

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



End-term Report, December 2015

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 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, a generation of more mothers with secondary level education shall result, hence improved child and maternal health outcomes.

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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 existing in this report are entirely those of the authors and not 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 *improving learning outcomes and transition to secondary school* study was a three-year intervention which started in 2013 and ends 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 implementing the intervention.

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 on Mathematics and literacy by community mentors, and life skills education. The first treatment group (referred to as ‘treatment 1’ or ‘T1’) receives the complete intervention package. The second treatment group (‘treatment 2’ or ‘T2’) receives 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 significantly 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.
- The 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 across 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 to 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 to join the 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 and (iv) reduced risk of indulgence in risky social behavior.
- The involvement of parents and promise of a secondary school subsidy, complemented by the after-school support, improves 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 the disadvantaged girls. For example, three of the participating girls joined the prestigious and better-resourced national schools in Kenya. Another three qualified for the prestigious “Wings to Fly Scholarship” that sponsors post-primary school education, funded by Equity Foundation and MasterCard Foundation.

- 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

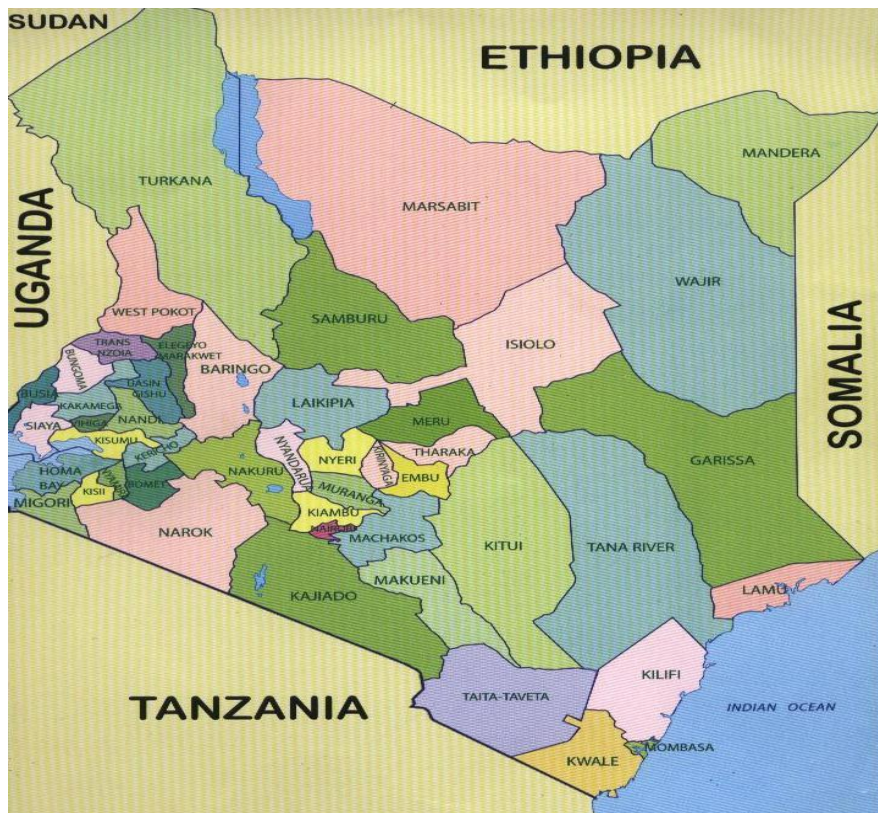
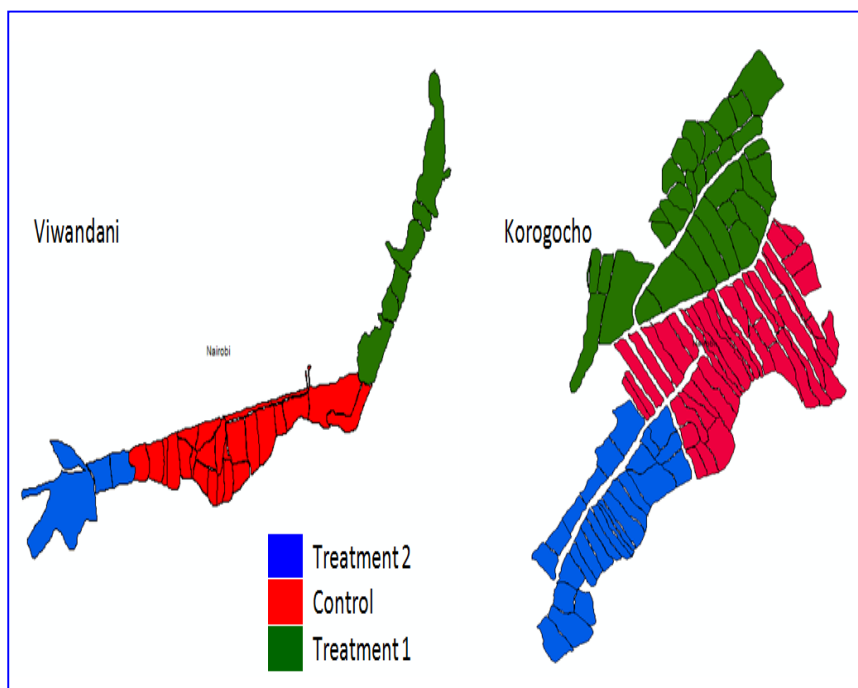


Figure 2: Intervention and control areas within two study sites in Nairobi



1 Introduction

1.1 Background

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

Moreover, major development benefits accrue to individuals and nation-states because of the empowerment additive of education. For example, evidence suggests that each year an individual spends in school translates to a 10 percent increase in any country's potential income and a 1 percent increase in a country's Gross Domestic Product (GDP) (World-Bank, 2004). Therefore, good quality education is a precursor to achieving priorities in development such as eliminating poverty and minimizing inequality across the globe (UNESCO, 2013).

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 which are 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 reduces 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 instances of sexual harassment, better political and civic involvement, and reduced chances of trafficking of young women for labor and for sex. Secondary education enables girls to have the ability to protect themselves from HIV/AIDS by improving their knowledge of the disease and how to prevent it but also changes their way of thinking, thereby increasing the probability of adopting self-protective behavior (Rihani, 2006). With secondary education and beyond, girls gain 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 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 poorest 40 percent of households transitioned to secondary school compared to 58 percent in the middle 40 percent and 61 percent in the top 20 percent 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 the non-slums households.

Research evidence showed that about 47 percent of children in urban informal settlements in Kenya attend non-state primary schools. This proportion was highest in Nairobi which stood at 63 percent. The non-state informal schools for the poor are ill-equipped and most teachers are not well trained (Ngware et al., 2013). Moreover, girls are subject 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 ages 12-19 living in two Nairobi urban informal settlements, revealed that 6 percent had experienced sexual debut. Due to the girls' household economic distresses, the girls are forced to engage in activities such as transactional sex, prostitution or abusive relationships with older men in favor of 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 living

in the two urban slums in Nairobi. The aim is to improve girls' learning outcomes through support with homework, increased parental involvement, and transition to secondary school. This report documents the end-term results of a three-year education intervention study which started 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, in order to have an understanding of the baseline characteristics of the population in the two slum sites prior to intervention. The target population is girls who were attending primary schools in grades 6, 7 and 8, ages 12 to 19 years, who resided in households in the lowest 40 percent of the household poverty index.

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) a subsidized primary to secondary school transition and 3) a 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 in both study sites. The intervention was implemented by Miss Koch in the Korogocho site and by U-Tena in Viwandani. Treatment 1 (T1) included an after-school homework support in numeracy and literacy, mentoring in life-skills to the girls, parental counseling and a secondary education transition subsidy for those scoring 250 and above in the Kenya Certificate of Primary Education (KCPE) examination. Treatment 2 (T2) included an after-school homework support in numeracy and literacy, mentoring in life-skills to girls, and a transition subsidy for those scoring 250 and above in KCPE, but without the parental counseling. The control group received no intervention, other than a secondary education transition subsidy upon scoring 250 and above in the KCPE examination at the end of the study period

In 2013, 62 after-school sessions were conducted, consisting of 31 sessions each for numeracy and 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 (42 numeracy and literacy each), 12 life-skill mentorship sessions, and four parental counseling sessions. At the time of writing, implementers had completed 72 out of an expected 84 after-school sessions, 10 out of 12 life-skills mentorship sessions and three out of four parental counseling sessions. At the

end of the intervention, 230 after-school sessions, 34 life-skills mentorship sessions and 14 counseling sessions will have been completed. For the transition subsidies, girls who scored 250 out of 500 marks, thereby passing the government-determined minimum threshold for transition to secondary, were awarded a subsidy to cater for the non-tuition costs while joining secondary form one. A total 71 out of 270 and 92 out of 364 girls who sat for exams in 2013 and 2014 respectively were awarded the subsidy.

1.3 Theory of change

The theory of change holds that addressing low educational participation among poor and marginalized girls in informal urban settlements requires a 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 used girls who have already experienced academic success as role models to mentor others. This was critical as they easily coached their younger counterparts on strategies for overcoming common challenges. It was envisaged 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 by more girls completing primary, transitioning to secondary school, and improving test scores in numeracy, and in KCPE test scores than at baseline. Broadly, the intervention aimed at increasing the girls' access to education through increased learning time by providing support with homework, mentorship by community role models, parental and community participation, and reducing barriers to accessing secondary education.

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 first year of secondary school increase the girls' transition?*
- iii. How does increased awareness about challenges of girls' education by parents and community leaders lead to increased support for and improved learning outcomes?*

The evaluation team hypothesized that:

- i. Provision of after-school support with homework in numeracy and literacy given to vulnerable girls by community-based positive role models will improve learning outcomes;*
- ii. Subsidizing the cost of first year of secondary school will increase transition of girls to secondary education and;*
- 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 spread across the two study sites. In each site, households with girls between 12 and 19 years in 2013 were identified. This was followed by stratifying each of the study sites into three zones using GPS coordinates of the housing structures. Thereafter, 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 enabled us create a database of the girls and to be able to easily track them. 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, increasing to about 20 percent by end-term, leaving a total of 1,011 girls.

1.4.2 Qualitative component

A qualitative component included 39 interviews with parents, after-school support mentors, counsellors, implementers, chiefs, village elders, and girls selected from both sites. These groups were engaged through focus group discussions (FGDs), key informant interviews (KIIs) and in-depth interviews (IDIs). Additionally, 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 KIIs with the

chief¹ of each site, 12 with village elders², two counsellors in Viwandani and representatives of each implementing partner. Anticipated focus group discussions with counsellors in Viwandani did not materialize despite repeated attempts, so adjustments were made to conduct KIIs instead. (See Appendix A, B, C, D for the participants distribution by site and by treatment zone).

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, categorized by gender 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 either T1, T2, or C 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. The area of focus was experiences in running the project in terms of holding sessions, staffing, mobilization, community sensitization, capacity building, monitoring and evaluation, lessons learned, challenges, and recommendations.

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

¹ The chief is a government representative responsible for several villages

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

1.5 Training

Training of field interviewers for the end-term evaluation was conducted in mid-June 2015. Out 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 gain data collection skills. Role plays were a central training focus so that trainees better meet the training objectives. Piloting of tools was done with the trainees in the two study sites to ensure that they had fully understood evaluation questions and their roles. Data collection tools were reviewed after the training and adjustments done 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. Out 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 girls out of a targeted 431 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 looked at myths about puberty, sex, and HIV/AIDS. Lastly, the tool asked about 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 was geared towards investigating whether parents/guardians understand their role in girls' education, as well as their awareness of the challenges and barriers towards the same.

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 to investigate parental understanding of their role and that of the community towards girl education, to understand the challenges that affect girls' education in the two urban informal settlements where an education intervention is being implemented, and to investigate parent's opinions about the impact of the intervention among girls in the community.

Girls' protocol of questions: This tool sought to investigate the girls' understanding of their role and that of the community towards their education and how they have benefitted from the project so far, pinpoint challenges encountered as a participant in the project, and to understand from their perspectives whether the project is beneficial to them.

Community leaders' protocol of questions: This tool was to investigate community leaders' understanding of their role and that of the community towards girl education, to understand the challenges that affect girls' education in the two urban informal settlements where an education intervention is being implemented, and to investigate community leaders' opinions on the impact of the intervention among girls in the community.

Counsellors' protocol of questions: This protocol explored information on the counsellors' understanding of their role and that of the community towards girls' education, their understanding of the challenges affecting their work as counsellors, and what can be done to mitigate and solve these challenges to improve on their work.

Mentors protocol of questions: This protocol explored information on the mentors' understanding of their role and that of the community towards girls' education, their understanding of the challenges affecting their work as mentors, and what can be done to mitigate and solve these challenges to improve on their future effectiveness.

Implementer's protocol of questions: This tool was more focused on the management of the project by the two implementers. It specifically sought to understand the implementers' experiences in running the project in terms of holding sessions, recruiting staff, job descriptions of different staff, mobilization, community sensitization, capacity building, monitoring and evaluation, lessons learned, challenges, and recommendations.

1.7 Analysis

We conducted data analysis using a mix of approaches. First, descriptive data analyses are presented in terms of frequencies and percentages. Secondly, we used a difference-in-difference (DID) regression analysis to establish the impact of the intervention for continuous indicators – literacy and Mathematics scores. We fitted a DID model for each pair of comparisons i.e. T_1 vs C; T_2 vs C; T_1 vs T_2 . Where DID was significant, we conducted an intention to treat analysis by fitting a regression model and controlled for baseline imbalance. The covariates controlled for included; baseline scores, the grade as a proxy measure of the period of exposure, type of school, household wealth, head education, age and gender and study site, household characteristics including household head, size, age, gender, education, and wealth index.

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, by definition, prior to the completion of grade 8. As illustrated in

Table 1.1, the grade 6 girls on recruitment were expected to participate in all the rounds of data collection, grade 7 were expected to participate in both baseline and mid-line while the grade 8 participated only in the baseline.

Table 1.1 also shows the duration of exposure, which is three, two, and one year respectively for grade 6, 7, and 8 cohorts. The design of the intervention gives us an opportunity to evaluate the impact of the intervention 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 the qualitative data was tape-recorded and then transcribed verbatim on word documents. A coding schema was then generated both inductively and deductively. The deductive coding was largely based on the research questions guiding the end-term study, while inductive coding was 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 the 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—an outcome of girls previously enlisted into the program not being traced 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

2 End-term impacts

2.1 Status of girls at end-term

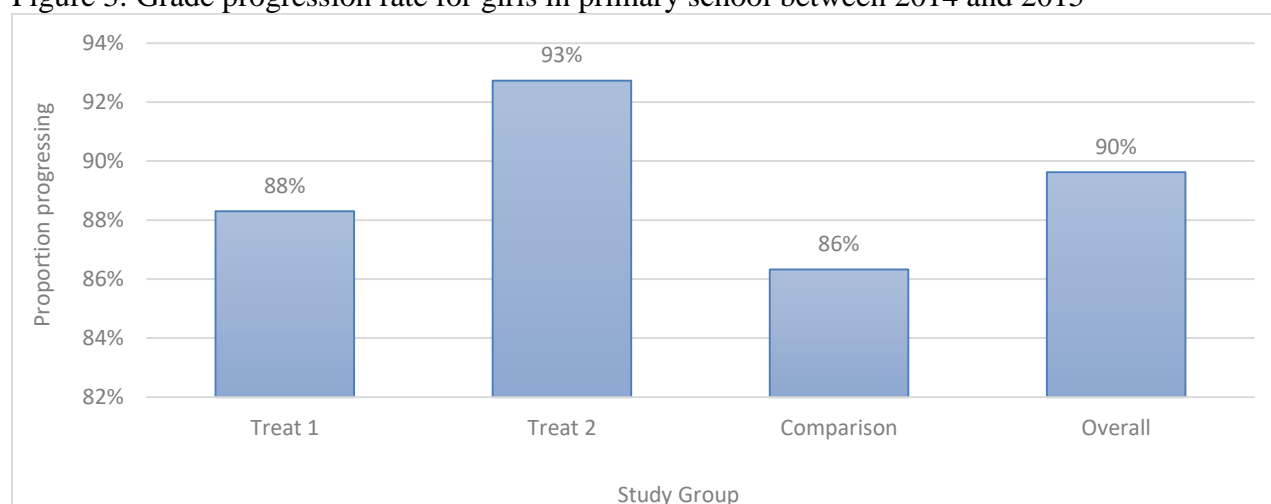
Table 2.1 shows the status of the girls in terms of the grade they were enrolled in at end-term. Overall, by end-term, about 20 percent of the girls could not be followed up. About 30 percent of the girls, majority of whom were in class six at baseline, are currently in grade 8 and another 36 percent of the girls are already in secondary school. Very few girls (<1 percent) joined 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

Figure 3 shows the proportion of girls who progressed to the next grade between 2014 and 2015, given they were in primary school and not in grade 8 during mid-line. Among the girls followed to end-term, we further disaggregated their information based on progression as shown in Figure 3. The analysis for progression was restricted to those girls in primary school and not in grade 8 as at mid-line. There is no significant difference in grade progression rates between sites. However, T2 recorded the highest progression rate of 93 percent and the comparison 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 the tuition is implemented most of the time by the schools, with the subject teachers being in charge, the after-school support is provided by community mentors in selected centers where girls from different schools meet and are supported in their homework and in areas that they self-identify to be weak in. 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 transited between 2013/2014 (grade 8 of 2013) and 2014/2015 (grade 8 of 2014).

Transition: The project increased transition significantly among the treatment groups compared with the control group, but not between the treatment groups. That is, the impact of the intervention was significantly higher in treatment 1 (13 percentage points) and treatment 2 (17 percentage points) as compared with the control. Among the girls who transited to secondary school in 2015, 45 percent transited to private secondary schools, an increase from 41 percent observed in 2014. When comparing treatment 1, which had an additional parental counseling and sanitization component 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 through the counseling and sensitization, parents would become more aware of the need to support their girls' education, and this therefore will have an

impact on the girls' performance and transition to secondary school. However, from the results, using treatment 1 as a proxy for the parental component after netting off the actual effect of the intervention (after school support, subsidy and life skills) through treatment 2, we do not see any significant increase in transition among treatment 1 girls compared to those in treatment group 2. 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 in their performance, hence increased chances of transitioning. However, given the design³ of the intervention, we may not attribute the increased transition to the subsidy, but rather to a combined effect of the intervention components— life skills, after-school support and the subsidy.

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 sex and exposure period (grade at baseline)

³ The study design did not have an independent component that was receiving the subsidy plus the other intervention components. The only difference between treatment 1 and 2 was the parental component. Therefore, the design does not allow assessing the impact of the subsidy.

Homework support: The intervention provided after-school support to girls, with a focus on supporting the girls complete their mathematics and literacy school homework and especially to be supported in areas where they were identified as being weak. The girls were exposed to two sessions of numeracy and literacy by the mentors every week. Homework provision from schools is a daily occurrence during the school week for grades 6 to 8 and therefore homework support within the household is critical. Following this, we asked the parents whether someone in the household supports the girls in their homework. We analyzed the different likert scale responses cumulatively, for instance, the “at least usually” as reported in Table 2.2, combines those responding to either ‘usually’ or ‘always’ while the ‘at least sometimes’ combines those responding to ‘sometimes’ and ‘at least usually’. Overall, more girls in the control seem to be ‘usually’ or ‘always’ (at least usually) supported in homework within their households. The ‘at least sometimes’ category which combines the always, usually and sometimes, responses also shows insignificant homework support between the study groups. Very few parents report their girls to ‘never be supported’ in homework. In regards to completion of homework, we see an insignificant effect. We speculate that this may be due to other factors that we were unable to account for, for example the support given by the teachers, teacher characteristics, and classroom interactions among others.

2.3 Girls’ behavior and life-skills component

When a child develops positive aspirations and attitudes, there is likelihood of higher attainment in activities they most value (Jessor & Jessor, 1977). As an expectation, instilling positive aspirations and attitudes in teenagers, especially those living in low-resourced environment, increases their educational attainment and reduces their engagement in deviant social behavior. A report by Beng, See, and Davies (2012) which is a meta-analysis of over 60 educational intervention impact of aspirations, attitudes and behavior on educational attainment, indicated that, there is a positive association between a child’s aspirations and attitudes to their educational attainment. Other evidence from a longitudinal study involving 1,927 unmarried adolescents aged 12 -19 years living in high-poverty settings in Kenya (Nairobi urban slums), by Okigbo et al. (2015) revealed that parental involvement by cross-gender communication significantly delays sexual activity and reduces risky behaviors among the adolescents. In this section, we estimate the impact of the intervention packages on girls’ 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 and age, household size, and wealth index. The two models were estimated for the educational ambitions and risky behavior (aggressive, rebellious, and reckless) based on the perceptions of the participating teenage girls. The 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 aspiration, interest in schooling and self-confidence using a likert type scale with varying scales of 3, 4, and 5 respectively, where rating of 1 was "low score" and 3 or 4 or 5 was "higher score". For peer influence, a 4 Likert scale was used where rating of 1 was "lack of" and a rating of 4 meant "existence of" negative peer influence.

Therefore in explaining the results in Table 2.3, a positive coefficient for aspiration, interest in schooling and self-confidence, favors the reference category whereas, a negative coefficient for negative peer influence favors reference category.

From Table 2.3, girls in treatment 1 significantly increased their education aspirations. This was true for both null and controlled models. For example, girls in T1 increased their educational aspiration by 27 percent compared to those in treatment 2. Despite girls in treatment 2 receiving life-skills mentoring, their aspirations significantly reduced by 22 percent compared to those in the control arm in both models. Treatment 1 had a parental counseling component that increased parental involvement in their daughters' education, and this may have instilled positive aspirations. Results also show that girls in treatment 1 significantly decreased their self-confidence by 31 percent units of measure compared to those in treatment 2. On the other hand, girls in treatment 2 significantly became more self-confident compared to the girls in the control arm. They (girls in T2) increased their confidence by 34 percent units of measure. This is an implication that life-skills mentoring as part of the intervention is working well with girls in treatment 2 (without parental counseling) than those in treatment one (with parental counseling). In-terms of interest in schooling, girls in treatment 1 had significantly higher schooling interest – an increase of about 62 percent and 56 percent compared to those in treatment 2 and control groups respectively. This is an implication that the parental counseling combined with after-school support with homework

led to increased interest in schooling. Lastly, the girls in treatment 1 reported a decline in peer influence by 40 percent and 20 percent compared to their peers in treatment 2 and control respectively. However, there was a significant increase of about 21 percent in peer influence among the girls in treatment 2 (they received life-skills mentoring and after-school support) 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 reduced 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 is a transition stage from childhood to adulthood and is characterized by diverse active physical, emotional, mental and social changes in an individual. During this transition stage, other influences other than those present in family backgrounds present a superior importance to the adolescents as they discover new opportunities and challenges (Singh & Das, 2011). This stage usually marks debut to sexual activities, drug and substance use, and negative social behavior through experimentation due to influence from peers and lack of self-control. Adolescents may indulge in such 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 later in life (Okigbo et al., 2015). We measure deviant risky behaviors in three aspects: - aggressive, rebellious, and reckless behavior. Aggressive behavior was measured using a five point Likert scale where a rating of 1 meant “lack of” and 5 meant “existence of”. The rebellious and reckless behaviors were measured using a binary response where 1 meant “involved”, and 0 “otherwise”. Therefore a negative coefficient will favor the non-indulgence or lack of the behavior to the reference group.

From Table 2.3, girls in treatment 1 were significantly less aggressive than girls in treatment 2 and control groups. This is an indication that over and above the life skills mentorship given to the girls in treatment 1 and 2, the parental counseling complements reduction in engagement in aggressive behavior. In the rebellious behavior aspect, the girls in treatment 1 significantly engaged in rebellious behavior by 22 percent compared to girls in the treatment 2. This is despite their (T1 girls) being less aggressive than those in T2. The outcome in the rebellious behavior could be explained by the fact that girls in treatment 1 felt more empowered by life skills and parental counseling and therefore ready to take risks. 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 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 - see for example; (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 SACMEQ study that involved 4,436 grade 6 pupils drawn from across all

the then eight provinces in Kenya, 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 performance of boys and girls in literacy. In terms of socio-economic status, pupils from low-income households (such as those found in urban slums) have consistently been reported to perform worse in school subjects than those from wealthier households - see for example (Hungu & Thuku, 2010a; Hungu & Thuku, 2010b; KNEC, 2010; Ngware et al., 2013; Onsomu et al., 2005). Thus, it is evident that learning outcomes are wanting in Kenya, and this could be more so among girls from poor urban households where children have fewer opportunities to learn and less is expected of girls.

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 that were 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.

In addition, the test scores for each subject were transformed into a common scale with a mean of 400 and a standard deviation of 100. Moreover, the baseline and end-term test data were equated and this means that within the same subject, valid comparisons of student scores can also be made between baseline and end-term. Data from the mathematics and literacy tests was also analyzed using content domains (curriculum or specific subject areas) tested as well as using Bloom's cognitive domains. For mathematics, four content domains (numbers and operations, measurement, space, and data) and four cognitive domains (namely 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 they could fall in more than 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, respectively. For the overall mathematics scores, results in **Error! Reference source not found.** indicate that the DID between the two treatment groups was not statistically significant. This means that, with respect to gains in mathematics achievement, it did not matter much which intervention package the girls received. 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. Therefore, it can be concluded that the two interventions were useful in boosting the overall mathematics performance of the girls. Moreover, the interventions were useful in improving the performance of the girls in a specific mathematics content area of measurement (especially T1) as well as content area of space and data (both T1 and T2).

In terms of mathematics cognitive domain, there were clear advantages associated with being in the first treatment group when compared to being in the comparison group. For the analysis cognitive domain, there were learning benefits associated with receiving either of the two intervention packages when compared to not receiving any intervention at all.

Table 2.4: Time and 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: Time and 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 i.e. 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.

For the overall literacy scores, the results in Table 2.5 show that neither treatment generated a statistically significant different from the control. Similarly, the intervention received in T1 had no impact on any of the specific literacy content areas considered. Surprisingly, the DID results show that girls in the 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 are contrary to those of 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 is easier to provide support in mathematics than in literacy because of mentor ability 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 across three groups of girls – C, T1 and T2. In one model, C and T1 groups were compared. In the next model, C and T2 groups were compared, and T1 and T2 groups were compared in the final model. 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 for the regression analyses are displayed in Table 2.6. After taking into account 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 comparison group – with the girls in each treatment group outperforming those in the comparison 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 two treatments was about the same. 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	xxx	xxx	xxx	0.7	-14.5	15.8
<i>Treatment 2</i>	xxx	xxx	xxx	25.4***	10.6	40.2	xxx	xxx	xxx
<i>Comparison</i>	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
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; xxx Variable is not available for inclusion in this model

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 Korogocho and U-Tena). These highlights are the culmination of the reflections with the education intervention three years since the intervention was rolled out in two informal urban settlements in Nairobi, Kenya. These reflections were narrated in focus group discussions (FGDs) with parents of girls in grade 8 and mentors, and in-depth interviews and key informant interviews with community leaders, girls in grade 8 and implementing partners in the two sites. In this section, we highlight the benefits of the intervention from the following participants: community gatekeepers, parents, mentors, counsellors, girls, and the 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 that show the end-term impacts of the intervention were identified: 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

Improvement in literacy and numeracy was one of the outcomes of this intervention as shown in the qualitative narratives. This was based on the assumption that girls from poor households in the urban informal settlements, particularly in Korogocho and Viwandani, often lost out on the opportunity to learn, and on adequate time to complete homework. This could be attributed to inadequate time to study in school, and inadequate parental support at home. Inadequate parental support was in part due to parents not being available to help with homework and continued girls' involvement in domestic work. From the narratives, there is a consensus that girls had improved in literacy and numeracy since the onset of the intervention. Girls as direct beneficiaries of the after-school support program expressed their gratitude to the program for having given them an opportunity to improve particularly in mathematics and literacy. A grade 8 girl in Korogocho said, *"...I never used to understand mathematics...Yes...I have really improved"* (IDI, Girl, Grade 8, Korogocho). Parents of the grade 8 students explained that their daughters are doing well

academically, and like their daughters, they expressed satisfaction with the milestones that their daughters have been able to accomplish as a result of the program. A parent in Viwandani explains:

... 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).

The improvement in literacy and numeracy had a potential to have ripple effect in terms of the improvement in other subjects. That is, girls who improved in literacy and numeracy did improve in other subjects that were taught in the primary curriculum. 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 had a ripple effect in the achievement of girls at the KCPE in 2014. The ripple effect led to such outstanding performance that three of the girls from Korogocho were for the first time absorbed in the Wings to Fly scholarship program that is sponsored by the MasterCard Foundation in partnership with Equity Foundation. A mentor from Korogocho explained:

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

The community leaders emphasized the improved performance that has been realized since the onset of the project. In the eyes of the community elders, grades have improved in other subjects and girls have become motivated to continue with the good performance in school, over and above the improvements in literacy and numeracy that have been realized over time.

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).

The narratives from the participants and the beneficiaries in regard to the improvement in school, and particularly in numeracy, show that the ray of hope that had been depicted by girls in the two communities of Korogocho and Viwandani, from baseline to mid-term. This is not only in terms of the improvements in the two subjects being supported in the program, but also in the reported ripple effect in other subjects and the performance at KCPE. For instance, the community gatekeepers explained that girls were motivated and improved in their schoolwork as a result of parents giving them time to read and to do their homework, and the fact that they listen to their daughters more.

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 prerogative of the schools alone. Rather, parents, and community members were part and parcel of the support that girls needed to perform well in school. Therefore, a collaborative model was proposed involving schools, teachers, girls, and the communities around the schools. The key message from the parents at baseline pointed to the importance of communication among each of the stakeholders engaged with girls' education. At mid-term the emphasis was on communication between parents and their daughters in the household. At the end-term the narratives show enhanced communication across the board--between parents and their daughters as well as between the girls and mentors.

Therefore, the circle of communication was completed, with mentors completing the cycle while providing effective channels of communication not accorded to girls in school. Time spent in the project enabled girls to feel confident in the fact that they could easily approach their parents, and particularly their fathers. 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...*Sometimes 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]. As it continues, 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 become more open with their daughters and reported that they could easily connect better while paying attention to the issues affecting their daughters. A counsellor 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, Counsellors, Korogocho).

The effect of the intervention in opening communication channels between the parents and their daughters was underscored by the implementing partners. This open communication is enabling 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 is worth it... (IDI, Implementer, Korogocho).

The communication process has extended to encompass the girls and their mentors. Girls communicate openly with the mentors, interact with them and ask questions, unlike sometimes tense classroom settings in school. This shows that the program opened for girls new communication avenues beyond the parents, and the teachers in school. 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 we 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 towards building an academically supportive relationship. The narratives have shown that open communication was between parents and their daughters living within Korogocho and Viwandani. At the end-term the open communication was also shown to exist between mentors and girls attending the sessions within the community.

3.2.2 Improved self-consciousness

The knowledge that girls gained while attending life-skills sessions has resulted in improved self-consciousness among the girls in the project. Girls have become more conscious about who they are, hence they cannot be easily influenced negatively by their peers. A girl in Korogocho reiterated the knowledge gained in life-skills and its effects:

... 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. This has been exemplified by the growth that girls have made through actively participating in the sessions. The narratives show that ability of girls to better interact with others as a result of the interactions with the life-skills sessions since the onset of the project in 2013.

...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 gain knowledge on how to negotiate with other people around them. In so doing they have gained the self-confidence required to be able to do what is right and not be duly influenced by others. 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 sessions and particularly mentorship sessions have been lauded by the participants to have led to girls being more focused in their school work, thereby staying on the path to secondary and post-secondary education. To some of the girls, being made to perform household tasks does not bar them from staying focused on their schooling activities, rather girls have learned to keep their priorities right. 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, girls' confidence in their school work was boosted, leading to their good performance and subsequent admission to high school. In actual fact, a few girls in the two sites got admission to national schools. A mentor explained:

...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).

Most importantly, girls have categorically shifted their mentality that their schooling will end in grade 8 to understanding that attending secondary school is a precursor to future success. A mentor said:

...OK, at first when they were coming they had this mentality “girls from the slums, the only far they can get is class eight. 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 eight and move on to secondary school because now they know education is the key to success... (FGD, Mentor, Viwandani).

The parents agree that aspiration for 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 for 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 in future, over and above what they as parents had. Moreover, parents also want to get the children to be well-educated so as to be in a position to get the rest of the children 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 gained in their mentoring sessions 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 to other girls and future leaders within the community. A father of a girls 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 benefitted from the counseling sessions by finding a platform to share vital information about what troubles them in regard to their children's education. For instance, those who had succeeded in dealing with issues affecting their daughters in the recent past, and had realized success, shared this with others to motivate them, and ensure that they were still on the right track when it comes to ensuring that their daughters are focused on school.

... 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 Counsellor, Viwandani).

3.3 Vital lessons learned during the course of the intervention

This section covers vital lessons that were espoused by the participants during the discussions. Some of the outstanding lessons include: concerted effort in support of girls' education by all the

stakeholders, “the community must be vigilant”, integrate children’s issues within the broader community structures, role modelling by key individuals in society and need for mentorship to cover all children, even those in the control groups.

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

The sentiments that were expressed in the narrative by the community leaders at mid-line to have a concerted effort in support of girls’ education, has persisted to the end of the project. At baseline, parents had pointed out the need for unity of purpose and collaboration in ensuring that girls attend, and continue with school. A multi-pronged approach was proposed encompassing parents, the community, and teachers to forge a working relationship with the girls. At the end-term the theme of the concerted effort was still key in ensuring girls attend school. The emphasis was on collective community responsibility/involvement in caring for, and being effective role models for the community so as to ensure that girls attend school. For instance, the community members should look out for one another, and not stand by and watch their girls get lost. However community members insisted that parents should be industrious and not just wait for handouts or help from the community. 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 extent to which the importance of a concerted effort by community members was important 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 the community should look out for one another in terms of securing their daughters and not stand by and watch their girls getting 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 for the community to be fully involved and thereby reap the benefits of girls’ education, effective communication is key among the community members. Girls would then know that they cannot fail to attend school and escape the watch of the community.

...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).

The concerted effort was to be extended to girls’ teachers. This was in recognition that there were some parents who often mishandled teachers in school, whenever they were called into school, or went to school on their own will to meet the teachers on issues affecting their daughters. Such parents were advised that they should work in tandem with the teachers for the betterment of 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 the community’s administrative structures such as *Nyumba Kumi* clusters. *Nyumba Kumi* is an initiative started in October of 2013 when the Kenya government decided to reinforce community policing. This was an initiative through which members of a neighborhood were supposed to know at least 10 of their next door neighbors. The government wanted security enhanced in the respective villages, whereby the current village system under a village elder would be restructured to ten units with clear leadership structure. 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 who are at risk of dropping out of school can be reported. In this way the community might forestall the phenomenon of children dropping out of school. This would reinforce the call at baseline when participants pointed out the importance of developing partnerships with all who have a stake in girls' education. At the baseline, parents had called for partnerships with the community of parents around the school, non-governmental organizations, and the government. At the end-term, the participants reiterated the need for the community to be fully involved with girls' education, with an inclusion of a forum where children's issues can be directly reported.

This would also reinforce a community united to strengthen not only the education of girls in the community but also the education of all children in the two communities where the intervention was implemented. A village elder explained:

...Having what I would call very regular meetings at the village level. Other than community meetings, they also need to have children's desks at the village. In fact *Nyumba Kumi* cluster need to have children's desk, so that any child who has dropped out of school, any child who is about to drop 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 desks at the cluster level or at the smallest level in the villages... (*IDI, Chief, Korogocho*).

3.3.4 Role modelling by key individuals in society

Role modelling and mentorship by successful individuals in society who are in employment, was emphasized as being critical in order to motivate the community on the importance of education. Such individuals would share the practical experiences gained in the real world of work to the boys and girls. The successful role models would serve as a motivation to the girls that having a successful career is attainable even if you are from the slums. 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).

To the parents, these successful individuals would then validate what they have constantly been telling their daughters in regard to the benefits of education. Parents have constantly reminded their daughters that education is the key to a better life, and coming from a successful role model in the world of work would make the girls internalize it. 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 where successful leaders in their respective areas of work will be invited into the slums in order to give motivational talks to the boys and girls in the next phase of the project.

3.3.5 Need for mentorship to cover all the children

Community members, especially parents of girls in the control group, reported the need and importance of having mentorship sessions also carried out in the control group. This sentiment was echoed strongly during the qualitative interviews. According to the participants, including the children in the control would be useful going forward. The parents in the control felt that having the mentorship extended to those sites would steer the children in the right direction, even in the absence of their parents.

...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 the 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 towards the end of the intervention there is still an observed **general improvement in girls' lives** as 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. The accomplishments in the two subjects have also had a ripple effect in other subjects, and the performance at KCPE for girls. The continued success of girls in the program has not only acted as a motivator to the current cohort of girls in the intervention, but has also got the community interested in pushing for boys to join during the phase II of the project.

In addition, the narratives show that there was **improved communication** between the 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. More so, the communication link was completed by the mentors, who communicated with girls during the mentoring sessions, thereby complementing the communication channels to girls not accorded to them in school.

The narratives from participants at mid-term highlighted the **unintended outcomes** to other community members. The trickling 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 the skills learned in the life skills sessions to their siblings in the households, 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.

4 Summary and conclusion

The *improving learning outcomes and transition to secondary school* was a three year intervention study which started in 2013 with the baseline survey being conducted in the month of June 2013, with the intervention kicking off in July of the same year. 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. This was to be achieved through increasing access and transition to quality secondary education among girls living in the urban informal settlements, and through parental and community support. 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. Between the baseline and end-term, girls in grade 6 were exposed to three years of the intervention, those who were in grade 7 in 2013 were exposed to two years of the intervention, while those in grade 8 in 2013 were exposed to one year of the intervention. The end-term evaluation was conducted with the aim of enumerating the impact of the study towards the end of the intervention. At the end-term we sought to answer the following questions: 1) Does the after-school learning support and mentoring lead to improved learning outcomes; 2) Does subsidizing the cost of first secondary grade entry increase the transition of girls to secondary schools; and 3) How does increased awareness about the challenges of girls' education in the community lead to increased support for and improved learning outcomes among girls. The community aspect was broadened to capture the reflections of the beneficiaries, the implementers, mentors and counsellors.

Learning outcomes. In mathematics, treatment 1 (T1) significantly outperformed the control (C) by 35 score points while treatment 2 (T2) outperformed C by 24 score points. This was significant even after taking other background factors into consideration. We conclude that both interventions had positive impact in mathematics achievement by girls. To this end, the qualitative narratives also point to the general improvements in numeracy, and to a certain extent literacy, since the onset of the intervention. Parents of the 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 who have participated in the program now have higher educational aspirations, higher interest in schooling, and reduced 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 desisted from negative peer influence, while the after-school support with homework led to increased interest in schooling among girls in treatment groups. From the qualitative narratives, aspiration for school 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 and post-secondary education. The reduction in negative peer influence was attributed to the fact that girls have become more conscious about who they are, hence they cannot be easily influenced negatively by their peers. More-so, it was also reported by mentors that as a result of the mentoring in life-skills sessions, girls were able to come out of their personal space, and interact with others thereby developing their self-esteem and self-confidence for better schooling outcomes.

Transition to secondary school. The project increased transition significantly among the treatment groups compared to comparison group. That is, the impact of the intervention was significantly higher in treatment 1 (21 percent points) and treatment 2 (20 percent points) as compared to the comparison. Among the girls who transitioned to secondary school, 45 percent transitioned to private secondary schools. This was an increase from 41 percent observed during the mid-line. Even though there is no statistical significance association between parental sensitization, there is a positive change in transition that can be attributed to the involvement of parents in the program. From the reflections on the intervention, it should also be noted that out of those girls who made a transition to secondary school in 2014, three girls joined prestigious girls' national schools in the country. National schools are the best-resourced and admit the high-performing students from across all counties in Kenya. In 2015, three girls from Korogocho who qualified for the subsidy from the 2014 cohort, also received the prestigious Wings to Fly scholarship that is being run by Equity Foundation and MasterCard Foundation.

Support to girls education. From the qualitative narratives, the parental component of the project has opened up and cemented the communication channels between parents and their teenage children, which previously did not happen. Parents can now openly say that they can discuss some topics with their daughters which was not the case in the past.

Through the parental component, parents have built a supportive relationship in regard to education and understanding the social change and peer pressure faced by the youth. The project has continued to motivate parents who in normal circumstances would not be regularly involved in the education of their children. Since its inception, the project has created a network and support structure platform for all the parents who, through sharing their individual experiences, are becoming one strong voice at community level for their teenage children. The project has succeeded in creating a general awareness of the negative attitudes, and enhancing aspirations of both parents and children towards secondary education and beyond. This can be seen in the success achieved with the impact of the project in aspirations to school, interest in schooling and reduction in peer influence. On their part, girls have developed confidence, and can be able to interact more with their peers during the sessions and within the community. They can interact with mentors and teachers, ask questions, and have acquired tips on how to accommodate and listen to their parents. There has been a sustained trickle effect of life-skills and guidance and counseling, which has been attributed to the positive attitudes that both girls and their parents adopted after attending both after-school support and counseling sessions. Girls transferred the skills that they had learned in the life skills sessions to their siblings in the households, while parents transferred what they had learned to other parents in the community. Particularly 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. This would contribute immensely to the sustainability of the project.

Lessons learned from the onset of the project

There were several lessons learned in the process of this intervention since 2013. These included:

The success of a project is determined by the community ownership and perception about the project. This project has been successful because of working with Community Based Organizations (CBOs) who are known in the community and will seek to continue with the implementation of the program long after the end of phase II;

Constant communication is key to the success of the implementation of an intervention. The success of the project has been fostered by free flow of communication amongst all the partners and stakeholders in order to immediately iron out any challenges that come up in the process of implementing the intervention;

Constant training and capacity building among all the staff involved in implementing the intervention helps the partners to internalize the objectives of the study and their individual roles in achieving these objectives. This was key in maintaining programmatic integrity. We have held one refresher course every year before the onset of the intervention.

Monitoring and evaluation of the processes and indicators of the project intervention was fundamental in assessing the progress and achievements of the project. For instance, we have realized that lack of meals at household level hinders girls from attending the sessions. It was overlooked that providing snacks or meals would have actually motivated the girls to attend the sessions. This lesson will be communicated to the parents to provide children with food before they come to the sessions.

Sharing experiences and good practices from partners working in the same project was helpful in mitigating some of the implementation challenges. For example, one implementing partner learned that involving the mentors in the 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 into the program.

Continuous (at times door to door) sensitization of the community on the objectives and design of the project was important for their internalization and therefore their continued participation.

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 girls and boys from poor and disadvantaged households in a similar manner in terms of primary school completion and transition to secondary school. This implied that many boys among the urban poor were also missing out on the opportunities that secondary education offers. The plight of boys had continuously been 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 recently at the 2015 subsidy award ceremony in the same communities. The qualitative narratives showed that community members and especially parents of children from the control group 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. Therefore, the leadership program in primary school is innovative because we will be breaking new ground within the lower primary school level. Secondly, introduction of a leadership program targeting girls and boys in primary school will prepare them for future leadership roles. The qualitative narratives at end-term from parents showed that they were looking beyond the trickle-down effects of life skills to the culmination of their daughters' role models and future leaders within the community. Phase II will introduce leadership coaching visits to accomplished leaders and these exposure visits will give boys and girls a chance to get the benefits of experiencing leadership roles in real life.

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 in the duration of the project.

More so, more girls (45 percent) transitioned to private secondary schools by 2015.

- National government is urged to rethink the quota system of admission to secondary schools where even the low cost private schools, mainly found in the slums, are classified as private schools. This limits transition to public secondary schools among children from the poorest households in Nairobi. By so doing, the girls miss opportunities provided by the free day secondary schools.
- 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, regardless of the type of school they are enrolled in.
- There is need to embrace public-private partnerships in addressing the transition to secondary schools among pupils, especially in support of girls living in urban informal settlements. Extending support by the County and National governments to private day schools in which most girls from urban informal settlements are enrolled 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 their livelihoods and those of their families.

- In terms of life-skills the study has established the impact that this sub-component of the after-school support had in enhancing aspiration for school, interest in schooling, reduction in negative peer pressure, and building confidence among girls. However, from discussions with the County Education Office, life-skills are not taught in schools as diligently as it should be. This finding suggests that the County government and the Ministry of Education (MOE) need to think differently on how to deliver life-skills education in order to harness the potential that it can have on schooling and educational outcomes of children.

Overall, the intervention improved learning achievement, particularly the mathematics scores. We also saw improved transition to secondary school, improved aspiration for school, interest in schooling, and negative peer influence. The study called for continued concerted effort by community members in support of girls' education and by extension, children's education in the slums of Nairobi. It opened and sustained lines of communication between parents and their daughters, and particularly at end-term, encouraged the communication between girls and mentors, thereby bringing the communication loop full cycle.

References

- Abuya, B., Ngware, M., Hungi, N., Mutisya, M., Nyariro, M., Mahuro, G., & Oketch, M. (2013). *Improving learning outcomes and transition to secondary school through community participation and after school support among disadvantaged girls: A pilot study in informal settlements, Nairobi, Kenya*. Retrieved from <http://aphrc.org/wp-content/uploads/2014/09/GEC-Report.pdf>
- Abuya, B., Ngware, M., Hungi, N., Mutisya, M., Nyariro, M., Mahuro, G., & Oketch, M. (2014). Community participation and after-school support to improve learning outcomes and transition to secondary school among disadvantaged girls. Accessed from <http://aphrc.org/wp-content/uploads/2015/05/Improving-Learning-Outcomes-Midterm-Report-2014.pdf>.
- Beng, S. G., See, H., & Davies, P. (2012). *The impact of attitudes and aspirations on educational attainment and participation*. Retrieved from <http://www.jrf.org.uk/sites/files/jrf/education-young-people-parents-full.pdf>
- Dollar, D., & Gatti, R. (1999). *Gender inequality, income, and growth: Are good times good for women? World Bank Policy Research Report on Gender and Development Working Paper Series No.1*. Retrieved from
- Glennerster, R., Kremer, M., Mbiti, I., & Takavarasha, K. (2011). *Access and Quality in the Kenyan Education System: A Review of the Progress, Challenges and Potential Solutions*. Retrieved from <http://www.povertyactionlab.org/publication/access-and-quality-kenyan-education-system>
- Hervish, A., & Feldman-Jacobs, C. (2011). Who speaks for me. *Ending child marriage, Policy Brief, Washington, DC: Population Reference Bureau*. Retrieved from <http://www.popline.org/node/558041>
- Hungi, N., Makuwa, D., Ross, K., Saito, M., Dolata, S., van Cappelle, F., & Vellien, J. (2010). *SACMEQ III Project Result: Pupil achievement levels in reading and mathematics. Working document number 1*. Retrieved from

http://www.sacmeq.org/sites/default/files/sacmeq/reports/sacmeq-iii/working-documents/wd01_sacmeq_iii_results_pupil_achievement.pdf

Hungi, N., & Thuku, F. W. (2010a). Differences in pupil achievement in Kenya: implications for policy and practice *International Journal of Educational Development*, 30(33-43). doi:10.1016/j.ijedudev.2009.05.001

Hungi, N., & Thuku, F. W. (2010b). Variation in reading achievement across 14 southern African school systems: which factors matter? . *International Review of Education*, 56, 63-101.

Jessor, R., & Jessor, S. L. (1977). *Problem behaviour and psychosocial development: A longitudinal study of youth*. New York: Academic Press.

KNEC. (2010). *Monitoring of learner achievement for Class 3 in literacy and numeracy in Kenya: Summary of results and recommendations*. Retrieved from http://www.knec.ac.ke/main/index.php?option=com_phocadownload&view=category&download=182:std-3-abridged-report&id=62:std-3-abridged-report

Murphy, E., & Carr, J. (2007). Instructors' experiences of web-based synchronous communication using two-way audio and direct messaging. *Australasian Journal of Educational Technology*, 68-86. Retrieved from www.ascilite.org.au/ajet/ajet23/murphy.html

Ngware, M., Abuya, B. A., Admassu, K., Mutisya, M., Musyoka, P., & Oketch, M. (2013). *Quality and Access to Education in Urban Informal Settlement in Nairobi, Kenya*. Retrieved from <http://aphrc.org/wp-content/uploads/2013/11/ERP-III-Report.pdf>

Okigbo, C. C., Kabiru, C. W., Mumah, J. N., Mojola, S. A., & Beguy, D. (2015). Influence of parental factors on adolescents' transition to first sexual intercourse in Nairobi, Kenya: a longitudinal study. *Reproductive Health*, 12(73). doi:10.1186/s12978-015-0069-9

Onsomu, E., Nzomo, J., & Obiero, C. (2005). *The SACMEQ II Project in Kenya: A Study of the Conditions of Schooling and the Quality of Education*. Retrieved from <http://datatopics.worldbank.org/hnp/files/edstats/KENstu05.pdf>

- Rihani, A. (2006). *Keeping the Promise: Five Benefits of Girls' Secondary Education*. Retrieved from Washington, DC 20009: <http://files.eric.ed.gov/fulltext/ED500794.pdf>
- Ryan, G. W., & Bernard, H. R. (2003). Techniques to Identify Themes. *Field Methods*, 15(1), 85-109. doi:10.1177/1525822X02239569
- Singh, S. K., & Das, A. (2011). Interface of alcohol and risky sexual behaviour among adolescents and youth in low income slums of Mumbai, India. *The Journal of Family Welfare*, 57(2), 61-71. Retrieved from <http://medind.nic.in/jah/t11/i2/jaht11i2p61.pdf>
- UNESCO. (2012). *Education for All Global Monitoring Report*. Retrieved from http://en.unesco.org/gem-report/sites/gem-report/files/EDUCATION_IN_KENYA_A_FACT_SHEET.pdf
- UNESCO. (2013). UNESCO 2013 report. Retrieved from <http://unesdoc.unesco.org/images/0022/002271/227146e.pdf>
- UWEZO. (2013). *Are Our Children Learning? Literacy and Numeracy Across East Africa*. Retrieved from <http://www.uwezo.net/wp-content/uploads/2012/08/2013-Annual-Report-Final-Web-version.pdf>
- World-Bank. (2004). *World development report: Making services work for people*. Retrieved from World bank and Oxford university Press: <https://openknowledge.worldbank.org/bitstream/handle/10986/5986/WDR%202004%20-%20English.pdf?sequence=1>

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