all children

Community members, especially parents of girls in the control group, reported the need and importance of having mentorship sessions for everyone. This sentiment was echoed strongly during qualitative interviews. According to participants, including children from the control group would be useful going forward as it would help steer all children in the right direction, especially when parents were not around.

...We leave in the morning and come back at 8 in the night...So, we don't get a lot of time to be with the child. You meet the child for a short while in the evening and you go to sleep, and leave in the morning. We do not get a lot of time to be with them....So, if there was someone who could counsel them every Saturday, to talk to them and counsel them, it would have been a very important thing, because we parents, getting time, even now getting the time to come and sit here is so hard. It is so hard even though we are still struggling with life, we have to tell them this and that because the children are now grown-ups..." (FGD, Male Parents, Viwandani Control).

This sentiment has been incorporated in the design of the next phase. In this way all eligible children (boys as well as girls) will be recruited into the project, and there will be no pure control zones.

In conclusion, the qualitative narratives show that there is an observed **general improvement in girls' lives**, building on what was observed at mid-term. This is attributed to the continued improvements in numeracy and literacy as a result of the after-school support. Moreover, as observed at the mid-term, the after-school support sessions have inculcated into the girls a sense of commitment and hard work. Their accomplishments in the two subjects have also had a ripple effect in other subjects, and overall performance at KCPE for girls. The continued success of girls in the program has not only acted as a motivator to the current cohort, but has also improved community interest and promoted a push for boys to join during phase II.

The narratives also show that there was **improved communication** between parents and their daughters. Improvement in communication was an outcome of the parental interaction with the counselors during the counseling sessions. Consequently, parents have been able to effectively talk to their daughters, and respond to issues affecting their daughters. Open communication has been extended between parents living within the same community, so as to monitor, mentor and guide girls in the absence of their own parents and guardians. Consequently they internalize the fact that girls need to be supported in order to succeed.

The narratives from participants at mid-term highlighted the **unintended outcomes** for other community members, attributable to the newly positive attitudes adopted by both parents and children after attending after-school support and counseling sessions. Girls transferred the skills learned in the life-skills sessions to their siblings, while parents transferred what they had learned to other parents in the community. At end-term, parents were more interested in the trickling effects culminating into real leadership opportunities, where their daughters would be the ones being looked up to as role models and future leaders within the community.



“ Community members, especially parents of girls in the control group, reported the need and importance of having mentorship sessions for everyone. ”

4

SUMMARY AND CONCLUSION



The *improving learning outcomes and transition to secondary school* was a three-year intervention study, which started in 2013 with a baseline survey in June and the launch of the package of interventions a month later. The overall goal of this study was to improve learning outcomes and transition to secondary school through community participation and after-school support for disadvantaged girls in urban informal settlements in Nairobi. The expected outcomes of the study were improved learning outcomes and transition to secondary schools for girls in grades 6, 7 and 8 from poor households. Those girls who enrolled in the intervention in grade 6 received three years of support; those in older grades received commensurately less support depending on the amount of time they had left in primary school. The end-term evaluation was conducted in order to discern the impact of the study.

The study looked to answer the following questions: 1) Does after-school learning support and mentoring lead to improved learning outcomes; 2) Does subsidizing the cost of secondary school entry increase the number of girls who transition to secondary schools; and 3) How does increased awareness about the challenges of girls' education in the community lead to increased support for improved learning outcomes among girls. The community aspect was broadened to capture the reflections of the beneficiaries, the implementers, mentors and counselors.

Learning outcomes. In mathematics, T1 significantly outperformed the control group by 35 score points while T2 outperformed the control by 24 score points. We conclude that both interventions had positive impact in mathematics achievement by girls. The qualitative narratives also point to general improvements in numeracy, and to a limited extent, literacy. Parents of grade 8 students were satisfied with the milestones that their daughters have been able to accomplish as a result of the program.

There is also evidence that girls in the treatment groups demonstrated higher educational aspirations, higher interest in schooling, and reduced susceptibility to negative peer influence. In regard to schooling aspiration, this means that a substantial proportion of girls whose highest education aspiration was completing secondary school now aspire to acquire university education. We conclude that parental counseling through involvement in their girls' education played an important role in instilling significant positive aspirations, and girls resisted negative peer influence, while the after-school support with homework led to increased interest in schooling.

From the qualitative narratives, improved educational aspiration was explained by the fact that life-skills sessions enabled girls to be more focused in their school work, thereby staying on the path to secondary education. The reduction in susceptibility to negative peer influence was attributed to girls' increase in self-awareness and self-confidence. Mentors also reported that as a result of the life-skills mentoring, girls developed improved self-esteem, which also may be associated with better schooling outcomes.

Transition to secondary school. Girls in the treatment groups were significantly more likely to transition to secondary school than their peers in the control group. Among the girls who

transited to secondary school, 45 percent transited to private secondary schools. This was an increase from 41 percent observed during the mid-line. Even though there is no statistical significance associated with parental sensitization, some of the gains in school transition may be attributed to the involvement of parents in the program. From the reflections on the intervention, it should also be noted that of those girls who made a transition to secondary school in 2014, three girls were admitted to prestigious national schools: the best-resourced and highest-performing institutions in the country.

Support to girls' education. From the qualitative narratives, the parental component of the project has opened up and cemented communications channels between parents and their teenage children. Parents are now comfortable having open and candid conversations with their daughters where before they were not.

The parental component has also helped to build a supportive network within the community, allowing better sharing of challenges and lessons learned among parents to improve the way the community as a whole is able to deal with the perils of adolescence. The project has continued to motivate parents who under normal circumstances would not be regularly involved in the education of their children. The project has succeeded in challenging the negative perceptions of girls' schooling and instead has helped to enhance aspirations of both parents and children for secondary education and beyond. The girls, in turn, are more confident and comfortable engaging with their peers without being susceptible to negative influences. Many girls feel more empowered to ask questions of their mentors and teachers, and have been able to improve their communication with their parents. These newfound skills are not limited to the girls who benefitted from the interventions; rather they have trickled into the community as a whole. Particularly at end-term, parents were more interested in the trickling effects culminating into real leadership opportunities for their daughters to take their rightful places as role models and community leaders.

Lessons learned from the onset of the project

Lessons learned since the inception of the project include:

- The success of a project is determined by how entrenched it can become in a community, and whether it can be fully owned at community level. Because of the decision to engage with well-known Community Based Organizations (CBOs), the project is entrenched in the two urban slums where it was operating.
- Constant communication is key to successful implementation of an intervention. The success of the project was nurtured by free-flowing and open communications channels among partners, stakeholders and intervention leaders to stop problems from becoming insurmountable.
- Continual training and capacity-building for all stakeholders involved in implementation helps to internalize study objectives and clearly delineate roles and responsibilities to ensure project success. Annual refresher courses have been critical to maintaining project integrity.
- Monitoring and evaluation of processes and indicators were fundamental in assessing the progress and achievements of the project. For example, it was realized belatedly that

girls opted against attending sessions because of hunger. Going forward, parents will be reminded to feed their children before they attend after-school counseling and life-skills sessions.

- Sharing experiences and good practices from partners working in the same project helped to mitigate implementation challenges. For example, one implementing partner learned that involving mentors in mobilization of the girls increased attendance, and this was adopted by the other partner. As a result, they were able to recruit and retain more girls.

Continuous (at times door-to-door) sensitization of the community on the objectives and design of the project was important to keep people aware, informed and willing to participate.

Programmatic implications for phase II

Inclusion of boys. Despite the successes that are enumerated for girls, we learned that the hard conditions of slum life affect both girls and boys. The plight of boys was routinely brought up during community conversations in Korogocho and Viwandani, at the *Partnership to Strengthen Innovation and Practice in Secondary Education (PSIPSE)* regional meeting in Nairobi, and again during the 2015 subsidy award ceremony in the same communities. The qualitative narratives showed that community members and especially parents of children from the control groups saw the value of mentorship sessions for girls in treatment groups.

Therefore in the design for phase II there is no control group, and both boys and girls are included.

Leadership. There are few programs that have developed youth leadership at the primary school level. The phase II leadership program, therefore, will be a groundbreaking development for lower primary school students, both boys and girls.

The qualitative narratives at end-term from parents showed that they anticipated that the skills being imparted to their children would help them becoming role models and community leaders. Phase II will introduce leadership coaching visits from accomplished leaders, in order to provide both boys and girls with a window into what is possible because of hard work and education.

Policy implications

The pilot phase of the intervention has several policy implications. The report establishes that the promise of subsidizing the overhead costs improved transition to secondary school.

- The Government of Kenya should re-evaluate the way it supports learners to attend public secondary school. Many of the secondary school spaces go to students transitioning from high-end private schools, and while the slum girls in the study are technically attending private schools as well, there is a wide gulf separating these students in terms of the quality of education and the support – financial and otherwise- they have access to outside of school. Our research raises the question how we can extend support to the girls least

likely to transition to secondary school, but have the potential and the drive to do so. National and County Governments should establish a fund to support girls from urban informal settlements who attain 250 marks and above in KCPE to support their transition to secondary schools.

- There is a need to embrace public-private partnerships to address the transition to secondary schools, especially for girls from urban informal settlements. Extending support from county and national governments to private day schools will help to ensure that the disadvantaged benefit from government initiatives such as free secondary education. Establishment of such partnerships may increase the transition rates and may also serve to improve the quality of education and completion rates, ultimately improving livelihoods.
- Life skills are a necessary and vital complement to support for homework and basic schooling. Giving girls a sense of self-worth is as important as teaching her to read, write and do math. More investment should be made in life skills so that girls – and boys – are empowered to reject negative peer influence and stay on track to achieve their goals both in school and beyond. County governments together with the Ministry of Education, Science, and Technology (MOEST) must think differently on how to deliver life-skills education in order to harness the potential for improved schooling and educational outcomes of children.



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APPENDICES



Appendix A: Interviews by type and category

Study population	Korogocho (n=32)	Viwandani (n=26)	Total
Focus Group Discussions (FGDs)			
<i>Parents</i>	3	3	6
<i>After School Support Mentors</i>	1	1	2
<i>Parental counsellors</i>	1	0	1
Key Informant Interviews (KIIs)			
<i>Implementers (Management)</i>	1	1	2
<i>Parental counsellors</i>	0	2	2
<i>Chiefs</i>	1	1	2
<i>Village elders</i>	6	6	12
In-depth Interviews (IDIs)			
<i>Girls</i>	6	6	12
Interviews by treatment and control			
Treatment 1			
<i>Male Parents/guardians</i>	1	0	1
<i>Female Parents/guardians</i>	0	1	1
<i>Girls</i>	2	2	4
Treatment 2			
<i>Male Parents/guardians</i>	1	0	1
<i>Female Parents/guardians</i>	0	1	1
<i>Girls</i>	2	2	4

Control			
<i>Male Parents/guardians</i>	0	1	1
<i>Female Parents/guardians</i>	1	0	1
<i>Girls</i>	2	2	4
General study area			
<i>Chiefs</i>	1	1	2
<i>Implementers (Management)</i>	1	1	2
<i>Parental counsellors</i>	1	2	3
<i>After School Support Mentors</i>	1	1	2
<i>Village elders</i>	6	6	12

Appendix B: Socio-demographic characteristics of parent/guardian participants

Characteristics	Korogocho (n=32)	Viwandani (26)	Total (N=58)
By age			
<i>21-40</i>	17	15	32
<i>41-60</i>	14	9	23
<i>61-80</i>	1	1	2
<i>Unknown Age</i>	0	1	1
By study group			
<i>Treatment 1</i>	10	9	19
<i>Treatment 2</i>	10	8	18
<i>Control</i>	12	9	21
By gender			
<i>Male</i>	20	9	29
<i>Female</i>	12	17	29
By education level			
<i>No education</i>	1	3	4
<i>Primary</i>	22	17	39
<i>Secondary</i>	6	6	12
<i>College/University</i>	3	0	3

By how many pupils they have in primary school			
<i>01-02 pupils</i>	27	15	42
<i>03-04 pupils</i>	3	11	14
<i>05-06 pupils</i>	2	0	2
By type of school pupils in primary school attend			
<i>Public</i>	13	11	24
<i>Private</i>	15	12	27
<i>Both</i>	4	3	7

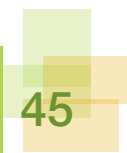
Appendix C: Socio-demographic characteristics of girl participants

By age	Korogocho	Viwandani	Total
<i>13 years</i>	4	2	6
<i>14 years</i>	1	3	4
<i>15 years</i>	0	1	1
<i>17 years</i>	1	0	1
By study group			
<i>Treatment 1</i>	2	2	4
<i>Treatment 2</i>	2	2	4
<i>Control</i>	2	2	4
By school type			
<i>Public</i>	0	2	2
<i>Private</i>	6	4	10

Appendix D: Socio-demographic characteristics of mentors and counsellors

By gender	Korogocho	Viwandani	Total
<i>Male</i>	4	2	6
<i>Female</i>	8	5	13
By age			
<i><=20 years</i>	1	0	1
<i>21-40 years</i>	11	6	17

<i>41-60 years</i>	0	1	1
By study group			
<i>Treatment 1</i>	7	5	12
<i>Treatment 2</i>	5	2	7
By education level			
<i>Secondary</i>	2	1	3
<i>College/University</i>	10	6	16





For more information, please contact:

African Population and Health Research Center

APHRC Campus | Off Kirawa Road | Kitisuru

P.O. Box 10787 - 00100 Nairobi, Kenya

Tel: +254 20 400 1000

Mobile: + 254 722 205 933, 733 410 102

Email: info@aphrc.org

Website: www.aphrc.org

Twitter: [@aphrc](https://twitter.com/aphrc)