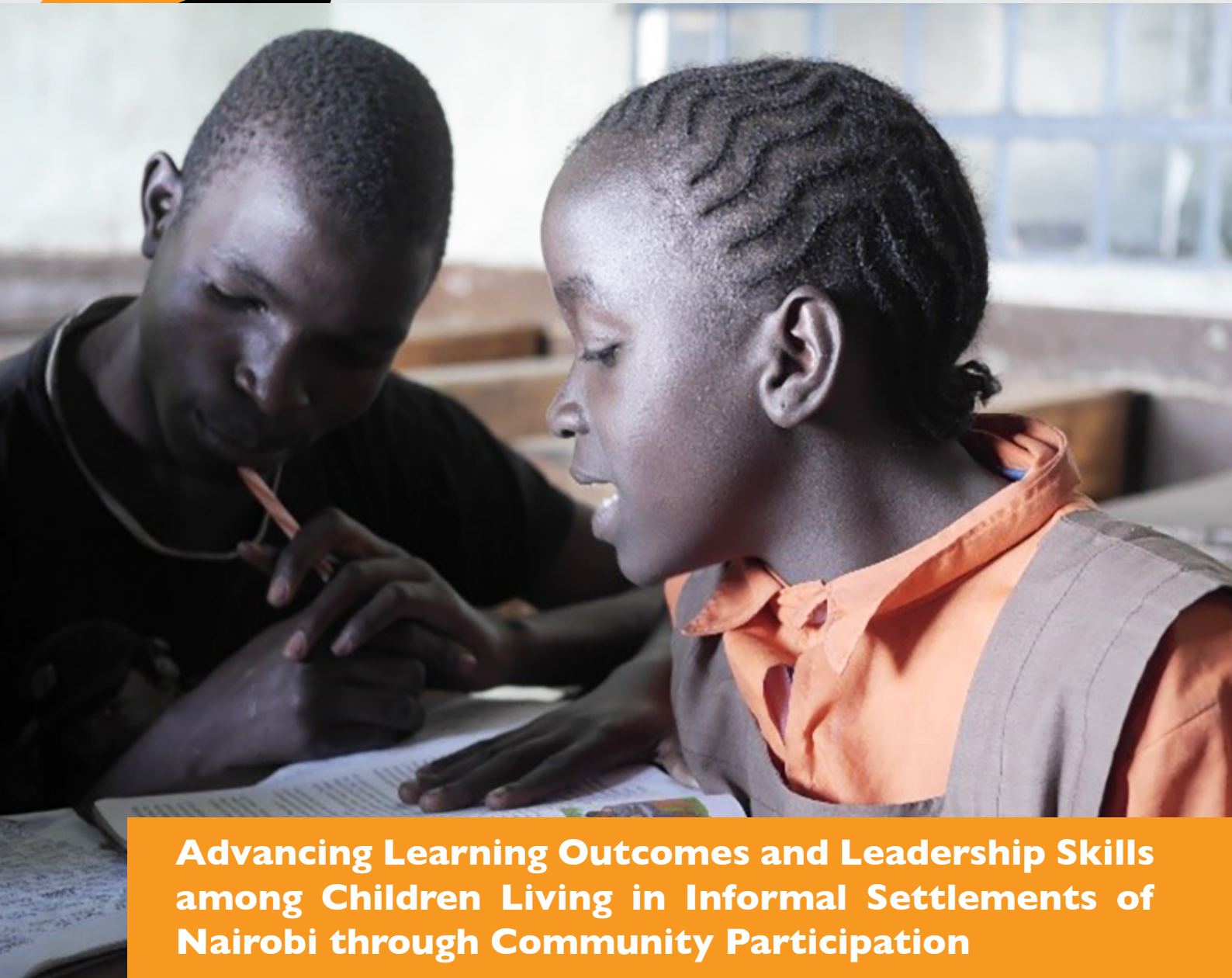# ENDLINE
REPORT

Advancing Learning Outcomes and Leadership Skills among Children Living in Informal Settlements of Nairobi through Community Participation

APHRC

African Population and Health Research Center

Advancing Learning Outcomes and Leadership Skills among Children Living in Informal Settlements of Nairobi through Community Participation

ENDLINE REPORT

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Abbreviations

A LOT-Change	Advancing Learning Outcomes and Leadership Skills among Children Living in Informal Settlements
AMREF ESRC	AMREF Ethics and Scientific Review Committee
APHRC	African Population and Health Research Center
CBO	Community-Based Organization
DD	Double difference
DID	Difference-in-difference
ESRC	Ethics & Scientific Review Committee
FGD	Focus Group Discussion
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
IDI	In-depth Interview
KCPE	Kenya Certificate of Primary Education
KII	Key Informant Interview
MDGs	Millennium Development Goals
MEL	Monitoring, Evaluation and Learning
MKK	Miss Koch Kenya
MoE	Ministry of Education
NUHDSS	Nairobi Urban and Health Demographic Surveillance System
SDGs	Sustainable Development Goals
SSA	Sub-Saharan Africa
STIs	Sexually Transmitted Infections
TV	Television

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Summary of findings

Respondent characteristics

1. The final endline sample consisted of 653 out of the 686 that participated in the midline, 49.5% of these were boys. Majority of the 33 unreached cases were due to outmigration from the study sites.

2. Viwandani had a higher number of girls (52.9%) than boys, while in Korogocho the opposite was true, with more boys than girls (51.8%).

3. In Viwandani, 62% of participants were classified as least poor compared to about 4% in Korogocho.

4. There was significant reduction in the proportion of learners enrolled in low fee private schools (LFPS) at both study sites. In Viwandani, the proportion reduced from 50.5% observed at baseline to 39% at endline, while in Korogocho, enrolment dropped from 71.2% to 61%.

5. Absenteeism (at least one day's absence in the last school week preceding the date of interview) was lower in Viwandani at 8% compared to Korogocho at 13%, though this was not statistically significant. The main reason for absenteeism was sickness/illness in addition to lack of school fees which was common in Korogocho.

6. At midline, grade repetition (grade 6) was higher in Viwandani, compared with Korogocho, though insignificantly. While at the endline, grade 7 repetition was significantly lower in Viwandani than in Korogocho.

7. Insignificant gains at both baseline and endline were recorded for the proportion of learners in Viwandani who always completed homework than the gains observed for Korogocho.

8. Homework support was significantly higher in Korogocho than in Viwandani at midline. At endline, there was a larger gain in the proportion of pupils in Viwandani who were supported in their homework than in Korogocho.

9. The parental aspiration for University education was positive and significant in Viwandani, though it reduced from a difference-in-differences (DID) of 25% at midline to 22% at endline.

Pupil achievement in numeracy and literacy

1. The numeracy and literacy tests used in this study had 44 and 63 items, respectively. The numeracy items covered three content areas (numbers, measurement, and space/data) and four Bloom's taxonomy cognitive domains (knowledge, comprehension, application, and analysis). The literacy items covered three content areas (reading, speaking and listening) as well as the same four cognitive domains covered by the numeracy items.

2. Viwandani recorded significantly better mean scores for all the numeracy content and cognitive areas compared to Korogocho. On the other hand, there was no clear advantage in literacy improvements between the two sites.

3. Although both Viwandani and Korogocho recorded positive and significant gains in numeracy achievement, the gains were significantly higher in Viwandani.

4. In literacy, the mean gain in literacy achievement among the pupils in Viwandani was higher than the corresponding gain among pupils in Korogocho, though statistically insignificant. However, the gains were statistically significant when compared to the control group in phase I (2013-2015 cohort).

5. Generally, the intervention was found to have more impact among boys than girls, for pupils within the age of 12-13 and among pupils from least poor households. However, the impact on literacy scores did not vary much by age.

Pupil behavior and life skills

1. Overall, the pupil behavior and life skills components of the program show very little differences between the two study sites and time points. This is anticipated given that the components were implemented in both sites and that in some cases, the baseline scores were high indicating a ceiling effect.

2. We observed high levels of self-confidence, parental monitoring, and educational aspirations with averages of 2.5, 2.5 and 2.8 out of three respectively at both the baseline and the endline.

3. The intervention significantly and positively influenced both self-confidence as well as educational goals and aspirations with a DID of 0.306 and 0.104 respectively.

4. Most of the pupils perceived their peers' behavior to be generally good. Korogocho had more pupils reporting their peers as exhibiting good behavior compared to Viwandani.

5. Getting along with teachers and the school environment was perceived to be good and conducive respectively at both time points and study sites. However, significantly more pupils in Viwandani reported getting along with their teachers than in Korogocho.

6. Less than 2% of the pupils at both baseline and the endline had engaged in any sexual activities. While knowledge of the consequences of early sexual activities was high, the pupils held on to the notion that engaging in these activities would make them popular among their friends.

7. In Viwandani, significantly fewer pupils reported that they would be liked if they engaged in sexual activities at the endline as compared to baseline and with a DID of 27%.

8. At both time points, most pupils were comfortable discussing puberty and sexuality with their parents. Notably, at endline more girls (59%) than boys (25%) reported preference to discuss sexuality and puberty issues with their parents. Interestingly, discussions with other pupils about puberty and sexuality was mostly preferred by boys.

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Pupil leadership skills

1. The sub-scale and overall mean leadership scores improved from baseline to endline.
2. The leadership training intervention had a significant impact on self-regulatory efficacy, with an adjusted DID of 0.092 ($p < 0.05$).
3. The greatest magnitude in change of scores from baseline to endline was seen on the Self-Assertive Efficacy sub-scale. This means that pupils were more likely to report being more assertive as a result of exposure to the intervention activities.
4. One surprising finding is that there seemed to be a bigger effect on scores for the Youth-Community Connections and Adult-Youth Connections sub-scales in Korogocho than in Viwandani. This finding could be attributed to the fact that mentorship support was provided in both sites, and the pupils considered the mentors as adults whom they could look up to.
5. Girls made a remarkable improvement in their Social Competences from baseline to endline in comparison to the boys. Whereas at baseline girls had lower scores than boys, at endline, this pattern was reversed, with girls doing better than boys.

Qualitative study results

1. Both parents and pupils pointed to the marked academic improvement in numeracy (grasp of mathematical concepts, enhanced ability to interpret problem statements and improved skills in algebra) and literacy (composition writing and an enhanced reading culture). These improvements also trickled to other subjects.
2. Pupils were reported to have changed their negative attitude towards subjects they had previously considered difficult and consequently developed greater interest in their education. As a result, girls in the project increased their participation in mathematics.
3. Both parents and pupils pointed out that they were more hopeful of performing well in their academic work, progressing to higher levels of education and consequently having a better future.
4. Pupils were able to better express themselves as a result of enhanced self-confidence. Improved confidence enabled pupils to be better speakers due to reduction in anxieties around public speaking.
5. Based on the information and experiences learned from the life skills sessions, pupils were able to evaluate the consequences of various actions instead of blindly following what their peers were doing or had asked them to do.
6. Both parents and pupils expressed being more open with each other by effectively sharing their ideas, feelings, opinions, needs, and actions both verbally and non-verbally.
7. From the narratives, adolescent boys and girls were said to have generally improved in their behavior i.e. stopped substance abuse, become more respectful and helpful at home in terms of chores. Some even reportedly stopped engaging in crime.

8. As a result of the schedule of activities prepared by pupils in conjunction with their parents, they were reported to be more responsible, accountable, as well as better at time management and planning.
9. From the leadership sessions, pupils were not only motivated to take up leadership positions especially in school, but they also upheld ethics in their various positions. In addition, they took deliberate steps to model good behavior among their peers and siblings.
10. From their engagement with various professionals during motivational talks and exposure visits, pupils had the opportunity to learn the education and training pathways it takes to achieve a certain career.
11. Parents reported that due to the counselling sessions, they had embraced positive discipline as a better approach to child development instead of taking punitive measures that hurt their children, whether physically or psychologically.
12. More parents were now following up on their children's academic performance, supporting them in homework, getting to know their friends and inquiring on their whereabouts as well as spending more time with their family, indicating improved parental involvement.
13. Both parents and pupils reported taking the initiative to be champions of change by passing on lessons learned from participating in the project to other community members.
14. Parents were grateful for the revision textbooks provided by the project as they would not have been able to afford them for their children. As a result, some of the parents took it upon themselves to ensure that the books provided were effectively utilized.
15. The A LOT-Change project was hailed for contributing to reductions in crime and insecurity in the study area by keeping the young boys and girls occupied in different project activities instead of engaging in criminality.

1   Introduction

This report covers endline findings of the *"Advancing learning outcomes and leadership skills among children living in informal settlements through community participation"* (ALOT-Change) project. This was a three year (2016-2018) after-school support program implemented by APHRC in partnership with Miss Koch Kenya and U-Tena Youth Organization in Korogocho and Viwandani respectively. The overall goal was to secure the future of boys and girls aged 12-19 years, who live in urban informal settlements by improving their learning outcomes, mentorship in life skills and leadership training.

The A LOT-Change program was integrated and comprised of multiple intervention components to achieve this goal. These components include: after-school homework support with literacy and numeracy; mentorship in life-skills; exposing girls and boys to opportunities to enhance leadership skills; sensitizing parents on parental involvement in their children's lives and education; and providing subsidies for transition to secondary school to pupils who achieve 250 marks and above out of 500, in their Kenya Certificate for Primary Education (KCPE) examination. The pilot phase (2013-2015) only targeted girls in grade 6-8. Since the study adopts a quasi-experimental design, Korogocho (treatment 1) received all the intervention components that were originally in the pilot phase – after-school support with literacy and numeracy homework; life skills mentorship; sensitizing parents on parental involvement in their children's lives and education; and transition to secondary school subsidies – while Viwandani (treatment 2) received the full package of the intervention with an added leadership component. The specific objectives of the study included:

a) Establishing the differential effect on learning outcomes and transition to secondary school among girls and boys in Korogocho and Viwandani;

b) To examine the impact of life skills mentoring on behavior change, aspirations, interest in schooling and self-confidence among girls and boys;

c) Establish the impact of leadership skills training on various outcomes (learning outcomes and uptake of leadership roles) among girls and boys in the study communities;

d) Establish the effect of parental sensitization on the level of education support by parents and community leaders.

1.1   Background

Education has always been a key priority area for all development agendas and as such is a crucial tenet of the Sustainable Development Goals (SDGs). Indeed, education is considered one of the most significant human capital investments (Benos & Zotou, 2014). This is because of the vital role education plays in enhancing human capital and global development. For example, educating girls and women results in delayed marriage and childbearing, low fertility, improved child nutrition, better incomes and greater decision making power within relationships (Gakidou, Cowling, Lozano, & Murray, 2010; UNESCO, 2011, 2013). A study of HIV prevalence among young women in South African found that young women who had completed high school were less likely to be infected with HIV compared with those that had not completed high school (Pettifor et al., 2008). Furthermore, some studies also indicate that education is one of the most important factors affecting bed net use and consequently prevalence of malaria. For instance a study in the Democratic Republic of Congo demonstrated that the education level of the family head of household was associated with bed net use among family members in the surveyed villages (Ndjinga & Minakawa, 2010). However, this is only possible if education fosters the right knowledge, skills, attitudes and behavior that conforms to modern demands and realities of countries and different contexts (UNESCO, 2016). The same sentiments on the importance of relevant education also underlies the guiding principle of the Continental Education Strategy for Africa 2016-2025, which emphasizes the establishment of a holistic, inclusive and equitable education as the core of sustainable development.

It is against this global outlook of education that the ongoing curriculum reforms in Kenya are being benchmarked. These reforms are characterized by a more holistic approach that tries to move away from the conventional academic and examination oriented approach to a competency-based, and learner-focused education system. Therefore, a lot of importance is attached to moulding character, self-reliance, patriotism, citizenship, and the ability to coexist as responsible citizens. The lack of these skills may result in graduates who are non-competitive in the 21st century job market, unemployment and contribute to the increased occurrence of antisocial behavior such as risky sexual behavior, crime and drug abuse (KICD, 2017).

Since these skills are not examinable, most schools tend to disregard teaching them. As a result, after-school support programs have become one of the options to deliver these skills. These after-school support programs have led to improvements in academic achievement, improved education aspirations, increased interest in schooling, better resilience to negative peer pressure, improved parental involvement (Abuya et al., 2015; Lauer et al., 2006). Moreover, studies have also shown that the positive effects associated with after-school programs were more profound for academically-at-risk pupils (Lauer et al., 2006). This is particularly important considering that the A LOT-Change after-school support program targets adolescents from urban informal settlements who are often marginalized owing to the unique challenges that impede positive education outcomes in that

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context. (Ngware, 2013; Oketch, Mutisya, Ngware, & Ezeh, 2010). In addition literature also suggests that adolescent births are concentrated among poorer, less educated women, and early motherhood further compounds disadvantage by disrupting school attendance and limiting future livelihood opportunities (Nove, Matthews, Neal, & Camacho, 2014). But, for after-school programs to be effective, they have to be run in a systematic way. For instance, previous research emphasizes that the programs should use a sequenced step-by-step approach, encourage active participation among the target group, occur within a specified timeframe and also have clearly defined goals (Arthur Jr, Bennett Jr, Stanush, & McNelly, 1998; Durlak & Wells, 1997; Salas & Cannon-Bowers, 2001). In the A LOT-Change project, there has been careful sequencing of the intervention components that are outlined below.

1.2 The intervention

A detailed description of each of the intervention activities is given below. However, it is important to mention that for effective delivery, the intervention sessions were facilitated by mentors and counsellors who used a guide or manual to assist them in providing consistent and correct information on a particular topic. The guides contained information on reasons why a specific topic was important, how to organize the session, how to adapt and contextualize situations, as well as hands-on activities for to emphasis the topics of discussion. After every topic, beneficiaries got the opportunity to practice their newly acquired knowledge through practical exercises done within sessions and as takeaways. These exercises were then evaluated and the pupils given feedback. Hands-on exercises have been shown to be more effective than passive learning where information is just passed on to the learners (Durlak & Wells, 1997). The mentors and counsellors were drawn from the community, which made it easy for both pupils and parents to relate with them. In addition, the mentors and counsellors went through a rigorous interview process to ensure that those enlisted into the program were motivated and qualified to support the project participants. For instance, all mentors should have completed secondary education with a mean grade score of C+ or above in their end-of-secondary school examinations. To ensure effective follow-up as well as creation of mutual trust and respect between the mentors and beneficiaries, each pair of mentors was assigned a group of beneficiaries to support throughout the intervention.

After-school support with homework in literacy and numeracy: This support was provided by offering safe spaces where pupils met and worked with community-based mentors to do their homework in numeracy and literacy. In total, 33 numeracy and 33 literacy sessions covering three weeks in any given month were scheduled for every year of the intervention. The hour-long sessions (for both numeracy and literacy) were held on Saturday afternoons. Recommended numeracy and literacy textbooks were used for homework support and revision.

Life skills mentorship: This component involved mentoring adolescents on life skills to assist them in overcoming the challenges of growing up and consequently transition to responsible adults. These skills also gave pupils the requisite coping strategies to face the emerging demands and challenges of their daily lives. The skills imparted included: values, self-awareness, self-esteem, avoiding negative peer influence, relationships, HIV/AIDS, effective communication, effective decision-making, career goals and sexual and reproductive health. In each year of the intervention, 12 life skills mentorship sessions were held at an average rate of one session per month.

Leadership training: This aspect of the program adopted three interesting activities. The first activity involved six facilitated sessions to give the pupils a theoretical base of leadership. The topics discussed were ethical leadership, teamwork, building professional and social relationships, communication, and public speaking. The second component comprised four (quarterly) motivational talks by accomplished individuals from a range of professions who share their life and career experiences with pupils. Lastly, one exposure visit to various institutions was held every year to expose the beneficiaries with a practical perspective on the world of work. The leadership component was expected to empower young people to provide transformational leadership[1] in their respective communities.

Primary to secondary transition subsidy: A subsidy of US$113 was awarded to beneficiaries who score 250 marks and above in the Kenya Certificate of Primary Education (KCPE) examination to assist them make a smooth transition to secondary school. Despite the efforts by the government to subsidize public secondary schools to enhance access, a large proportion of slum inhabitants still find it hard to offset the KSh 9,374 (US$93.7) and KSh 53,554 (US$535.5) stipulated fees for day and boarding schools respectively [2]. The Kenya National Bureau of Statistics and Society for International Development (2013), estimated that in 2009, about 45 percent of the Kenyan population was living below the poverty line (estimated at KSh 1,562 (US$15.62) and KSh 2,913 (29.13) for rural and urban areas). Around the same time, a longitudinal study in Korogocho and Viwandani slums indicated that 35% of households were living below the poverty line (Emina et al., 2011). Since the government subsidy covers school fees, the A LOT-Change subsidy assists beneficiaries to cover other school expenses such as school uniforms, mattresses and suitcases.

Guidance and counselling of parents: This component targeted the parents of boys and girls enrolled in the project to encourage them to get involved in their children's lives and education. Parents were sensitized on: understanding their role as parents; understanding their children; effective communication with their children; sexual and reproductive health; positive aspirations; providing psychosocial support to their children; and parenting in the digital era.

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[1]   Transformational leadership. BusinessDictionary.com. Retrieved July 26, 2018, from BusinessDictionary.com website: http://www.businessdictionary.com/definition/transformational-leadership.html "Style of leadership in which the leader identifies the needed change, creates a vision to guide the change through inspiration, and executes the change with the commitment of the members of the group"

[2]   file:///C:/Users/nmuhia.AD/Downloads/compliance%20with%20school%20feess.pdf

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1.3 Theory of change

The theory of change illustrated in Figure 1 proposes that for slums to be transformed into empowered communities, a multifaceted intervention is required. The intervention has five components: after-school support on numeracy and literacy; mentorship in life skills; mentorship in leadership; financial support to subsidize transition costs; and parental counselling. In the short-term, it is expected that the intervention will result in improvements in: numeracy and literacy scores; positive behavior, aspirations, interest in schooling and self-confidence; knowledge in leadership skills and taking up of leadership positions; retention in primary school; transition to secondary school; and, parental support and participation in the education of their children. This approach is informed by evidence provided from previous studies suggesting that multiple socio-economic factors affect education status in Kenya, especially in urban informal settlements (Ngware, 2013). A meta-analysis of 35 studies of at-risk youth reported that out-of-school programs had a positive effect on reading and math achievement (Lauer et al., 2006). In our case, the aim is to improve achievement in English and Math through after-school sessions on literacy and numeracy skills using volunteer mentors. In addition, the intervention offered life skills informed by previous programs which show that focusing on improving social and personal skills leads to improved self-esteem and self-confidence of pupils. Examples of these programs include "Go Girls", a program of structured group sessions that helps improve girls' body image, assertiveness, self-efficacy, and self-liking and mentoring programs such as "Across Ages" (Taylor, LoSciuto, & Hilbert, 1999), which pairs older adults with pupils. There is also evidence that after-school support programs can reduce juvenile crime, teenage sex, substance use and pregnancies (Goldschmidt & Huang, 2007; Philliber, Kaye, Herrling, & West, 2002). In India, Banerjee, Cole, Duflo, and Linden (2004) found that engaging young women from an urban community to directly provide after-school support to low performing pupils improved learning.
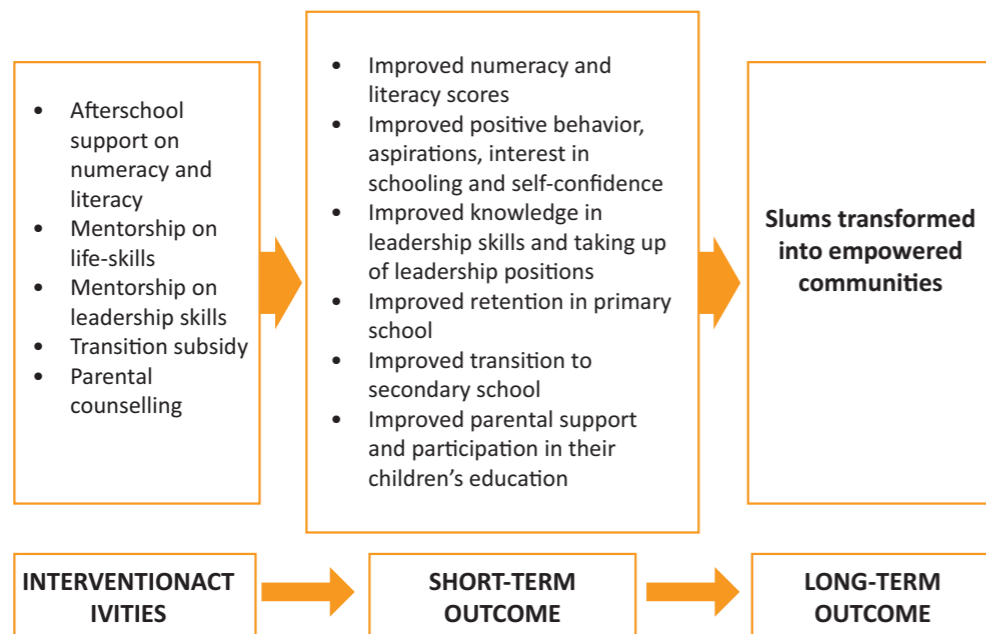
Figure 1.1: Theory of change diagram

1.4 Study design and approach

1.4.1 Quantitative approach

The intervention targeted households within the Nairobi Urban and Health Demographic Surveillance System (NUHDSS) run by APHRC with adolescent boys and girls aged 12-19 and in class 6 as at 2016. Membership and location information of all these households is collected and updated twice a year, with each collection round lasting four months. Using the database generated by the NUHDSS, all adolescents aged between 12 and 19 years by 31st March 2016 were identified, followed by confirmation of the grade enrolled in 2016, school name, and school type. At baseline, the target population of pupils was 824, i.e. 424 in Korogocho and 400 in Viwandani. However, the follow-up population reduced to 686 at midline (335 in Viwandani and 351 in Korogocho) as several learners were not reached for data collection at baseline for various reasons (Abuya et al., 2016). The final endline sample consisted of 653 out of the 686 that participated in the midline phase. The study adopts a quasi-experimental design to test the effect of the leadership training on the learning outcomes of boys and girls, with adolescents from Korogocho forming treatment group 1 (no leadership component) and those in Viwandani being allocated to treatment group 2 (with leadership component). A coin was tossed to determine which site would be allocated to treatment group 1, and which one to treatment group 2.

1.4.2 Qualitative approach

A total of 133 participants were purposefully sampled for focus group discussions (FGDs), key informant interviews (KIIs) and dialogues. In total, 30 qualitative interviews were conducted, distributed as follows: eight FGDs with 69 parents, 10 KIIs with six mentors and four counsellors, eight KIIs with eight community leaders, and four dialogues with 46 grade eight pupils. A summary of the qualitative interviews by type is shown in Table 1

Table 1: Number of interviews by type

Study Population	Korogocho (n=15)	Viwandani (n=15)	Total (N=30)
Focus group discussions (FGDs)			
Parents	4	4	8
Key informant interviews (KIIs)			
Community leaders	4	4	8
Mentors	3	3	6
Counsellors	2	2	4
Dialogues			
Boys and Girls	2	2	4

Selection of community leaders: Two chiefs and six village elders in total were selected from Korogocho and Viwandani. The two chiefs are the National Government representatives and

administrators at the grassroots in the two sites, while the village elders represented the various villages within Korogocho and Viwandani who support the chiefs in discharging their administrative duties.

Selection of parents: Eight focus group discussions (FGDs), four in each site, were held with parents. The groups were categorized as follows: fathers with girls in the program; fathers with boys in the program; mothers with girls in the program; and mothers with boys in the program.

Selection of mentors and counsellors: A total of six mentors and four counsellors – half from each site (Korogocho and Viwandani) – were sampled for key informant interviews.

Selection of pupils: Four dialogues, two in each site, were held with adolescent boys and girls enrolled in the project. Separate dialogues were held for boys and girls. Interviews were conducted after seeking consent from their parents as well as assent from the participants.

1.5   Recruitment and training of field staff

As is the practice at APHRC, the first step was to place advertisements for the endline data collection activities. Successful applicants were then contacted for interviews and eighteen field staff shortlisted for training. Additionally, selected field staff were all residents of Korogocho and Viwandani for logistical reasons, that is, ease of interaction with the target population and movement in the study areas. The field staff were then taken through a rigorous one week (June 7-12, 2018) training on research ethics, data collection skills, project objectives and a comprehensive review of the electronic data collection tools. Role plays were also a key aspect of the training to ensure that field staff had a good grasp of all the endline questionnaires as well as the data collection software and consequently gained confidence in administering them.

1.6   Data collection

For this round of evaluation, we had a target of 825 (418 in Viwandani and 407 in Korogocho) potential respondents. Of these, data from 748 respondents was updated representing a 91 percent success rate within the one-month data collection period. The main reason for not reaching the remaining respondents was out-migrations from the study area, especially in Viwandani where structures had been demolished to pave way for infrastructure development. As indicated in the quantitative approach section, of the 748 whose data was collected, only 653 had complete baseline and midline records for data analysis.

Each study site was led by a field supervisor whose role was to ensure effective allocation of work to all field staff, oversee field logistics, undertake quality checks and report back to the research team. At the initial stages of data collection, the field supervisors conducted sit-ins with each of the field staff to ensure that they comprehensively grasped the questionnaires. Furthermore, back checks

by the supervisors were conducted to ensure that quality data was being collected. To complement these quality checks, weekly field meetings were held to discuss data collection progress and any emerging issues. In addition, the qualitative data collection team included a moderator and assistant moderator who were retained throughout the data collection period.

1.6.1   Quantitative and qualitative questionnaires

The ALOT-Change endline evaluation questionnaires were packaged into three categories. The first set included household survey tools (individual schooling update questionnaire, individual behavior/life skills questionnaire, leadership questionnaire and parental and guardian involvement questionnaire). The second category was numeracy and literacy assessment questionnaires. Lastly we had qualitative survey tools (FGDs with parents; dialogues and IDIs with pupils; KIIs with community leaders; and KIIs with intervention implementers). A brief description of the survey and qualitative tools used are listed below.

Individual schooling update questionnaire: This questionnaire collected data on the pupils' schooling history and attendance. The information included type and location of school, absenteeism, change of school, repetition and extra tuition.

Individual behavior/life skills questionnaire: This questionnaire collected data on pupils' educational goals and aspirations; self-confidence; substance abuse; sexual reproductive health;   knowledge attitudes and practices around HIV/AIDS and other sexually transmitted infections (STIs).

Leadership questionnaire: This questionnaire focused on six major modules. The social-efficacy section looked at pupils' ability to relate to and communicate effectively with others; the self-assertive efficacy module collected information on the ability of pupils to speak up for their rights; the self-regulatory efficacy module focused on the ability to resist negative peer pressures; the youth-community connections on neighbourhood support and activities; the social competences module; and adult-youth connections outside home and school module.

Parental/guardian involvement questionnaire: This questionnaire collected data on parental involvement in the education of boys and girls in the community in terms of provision of resources, checking their homework and follow-up to know how, where and with whom they spend their time. The tool is geared towards investigating whether parents and guardians understand their role in children's education, as well as their awareness of the challenges and barriers towards this.

Literacy test: This tool was used to evaluate pupil's literacy skills by testing them on listening, comprehension, reading, writing and speaking. In addition, the spelling, punctuation, coherence, paragraphing and handwriting skills of pupils were assessed through a composition exercise.

Numeracy test: This tool was used 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.

Parents' focus group discussion guide: This guide was used to elicit discussions around their role and that of the community towards supporting education; the challenges that affect education in the two urban informal settlements; differences in educating and empowering boys and girls in the community; benefits of the intervention to them and their children; and the expectations by parents about the impact of the intervention among pupils' in the community.

Pupils' interview guide: This tool sought to investigate the understanding of pupils on their role and that of their parents and community towards their education; find out education challenges they encounter in their communities; differences in educating and empowering boys and girls in the community; explore benefits and challenges of the intervention; find out their understanding and availability of role models in their communities; and probe their future aspirations.

Community leaders' interview guide: This guide elicited information on community leaders' understanding of their role and that of the community towards promoting education of children; the challenges that affect this education in the two urban informal settlements; and security in the study communities.

Implementers' interview guide: This guide was used to gather information meant for process evaluation such as, session attendance; communication flow; observed intervention benefits; and lessons learned from delivering the intervention.

1.7 Data analysis

Quantitative data analysis: We used a mix of approaches to establish endline impacts of the intervention. Firstly, we conducted descriptive data analyses which involved means, frequencies and percentages. Chi-square tests and T-tests were used to establish whether there were significant differences between the two study sites on the various outcomes of interest. Secondly, given a number of indicators were measured using various items, we tested for internal reliability and reduced the items to a single score using Cronbachs Alpha. Thirdly, we used a difference-in-difference (DID) estimation to establish the crude impact of the intervention. Finally, we conducted an intention to treat analysis by fitting a regression model and controlled for observed baseline imbalances. The covariates controlled for included: baseline scores, type of school, household wealth index, and pupil gender. The results are presented using tables and figures. A detailed description of the approaches used is described in each of the chapters.

Qualitative data analysis: All the qualitative data were tape recorded and transcribed verbatim into MS-Word documents. A coding schema was generated both inductively and deductively (Boyatzis, 1998; Crabtree & Miller, 1999) and fed into NVivo software to make it easier to organize the data. The deductive codes were largely based on the research questions guiding the qualitative study and previous studies. Inductive codes were informed by thematic areas that emerged during coding. A coding report was then generated and used to interpret and summarize the data into various themes according to the research aims and objectives.

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2 Characteristics of Respondents

This section presents the background characteristics of the boys and girls who participated in the study. In particular, the section presents the endline impact of the intervention on progression, homework support, and parental involvement and aspirations. The impacts are assessed by comparing the two study sites – Viwandani as the treatment site and Korogocho as the comparison site. The impacts are reported as crude as well as adjusting for baseline imbalance on wealth index and the learners' gender and age. Where necessary, the midline statistics are presented as well.

2.1 Participants' characteristics

Sample: The baseline sample consisted of 633 study participants – 329 (52%) girls and 304 (48%) boys. In addition, attempts were made to reach eligible girls and boys who had been missed during the baseline, which led to further 53 boys and girls being included at midline. During endline, we were not able to reach to about 33 learners, who in most cases migrated to schools outside the study sites. The final endline sample consisted of 653 out of the 686 that participated in midline, 49.5% of these were boys.

Learner sex and wealth status: Viwandani had a higher number of girls (52.9%) than boys, while in Korogocho the opposite was true, with more boys than girls (51.8%). In terms of wealth distribution, at baseline, 62% of Viwandani participants were classified as least poor compared to about 4% in Korogocho (Table 2). This pattern in wealth distribution did not change between baseline and endline given those that were lost to follow-up were not drawn from a particular gender or wealth status. We however take into consideration the wealth status baseline imbalance during the endline analysis.

Table 2: Participant wealth status

Characteristic		Viwandani	Korogocho	p-value
%		%		
	Poorest	8.75	53.54	0.001
	Middle	29.63	42.15	
Wealth status	Least poor	61.62	4.31	

Type of school: There was a significant reduction in the proportion of learners enrolled in low fee private schools (LFPS) – between the two data points. In Viwandani, the proportion reduced from 50.5% observed at baseline to 39% at endline, while in Korogocho from 71.2% to 61%. Despite the reduction, the proportion utilizing non-state schools remains high given the population under study is poor and at this grade, close to one half do not benefit from the free primary education program. This pattern is consistent with previous evidence in the two informal settlements which showed high school mobility into government schools especially for grades 6, 7 and 8 (Oketch, Mutisya, Ngware,

Ezeh, & Epari, 2010). This is attributed to the fact that many LFPS are not registered as examination centers. It is also important to note that Korogocho had a higher proportion of children enrolled in the low cost schools. While it is not clear why this is the case, Viwandani has two government schools located within it, unlike Korogocho which has only one. However, both sites have several government public schools located within the wider neighbourhood.

School absenteeism: 11% of the learners were absent from school for at least one day in the previous school week preceding the date of interview. This was lower than that observed at both baseline and midline. Absenteeism was lower in Viwandani at 8% compared to Korogocho at 13% through not statistically different. The main reason for absenteeism was sickness/illness in addition to lack of school fees, the latter was more commonly cited in Korogocho than in Viwandani.

2.2 Homework and homework support

One key component of the intervention is after-school support in numeracy and literacy. Following this we examined various aspects of homework. The aspects included whether the learners are provided with homework in English and Math subjects from school, whether they always complete the homework and if they usually receive homework support from household members, including parents and older siblings.

Overall, the number of pupils who reported receiving English and Math homework for at least once in a week was high, at about 95% and this was consistent with the baseline and midline results. Among those receiving homework, we see a growth in the proportion of participants who always completed their homework in both study sites between baseline and midline and a slight decline at endline (Figure 2). The difference in the gains/decline is however not statistically significant. It is worth reiterating that, the added component on leadership was only in Viwandani and not in Korogocho and that after-school support and parental counselling applied to both study sites, and therefore the impact of leadership may not be directly observed through completion of homework.

Figure 2: Proportion of learners reporting to always complete Math and English homework

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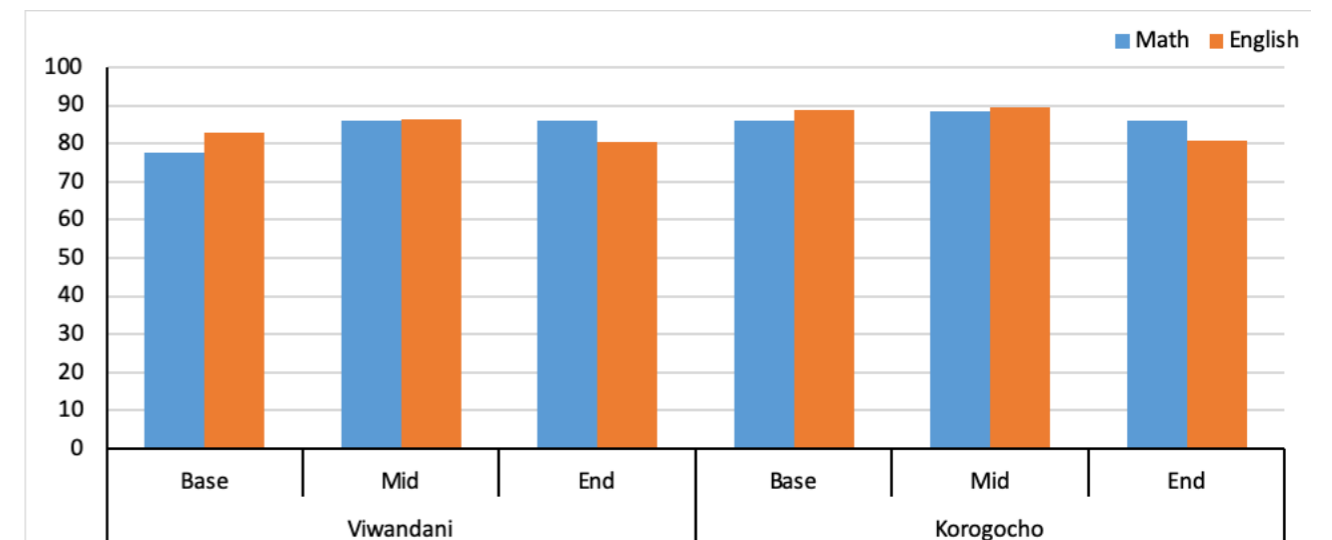
In addition to completing homework, we examined homework support at home. Support in homework can be a crude measure of both parental involvement in children's education as well as leadership on the part of the children. In this regard, the parental counselling component of the intervention was hypothesized to increase parental participation/involvement in their children's learning, while the leadership component was meant to instil aspects of responsibility towards transformative leadership. Homework support was measured indirectly by asking whether the learner is supported in their homework by any household member (Figure 3).

Figure 3: Proportion of learners reporting to have never been supported in their homework at home
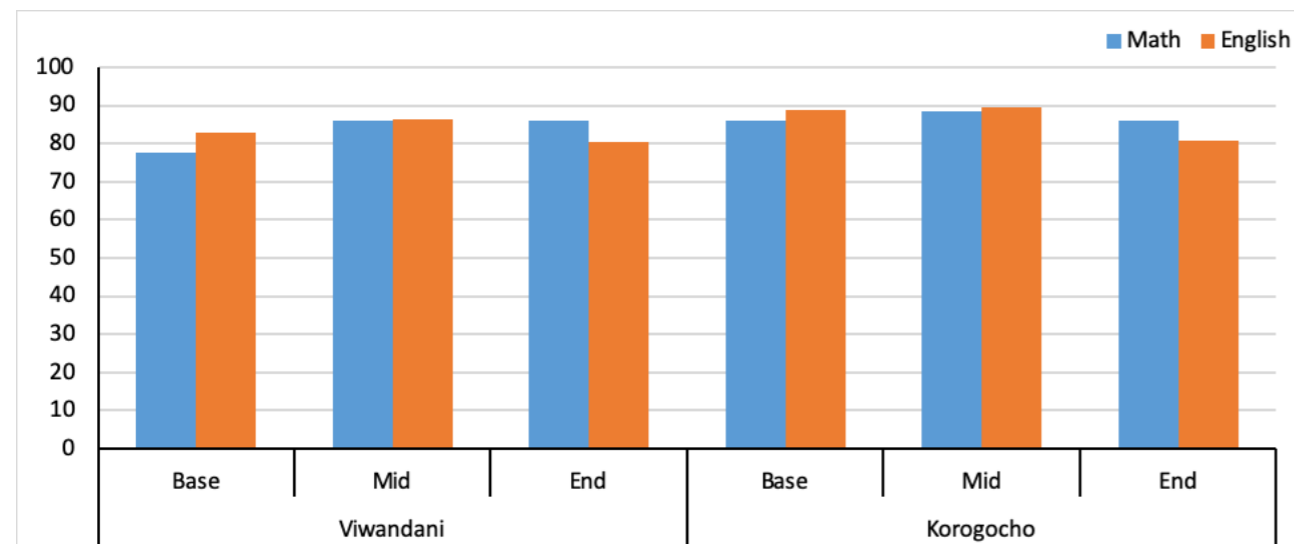
2.3   Parental aspirations

The terms parental aspirations and expectations have been used interchangeably to mean beliefs held by parents on their children's future academic achievement and attainment. The beliefs are subject to the perceived abilities of the child, availability of resources and parental characteristics (Yamamoto & Holloway, 2010). The importance of parental aspiration is premised on well-established research evidence, showing positive association with children's academic achievement and educational attainment (Neuenschwander, Vida, Garrett, & Eccles, 2007).

Table 3: Summary of impacts at both midline and endline

| Outcome area | Midline | | | | Endline | | | |
| | Raw DID | | Adjusted DID* | | Raw DID | | Adjusted DID* | |
	Coef.	P-Value	Coef.	P-Value	Coef.	P-Value	Coef.	P-Value
Grade 6/7 repetition	-3.2	0.212	-3.2	0.21	4.6	0.03	-	-
Always completes Math HW	5.9	0.149	5.8	0.151	4.1	0.353	4.3	0.333
Always completes English HW	3	0.424	3	0.424	1.9	0.667	1.9	0.666
Math HW support	-5.3	0.117	-5.3	0.118	-2.5	0.661	2.3	0.677
English HW support	-4.5	0.167	-4.4	0.171	2.9	0.604	3.1	0.587
Parental Aspiration – Aspire for University education	**25.1**	**0.001**	**25.1**	**0.001**	**21.8**	**0.001**	**21.9**	**0.001**
* adjusted for baseline imbalances on wealth index, learner gender and age; HW=Homework								

Research evidence shows that parental aspiration is a demonstration of parents' positive beliefs in their children's ability, and that it influences parents' actions in supporting their children's education (Boonk, Gijselaers, Ritzen, & Brand-Gruwel, 2018). Following this, we examined parental aspiration in the study context by asking parents to state the highest level of education they would wish their children to achieve. At each of the three time points (baseline, midline and endline), more than 90% of the parents aspired for their children to attain university education. Therefore, we assessed the impact of the intervention at both midline and endline on the aspiration to attain university education. There was a baseline imbalance in that there was a significant difference between the two study sites, with a higher proportion (46%) of parents in Korogocho reporting their aspired highest level to be university. However and despite the difference, we observed a positive effect of 22 percentage point difference in favour of Viwandani, which had an added leadership component. The effect on parental aspiration remains at 22 percentage points at both midline and endline, even after controlling for wealth status, pupil age and gender. The positive impact can be attributed to the leadership component – with parents viewing their learners as promising and probably noticing positive changes during the intervention. Parents therefore became increasingly confident about their children's education achievement.

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3   Effect of A LOT-Change on Pupil Achievement in Numeracy and Literacy

This chapter focuses on the changes in pupil numeracy and literacy scores between baseline and endline. During the design phase of the study, it was deemed unethical to include a pure control group because the intervention components had already been shown to work during the pilot phase. For the purposes of the endline, however, to estimate the impact of the intervention on learning scores, we used a test based on the curriculum for upper grades that was developed during the pilot phase. The control group from the pilot phase (also referred to as the "T0" group) is compared with the two treatment groups of interest: the Korogocho group, or T1, and the Viwandani group, or T2. It is worth noting that T0 involves data collected from the pilot phase of the study from girls in the control groups in both Korogocho and Viwandani. In other words the combined Korogocho + Viwandani (T0) data is drawn from an independent sample of girls from the pilot study (Abuya et al., 2015).

The results presented in this chapter were derived from English literacy and numeracy tests that were adapted from those used by Abuya et al. (2015) in the pilot study, which focused on how schooling outcomes among teenage girls in Korogocho and Viwandani could be improved by giving afterschool homework support to the girls and encouraging parental involvement in girls' education. The pilot study tests were developed from the official upper primary school (grades 6 to 8) curriculum in Kenya.

The numeracy and literacy tests used in this study had 44 and 63 items, respectively. The numeracy items covered three specific content areas (numbers, measurement, and space/data) and four Bloom's taxonomy cognitive domains (knowledge, comprehension, application, and analysis), while the literacy items covered three specific content areas (reading, speaking and listening) as well as the same four cognitive domains covered by the numeracy items. The reliability indices of the two tests (0.96 and 0.88 for numeracy and literacy tests, respectively) were found to be well within the acceptable range.

During the GEC pilot study, the tests used in this study were analyzed using Rasch measurement techniques and the test scores for each subject were transformed into a scale with a mean of 400 and a standard deviation of 100. Moreover, for each test, the item parameters were anchored in order to estimate pupil scores in the various specific subject content areas and Bloom's cognitive domains. This means that valid comparisons in pupil achievement can be made across subject content areas and cognitive domains. For each subject, the same test was used between baseline and endline – meaning that valid comparisons in pupil achievement can be made across data collection rounds and samples.

Results presented in this chapter cover pupils' scores on the overall numeracy and literacy tests as well as pupils' scores on specific subject content areas. For numeracy, results are also presented

by the Bloom's cognitive domains. However, cognitive domains for literacy are not included in the analysis because the items in the literacy test were not mutually exclusive and they could fall in more than one cognitive domain – meaning that the same item could, for example, fall in comprehension and application cognitive domains (Abuya et al., 2015). This is the same approach employed during the midline study.

For each subject, comparisons in this chapter are made across the two intervention packages or treatments (T1 in Korogocho versus T2 in Viwandani); between each treatment group (T1 or T2) and the control group drawn from the pilot study by Abuya et al. (2015); between boys and girls; and across three household wealth categories (poorest or bottom 25% versus middle 50% versus least poor or top 25%).

3.1   Changes in pupil numeracy and literacy scores

The mean baseline and endline pupil numeracy and literacy scores by intervention method are displayed in Table 4, together with the standard errors (SE) associated with the mean scores. Also displayed in this table are the mean changes in scores between baseline and endline for the pupils in each of the two treatment (T1 and T2) groups and control (T0) group. Of main interest in assessing the effects of the intervention packages in this study are the differences in the mean changes in pupil scores across treatment and control groups, which are displayed in the shaded cells in Table 3.1. A single asterisk (*) and two asterisks (**) are used in this table to flag the statistically significant change in differences at 10% and 5% significance levels, respectively.

Table 4: Mean scores for numeracy and literacy by treatment

(a) Numeracy									
	Korogocho		**Viwandani**		**Control**		**Mean Difference**		
	Mean (T1)	SE	Mean (T2)	SE	Mean (T0)	SE	T2-T1	T1-T0	T2-T0
Baseline (B)	333.0	3.8	320.2	4.3	347.6	3.6	-12.8	-14.6	-27.4
Endline (E)	456.8	8.0	487.0	7.9	437.7	5.5	30.2	19.1	49.3
Change (E-B)	**123.8**	8.9	**166.8**	9.0	**90.2**	6.6	**43.0****	**33.6****	**76.6****
b) Literacy									
	Korogocho		**Viwandani**		**Control**		**Mean Difference**		
	Mean (T1)	SE	Mean (T2)	SE	Mean (Co)	SE	T2-T1	T1-T0	T2-T0
Baseline (B)	327.9	6.9	334.1	7.1	363.7	6.4	6.2	-35.8	-29.6
Endline (E)	464.2	6.3	487.0	6.8	427.3	6.4	22.8	36.9	59.7
Change (E-B)	**136.3**	9.3	**153.0**	9.8	**63.6**	9.1	**16.7**	**72.7****	**89.4****

Note: *Significant at 10% significance level; **Significant at 5% significance level or less.

For numeracy, the results indicate that the difference in the mean changes in performance of pupils (to be referred to as "double difference" or DD) in the two treatments groups was positive (43.0) and that this DD was statistically significant at the 5% level. This implies that the impact of the second treatment (the one including a leadership component) on pupil numeracy scores was significantly higher than the impact of the first treatment. The results further shows that the DD between T1 and T0 groups (33.6) and that between T2 and T0 groups (76.6) were both positive and significant at 5% level. This means that both intervention packages were helpful in accelerating pupil numeracy achievement; and more so the second intervention package which included a leadership component.

For literacy, results show that the mean gain in literacy achievement among the pupils in the T2 group was higher than the corresponding gain among pupils in the T1 group (16.7) but this gain was not of any statistical significance. This implies that the effects of the two intervention packages on pupil literacy scores were roughly the same. That is, with respect to gains in literacy achievement, it did not matter much which intervention package the pupil received. Results further show that the gains in literacy achievement among the pupils receiving the T1 package (72.7) or receiving the T2 package (89.4) were significantly (at 5% significance level) higher when compared to the corresponding gain recorded among girls from the GEC pilot study control group. This is interpreted to mean that both intervention packages were clearly useful in accelerating pupil literacy achievement beyond what was accomplished by the pilot study – which is consistent with the numeracy results.

3.2   Changes in pupil scores by content and cognitive domains

Table 5 and Table 6 show the results for numeracy content and cognitive domains respectively, while Table 7 show the results for literacy content domains.

For all three numeracy content domains, the results in Table 5 show that, in terms of gains in achievement, there were clear advantages associated with being in the second treatment group over the first treatment group and also over the control group. In addition, there were clear advantages associated with being in the first treatment group over being in the control group especially for content domains of number and measurement where the results were significant at the 5% significance level. Likewise, for the four numeracy cognitive domains considered (i.e. knowledge, comprehension, application and analysis) there were obvious merits (in terms of approved learning achievement) associated with being in the group involving the leadership component (T2) when compared to being in either the first treatment group or the control group (Table 6). To a large extent, there were also benefits associated with receiving the first treatment package when compared to not receiving any intervention at all, especially for comprehension and analysis where the results were statistically significant at the 5% level.

For all three literacy content domains considered (i.e. reading, speaking and listening), the results in Table 3.4 indicate that the DIDs between T1 and T2 groups were not of any statistical significance. This means that, in terms of gains in learning achievement, receiving the intervention package involving the leadership component (T2) was of no clear advantage in improvement of any of the three literacy content domains scores considered – which is consistent with the results observed earlier analyzing overall literacy scores (Table 7). However, for all the three literacy content domains, results show that there were clear benefits associated with receiving any of the two treatment packages over not receiving any treatment package at all, like in the control group.

Table 5: Mean scores for numeracy content areas by treatment

a) Number

	Korogocho		Viwandani		Control		Mean Difference		
	Mean (T1)	SE	Mean (T2)	SE	Mean (Co)	SE	T2-T1	T1-T0	T2-T0
Baseline (B)	330.3	4.9	332.7	5.3	338.3	4.9	2.4	-8.0	-5.6
Endline (E)	465.2	8.4	500.2	8.0	438.4	6.7	35.0	26.8	61.8
Change (E-B)	**134.9**	**9.7**	**167.5**	**9.6**	**100.1**	**8.3**	**32.6****	**34.8****	**67.4****

b) Measurement

	Korogocho		Viwandani		Control		Mean Difference		
	Mean (T1)	SE	Mean (T2)	SE	Mean (Co)	SE	T2-T1	T1-T0	T2-T0
Baseline (B)	349.0	5.4	329.6	5.5	359.9	4.6	-19.4	-10.9	-30.3
Endline (E)	467.4	8.6	482.0	8.6	440.0	6.2	14.6	27.4	42.0
Change (E-B)	**118.4**	**10.1**	**152.4**	**10.2**	**80.2**	**7.7**	**34.0****	**38.2****	**72.2****

c) Space & Data

	Korogocho		Viwandani		Control		Mean Difference		
	Mean (T1)	SE	Mean (T2)	SE	Mean (Co)	SE	T2-T1	T1-T0	T2-T0
Baseline (B)	314.7	5.8	279.7	6.3	351.1	5.5	-35.0	-36.4	-71.4
Endline (E)	412.7	9.4	450.5	8.7	429.0	7.1	37.8	-16.3	21.5
Change (E-B)	**98.0**	**11.1**	**170.9**	**10.7**	**77.8**	**8.9**	**72.9****	**20.2**	**93.1****

Note: *Significant at 10% significance level; **Significant at 5% significance level or less.

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Table 6: Mean scores for numeracy cognitive areas by treatment

a) Knowledge

	Korogocho		Viwandani		Control		Mean Difference		
	Mean (T1)	SE	Mean (T2)	SE	Mean (Co)	SE	T2-T1	T1-T0	T2-T0
Baseline (B)	337.2	6.0	328.7	5.7	350.1	6.1	-8.5	-12.9	-21.4
Midterm (E)	435.7	7.6	462.7	6.6	426.9	6.0	27.0	8.8	35.8
Change (E-B)	**98.5**	**9.7**	**134.0**	**8.7**	**76.9**	**8.6**	**35.5****	**21.6***	**57.1****

b) Comprehension

	Korogocho		Viwandani		Control		Mean Difference		
	Mean (T1)	SE	Mean (T2)	SE	Mean (Co)	SE	T2-T1	T1-T0	T2-T0
Baseline (B)	323.1	5.1	324.8	5.1	340.9	4.8	1.7	-17.8	-16.1
Endline (E)	465.8	8.1	491.4	8.2	440.1	5.9	25.6	25.7	51.3
Change (E-B)	**142.6**	**9.6**	**166.6**	**9.6**	**99.2**	**7.7**	**24.0***	**43.4****	**67.4****

c) Application

	Korogocho		Viwandani		Control		Mean Difference		
	Mean (T1)	SE	Mean (T2)	SE	Mean (Co)	SE	T2-T1	T1-T0	T2-T0
Baseline (B)	348.7	4.6	321.0	4.5	349.1	4.2	-27.7	-0.4	-28.1
Endline (E)	452.3	8.6	485.4	8.2	441.9	6.3	33.1	10.4	43.5
Change (E-B)	**103.5**	**9.7**	**164.4**	**9.4**	**92.8**	**7.6**	**60.9****	**10.7**	**71.6****

d) Analysis

	Korogocho		Viwandani		Control		Mean Difference		
	Mean (T1)	SE	Mean (T2)	SE	Mean (Co)	SE	T2-T1	T1-T0	T2-T0
Baseline (B)	337.5	6.3	325.7	6.2	376.2	6.5	-11.8	-38.7	-50.5
Endline (E)	430.9	8.4	456.4	7.6	424.5	6.7	25.5	6.4	31.9
Change (E-B)	**93.5**	**10.4**	**130.7**	**9.8**	**48.4**	**9.3**	**37.2****	**45.1****	**82.3****

Note: *Significant at 10% significance level; **Significant at 5% significance level or less.

Table 7: Mean scores for literacy content areas by treatment

a) Reading

	Korogocho		Viwandani		Control		Mean Difference		
	Mean (T1)	SE	Mean (T2)	SE	Mean (Co)	SE	T2-T1	T1-T0	T2-T0
Baseline (B)	329.8	7.0	334.1	7.2	358.2	6.6	4.3	-28.4	-24.1
Endline (E)	464.3	6.7	486.9	6.9	431.8	6.6	22.6	32.5	55.1
Change (E-B)	**134.5**	**9.7**	**152.7**	**10.0**	**73.5**	**9.3**	**18.2**	**61.0****	**79.2****

b) Speaking

	Korogocho		Viwandani		Control		Mean Difference		
	Mean (T1)	SE	Mean (T2)	SE	Mean (Co)	SE	T2-T1	T1-T0	T2-T0
Baseline (B)	293.8	8.3	324.1	8.6	370.9	7.0	30.3	-77.1	-46.8
Endline (E)	412.8	6.1	418.7	6.6	399.4	6.3	5.9	13.4	19.3
Change (E-B)	**119.0**	**10.3**	**94.6**	**10.8**	**28.5**	**9.4**	**-24.4**	**90.5****	**66.1****

c) Listening

	Korogocho		Viwandani		Control		Mean Difference		
	Mean (T1)	SE	Mean (T2)	SE	Mean (Co)	SE	T2-T1	T1-T0	T2-T0
Baseline (B)	352.7	7.3	345.0	6.6	379.2	6.6	-7.7	-26.5	-34.2
Endline (E)	460.3	6.4	468.8	6.8	381.0	7.5	8.5	79.3	87.8
Change (E-B)	**107.6**	**9.7**	**123.9**	**9.5**	**1.8**	**10.0**	**16.3**	**105.8****	**122.1****

Note: *Significant at 10% significance level; **Significant at 5% significance level or less.

3.3 Changes in pupil scores by pupil sex, age and household wealth

Figure 5, Figure 6 and Figure 7 depict the impact of the two combined packages on numeracy and literacy performance by pupil sex, pupil age (captured at baseline) and pupil household wealth. It is worth noting that the expected grade 6 pupil age at the time the baseline data were collected was around 12-13 years, meaning that pupils below 12 years of age were younger for the grade and those above 13 years of age were older for the grade.

In general, when the data of the two sites were combined (i.e. T1 and T2 data combined), the packages were seen to have more impact among boys than girls especially for numeracy (Figure 4). On the other hand, for numeracy, the packages were seen to have more impact among pupils who were within the expected age for the grade (12-13 years) or those who were younger for the grade (<12 years) than among pupils who were older for the grade (>13 years). However, the impact of the packages on literacy scores did not vary much by age (Figure 5). In terms of household wealth categories, results show that the impact was more pronounced among pupils from the upper 25%

household wealth category (least poor) than among those from the bottom 25% wealth category (poorest).
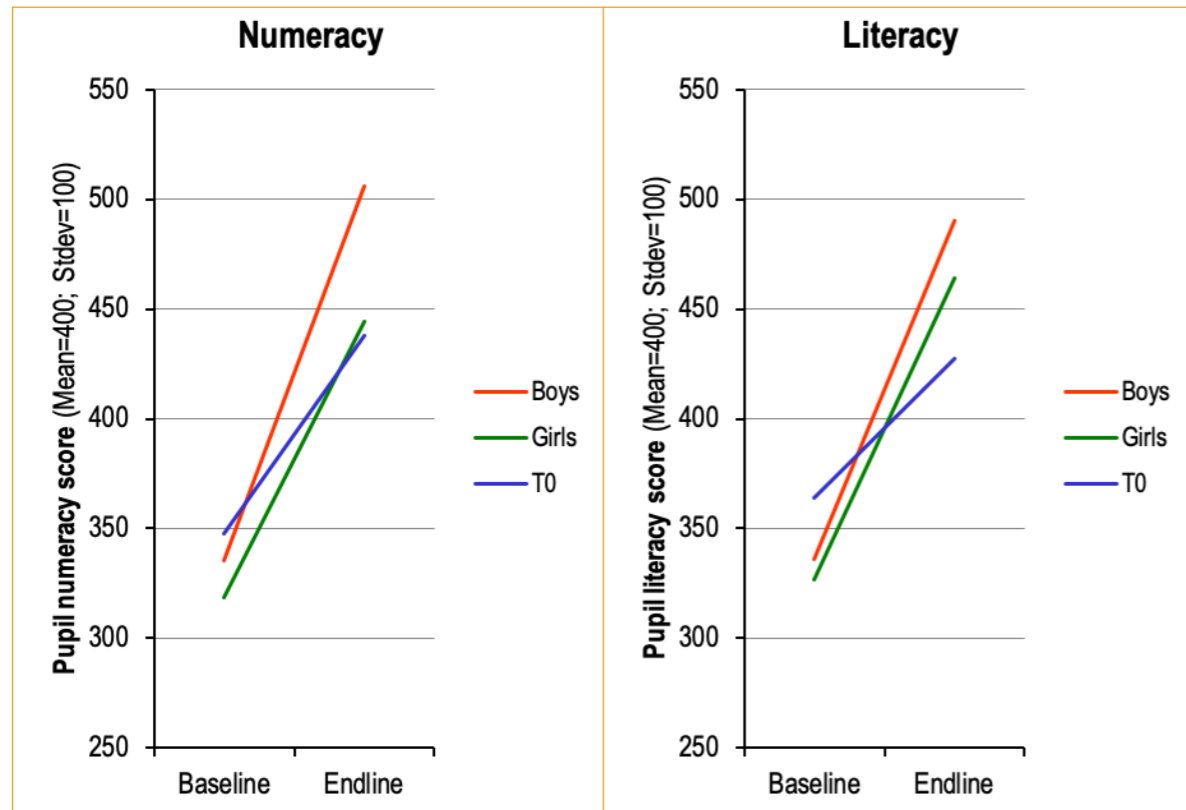

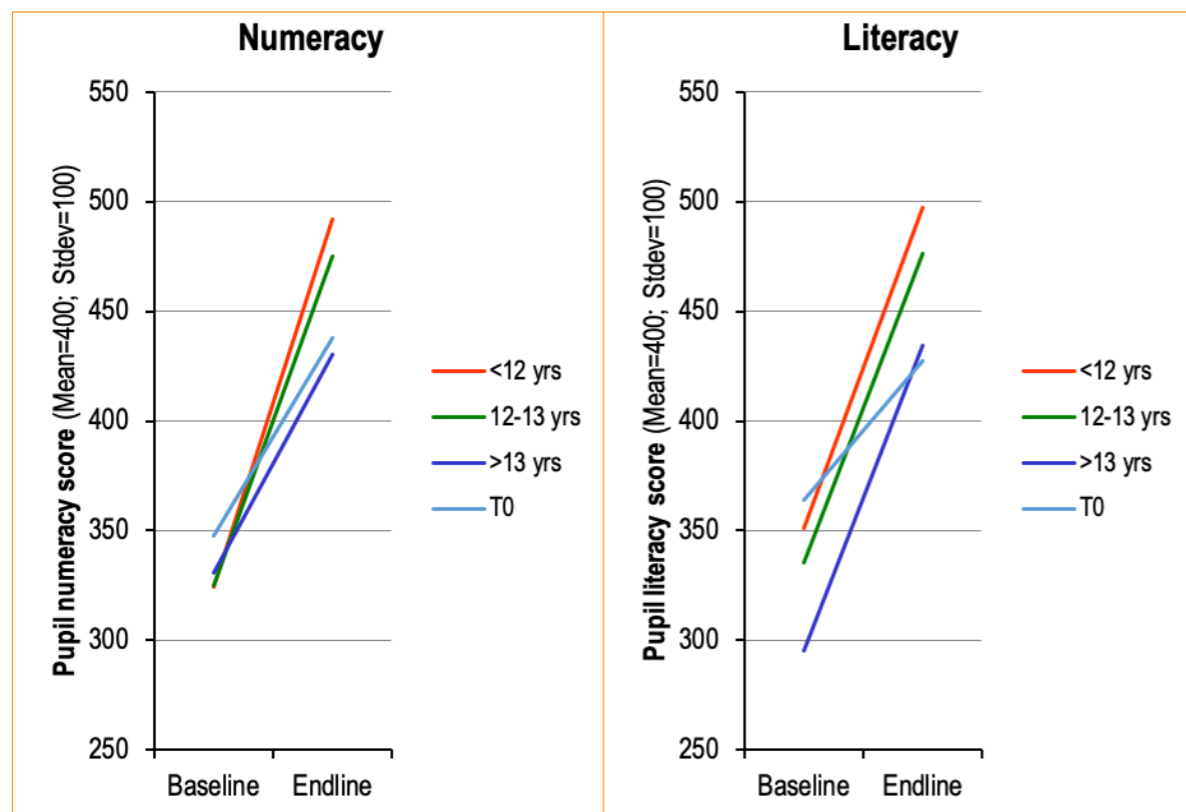Figure 4: The impact of the intervention by pupil sex

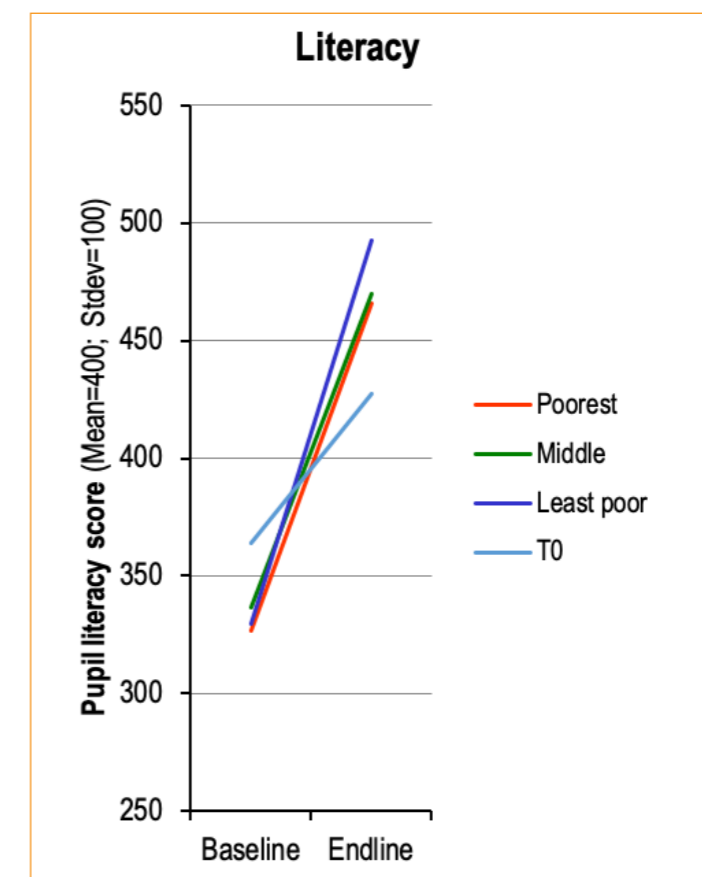Figure 5: The impact of the intervention by pupil age at baseline
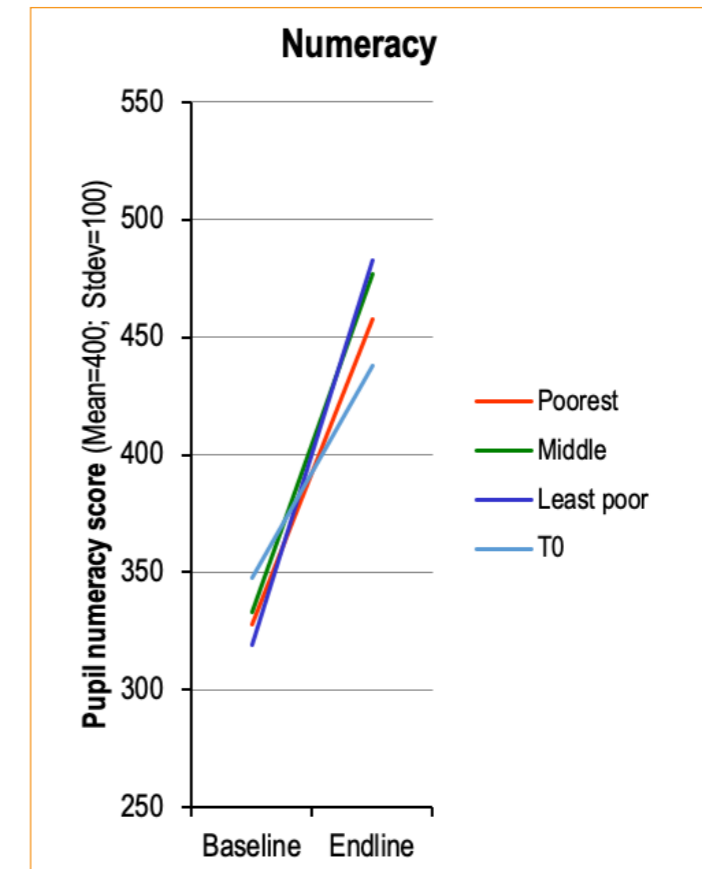

Figure 6: The impact of the intervention by pupil household wealth

4   Pupil Behavior and Life Skills Component

This chapter presents the changes in the pupil behavior and life skills components between baseline and endline, as well as between the Korogocho and Viwandani study sites. Specifically, the chapter presents data on educational goals and aspirations of pupils participating in the study, their perceptions on schooling and its environment, parental involvement, self-confidence and engagement in sexual activities. The intervention package in one study site consisted of a leadership component that in ways was related to values and life skills. The latter was exposed to pupils in both sites, while the leadership component was exposed to pupils in one site (Viwandani). We anticipate that combined efforts to provide values and life skills along with the leadership component could potentially produce better results. Therefore, while Viwandani is the treatment arm, since both sites received life skills training and support, we can potentially attribute any observed differences between the two sites to the impact of the intervention.

We measured some of the life skills components using a set of items (attributes) which attracted Likert responses. Thereafter, a latent score, measuring the construct of interest was computed using the Cronbach's approach. This approach helped assess whether the items were measuring the same construct and in the computing of individual averages. Computing the average score enables easy mapping back to the original Likert scale response continuum.

4.1   Educational goals and future aspirations

Educational goals and future aspirations of pupils in Viwandani and Korogocho were captured using 11 attributes (Abuya et al., 2015). The attributes assessed pupils' aspirations to pursue and complete various levels of formal education and future well-being. The items attracted three responses of 1=Low, 2=Middle (50-50), and 3=High. The lowest possible score was 1 while the highest possible was 3. An average score per person was calculated using the Cronbach's Alpha. The reliability of the 11 items was 0.73 indicating high inter-item correlation. Similar to baseline, at the endline, educational goals and future aspirations were high in both study sites with an average of 2.86, which translates to high aspiration. We observe a positive impact of the intervention on education goals and aspirations with a DID of 0.104. The impact was larger and statistically significant among girls. (DID of 0.145). This is illustrated in Table 8.

4.2   Self-confidence and peer influence

We assessed self-confidence using a set of items that sought to find out how pupils felt about themselves, how they felt about their peers and the extent to which they encouraged and influenced positive behavior among their peers. The pupils rated themselves using a Likert-type scale ranging from 1 (strongly agree) to 5 (strongly disagree) or 1 (always) to 4 (never) on five items. A composite score on the five items was computed using Cronbach's alpha. The inter-item reliability was 0.7,

which equates to high reliability. Just like midline and despite the overall self-confidence being lower at endline compared to baseline in both sites, we observe a significant impact (DID of 0.306) of the intervention on self-confidence in Viwandani compared to Korogocho at the endline. The impact of the intervention on self-confidence persists even after stratifying by gender which shows that the intervention had an equal impact among boys (DID of 0.316) and girls (DID of 0.301).

4.3   Parental involvement and monitoring

The parental involvement and monitoring aspects were assessed in two ways. In the first, pupils were asked to indicate their living arrangements. At both baseline and endline, 99% of the pupils, with no significant effect across sexes or sites reported staying with their parents. In the second, parental monitoring among those living with their parents was assessed using nine attributes (Abuya et al., 2015), which captured the pupils' perception on their parents knowledge on where and who they spend time with, what they do during free time and the type of TV programs they watch. The responses were coded as either *"never knows (1)", "sometimes knows (2)"* or *"usually knows (3)"*. A composite score on parental monitoring was generated from the nine items using Cronbach's alpha. The inter-item reliability was 0.83 (high reliability). There was improved parental monitoring in Viwandani at endline (average of 2.59 out of a possible 3) as compared to baseline (average of 2.57 out of a possible 3) with the impact being significant among girls (DID of 0.106).

4.4   Delinquent behavior

Delinquency is conduct that is not in sync with socially acceptable behavior. Children living in informal settlements are exposed to vulnerabilities that predispose them to delinquent behavior. These vulnerabilities may include and are not limited to poverty, negative peer influence and lack of role models. Delinquent behavior has been demonstrated to influence education underachievement and attainment. For instance, a recent study by Hoffmann (2018) showed a negative association between delinquent behavior and children's schooling attainment and achievement in the US. Part of the life skills mentoring was imparting knowledge on how the pupils can navigate through the challenges that can easily lead to delinquency. Delinquency was assessed by asking the pupils to respond to a set of items that principally focused on their behavior while in school or at home. In particular, the pupils responded to seven questions on whether they had engaged in different kinds of delinquent behavior in the past four months. The questions measured the number of times respondents engaged in delinquent behavior on a five-point scale which ranged from 1 (never) to 5 (six or more times).

A combined score on delinquent behavior was developed from the seven items using Cronbach's alpha. The inter-item reliability among the questions was 0.5, which indicates good reliability. In both sites at baseline, majority (ranges between 96 % and 100%) of the pupils reported that they had never stayed away from home without parental permission, had never carried a weapon for self-

defence, had never hit or threatened to hit an adult, and had never used, sold or delivered drugs or alcohol. At the endline, the delinquent behavior scores remained stable (above 4.5) for both sites. The very high scores indicate carry-over of a ceiling effect for both baseline and endline, which then gives no room to the intervention to have an effect on pupil behavior although it may have contributed to the stability in positive behavior between the two periods. We observe no significant impact of the intervention in reducing delinquent behavior overall at the endline (DID of -0.035). However, the intervention has a greater impact in reducing delinquent behavior among boys (DID of -0.098) in Viwandani than in Korogocho.

4.5   Perceptions on schooling and teachers

Perceptions on the individual's own schooling were assessed using four attributes, with a Likert-type scale ranging from 1 (strongly agree) to 3 (disagree). Pupils were asked to rate how much they liked school, how well they got along with their teachers, whether they tried their best in school and if doing well in school was important for their future. An average score was computed using Cronbach's alpha from the four items (Table 10).

Overall, pupils' perceptions on schooling and effort are slightly higher in both study sites at the endline than baseline. We however, do not observe a significant impact on the intervention at endline overall and by gender. This is anticipated given the high perception scores observed at baseline, indicating a ceiling effect which gave little room for the intervention to have an observable effect at the endline.

4.6   Perception on schooling environment

Schooling environment has been documented as a key driver for academic success (Edgerton, McKechnie, & McEwen, 2011; Wang & Holcombe, 2010), with pupils who perceive the school environment as being favourable demonstrating better academic achievement. In this study, we, therefore, examined how pupils perceived their schooling environment using nine related attributes including gauging enforcement of discipline in their schools, harassment in school by a teacher or fellow pupils, and pupil-teacher interactions (Abuya et al., 2015). These items were rated using a Likert-type scale ranging from 1 (strongly agree) to 5 (strongly disagree) which corresponded to 1 (better school environment) to 5 (worse school environment). Similar to the baseline, at the endline, pupils in both study sites reported having a positive perception of their school environments (overall score of 4.8 and 4.9 out of a possible 5 at baseline and endline respectively). Despite this, we note higher gains in the scores for Viwandani than Korogocho between the two-time points. However, these gains are not significant overall or by gender as illustrated in Table 11.

4.7   Perception about their peers' behavior in school

Peer behavior is a known determinant of adolescents behavior (Tomé, de Matos, Simões, Camacho, & AlvesDiniz, 2012). Indeed, adolescents who associate with peers exhibiting deviant behavior are likely to adapt the same and perform poorly academically. Positive peer behavior reinforces adolescents' behavior and is associated with improved learning outcomes. One of the main areas of the intervention was life skills, which included providing information to the participants on how to avoid peer pressure and the benefits of dedicating their time to schooling. We, therefore, capture the extent to which the pupils are exposed to instances of peer pressure. We do so by asking the pupils to rate how many of their peers were involved in positive and negative behaviors. The behaviors broadly included items on performing well in school and pursuing higher education, and how often their peers engaged in behaviours that would possibly hinder achievement of their academic goals (Abuya et al., 2015). The former items were reversed so that they were in the same direction as the latter. The scores generated from the items per individual ranged from 1 (worse peer perception) to 4 (better peer perception).

At both baseline and endline, pupils perceived their peers as putting effort to perform well in school and attain higher levels of education, with averages of 3.4 and 3.44 respectively. They also perceived their peers as not engaging in deviant behaviours that would hinder the achievement of such goals. Though not significant, perceptions of the pupils about peer behaviors improved at the endline in both Viwandani and Korogocho. There were no significant differences in perception by gender.

4.8   Sexual activity and puberty

The teenage and adolescents periods are not only characterized by physiological changes but also by hormonal changes (Kar, Choudhury, & Singh, 2015). Sexuality and puberty are closely related. During the adolescent period, puberty is at its peak, and is associated with production of hormones that lead to sexual development and with time, maturity (National Research Council Institute of Medicine Forum on Adolescence, 1999). There are other factors associated with sexuality and puberty including but not limited to culture, environment, and social factors (Kar et al., 2015). Moreover, it is important to note that biological factors prominently feature with girls entering into puberty much earlier than boys do. Due to hormonal changes, the urge to engage in sexual activities during adolescence increases, predisposing the boys and girls to higher risk (Pringle et al., 2017). In this study, we sought to understand the pupils' involvement in sexual activities, which included engaging in sex, or activities that could lead to sex such as deep kissing and fondling as well as awareness, perceptions on the consequences of sex as well as perceptions on support.

In both sites, sexual activity at baseline and at endline remained low and stable. Pupils were presented with nine likely consequences of engaging in early sex and asked to respond to either 'yes' or 'no', on whether those consequences were likely to occur or not (Abuya et al., 2015). Their responses on awareness and consequences were broadly grouped into either physiological or others (Table 8).

Physiological consequences of early sex including pregnancy, HIV/AIDS and STIs were cited as the likely outcomes of early sexual activity by more than 90% of the pupils in both sites at both baseline and endline indicating a baseline ceiling effect on the level of awareness and stability between the two periods.

Table 8: Perceptions on the consequences of sexual activity

	Baseline (%)			Endline (%)		
	Korogocho	Viwandani	Total	Korogocho	Viwandani	Total
Physiological consequences						
Get pregnant/impregnate	95.3	94.7	95.0	99.0	97.4	97.9
Can get HIV/AIDS	97.8	94.7	96.4	99.3	98.9	98.8
Can be infected with STI	86.0	91.5	88.6	99.3	98.1	98.7
Other consequences						
Can drop out of school	77.0	79.4	78.2	84.3	76.0	80.5
Will become popular	43.5	57.5	50.0	50.8	56.6	53.2
Will become liked	14.3	31.6	22.4	30.8	20.2	25.5
Will be shunned by family	48.5	51.4	49.8	44.8	50.9	46.9
Will be shunned by friends	69.6	62.8	66.4	54.5	65.9	60.1
Will be left by a lover	62.1	56.4	59.4	58.5	69.7	63.6

Other notable consequences of early sexual activities include the possibility of dropping out of school, being shunned by friends and being left by the perceived lover. The perception on the consequences of early sexual activities to an extent also captured the knowledge of the boys and girls on popular myths such as becoming popular or being liked by friends. One in every two agreed that by engaging in sexual activities they would become popular amongst their friends – this proportion did not differ between baseline and endline. However, at both time points, Viwandani had more boys and girls reporting that they would become popular among their friends than in Korogocho. This belief in the idea that one becomes popular could expose the boys and girls to a higher risk of early sexual intercourse. While the intervention attempted to demystify such beliefs, they remained common among the participants. In contrast, the proportion of pupils who thought they would be liked for engaging in sexual activities significantly decreased in Viwandani to a greater extent than in Korogocho, between baseline and endline. Indeed, the difference-in-difference of 27% is also statically significant.

Empowering boys and girls to delay sexual activities is important given the sexual urges or interests that come with age and hormonal developments as well as peer pressure (Pringle et al., 2017). Both boys and girls need to be empowered to express themselves and build confidence that they can delay engaging in sexual activities. The intervention reinforced these aspects during program implementation. Following this, we explored the intrinsic convictions of delaying sexual activities (Table 8).

Table 9: Delay of sexual intercourse

	Baseline			Endline		
	Korogocho	Viwandani	Total	Korogocho	Viwandani	Total
Knows how to say no to sex	76.4	75.5	76.0	92.3	94.0	93.4
Knows how to decline sex without losing a friend	47.2	46.1	46.7	74.3	78.7	77.5
Will lose a friend if you don't have sex	14.0	26.6	19.9	21.1	28.5	25.3
Has no plan of engaging in sex while still in school	92.9	87.6	90.4	96.3	97.8	97.3
Will wait till marriage	89.4	89.0	89.2	90.6	94.8	92.7
No boyfriend/girlfriend at the moment	97.2	87.6	92.7	96.0	77.9	87.5
Don't want to impregnate/ be impregnated	97.8	94.7	96.4	98.7	97.4	98.2
Don't want to get STI infection	85.1	94.0	89.2	99.3	99.3	99.4

Generally, perceptions in both sites with regards to the delay of sexual intercourse improved from baseline to endline. At endline, about 93% of the pupils reported they are aware, that they can abstain and can say no to any sexual urges or advances, up from 76% in the baseline. Further, by endline, 77% of the pupils agreed that they can decline sex without losing friends. We, however, see a contrast in the item on losing a friend if they do not have sex – with an increase of 5% from 20% observed at baseline. The increase was mainly driven by Viwandani (15% increase) while our expectation was to see a decrease. At least 8 in every 10 pupils indicated that they would delay sexual intercourse until marriage and that they had no plans of engaging in sex while still in school. The delay in sexual intercourse may have been motivated by the need to avoid sexually transmitted infections as well as early pregnancy given the high correlations between the two. An aspect of puberty is building relations with the opposite sex, and we observe an increase in the proportion of pupils reporting to have a boyfriend or a girlfriend, significantly more pupils in Viwandani reported having boy/girlfriends than in Korogocho.

Guidance and support during puberty are important over the teenage years in order to facilitate young people's understanding of their bodies as well as the biological changes occurring and how to deal with these changes. The same period may be characterized by introversion, with both boys and girls being unready to discuss pubertal matters or having preferences about whom they can confide in. In this study, the pupils were asked to identify whom they felt they could comfortably discuss sexuality and puberty issues. Results are outlined in Figure 4.1. Although there was a slight drop from baseline compared to endline (46% to 43%), parents still topped the list of people that pupils felt most comfortable with in discussing puberty and sexuality issues. Differences by gender

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at endline were similar to baseline, with more girls (59%) reporting ease in discussions of sexuality and puberty issues with their parents compared to boys (25%). There was a significant reduction in the percentage of pupils who felt comfortable with discuss sexuality issues with their teachers - 26% at baseline to 18% at endline. This reduction was more pronounced among girls – from 23% at baseline to 12% at endline – than among boys. The number of pupils who felt comfortable discussing sexuality and puberty with their fellow pupils increased significantly from 8% at baseline to about 20% at endline. This could be attributed to the fact that the life skills sessions gave the pupils a platform to discuss among themselves. The increase was however larger among boys than girls i.e. from 12% to 27% between baseline and endline.
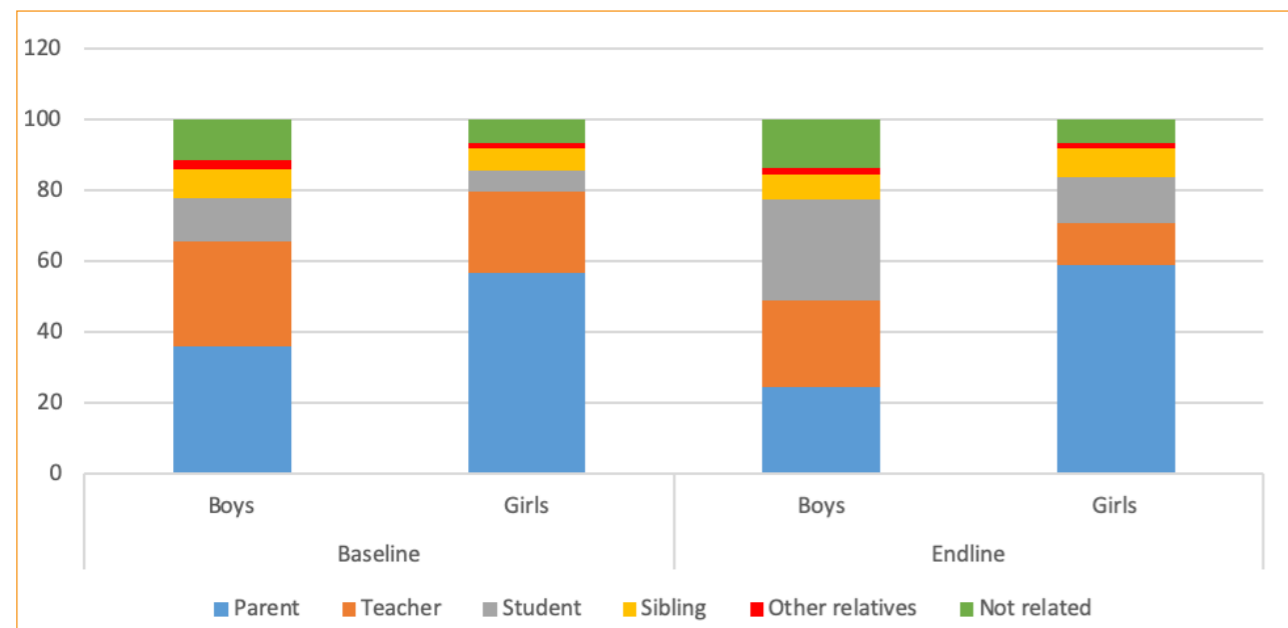

Figure 7: Preferences of discussion on puberty and sexuality

Overall, the essential role of parents in discussing puberty and sexuality information continued to be a clear demonstration of the importance of parental interventions that equip parents with the right information and attitudes about adolescent reproductive health and sexuality. The parenting component of the intervention may also have contributed to the more or less stable preference for discussion with parents, as parents gained better parenting skills. There was a greater preference for having discussions on puberty and sexuality earlier (below 14 years of age).

Table 10: Summary of endline effect of the intervention on pupil behaviors and life skills

	Baseline					Endline					DID		
	n	Overall	Max score	Koch	Viwa	n	Overall	Max score	Koch	Viwa	Overall	Boys	Girls
Educational goals and future aspirations	601	2.84 (0.23)	3.00	2.874	2.805	671	2.86 (0.18)	3.00	2.830	2.865	0.104***	0.057	0.145***
Self confidence	601	2.78 (0.62)	4.00	2.973	2.568	671	2.28 (0.65)	4.00	2.343	2.244	0.306***	0.316***	0.301***
Parental monitoring	599	2.53 (0.41)	3.00	2.503	2.570	670	2.54 (0.42)	3.00	2.498	2.592	0.026	-0.046	0.106*
Delinquent behavior	600	4.87 (0.23)	5.00	4.841	4.909	671	4.88 (0.22)	5.00	4.857	4.890	-0.035	-0.098**	0.026
Perceptions on schooling and teachers	596	4.85 (0.38)	5.00	4.885	4.805	671	4.92 (0.27)	5.00	4.921	4.886	0.044	0.073	0.015
Perceptions on schooling and environment	596	4.05 (0.65)	5.00	4.118	3.968	671	4.21 (0.58)	5.00	4.237	4.128	0.041	-0.048	0.13
Perceptions about peers behaviors in school	600	3.40 (0.24)	4.00	3.377	3.405	671	3.44 (0.25)	4.00	3.438	3.455	-0.011	0.024	-0.041

Notes: Standard deviations presented in brackets; Statistical significance at *p<0.1; **p<0.05; ***p<0.01;Viwa=Viwandani Koch=Korogocho

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5 Leadership Skills Component

In the context of the A LOT-Change project, we consider youth leadership as part of the development process that prepares young people to meet the challenges of adolescence and adulthood so that they achieve their full potential. Youth leadership helps young people to "develop the ability to analyze their own strengths and weaknesses, set personal and professional goals, and have the self-esteem, confidence, motivation, and abilities to carry them out" (Wehmeyer, Agran, & Hughes, 1998). In addition, young people are able to develop as leaders when caring adults give them meaningful feedback and build their self-confidence (Kahn, Hewes, & Ali).

We measured the levels of perceived development of leadership skills from learners' responses on the leadership questionnaire. The leadership questionnaire has 39 items grouped under six sub-scales:

1. **Social self-efficacy** refers to the capability of an individual to respond proficiently during interpersonal circumstances;
2. **Self-assertive efficacy** is the ability to speak up for one's rights;
3. **Self-regulatory efficacy** is the ability to resist negative peer pressure;
4. **Youth-community connections** is concerned with neighborhood support and neighborhood activities;
5. **Social competency** is the capacity to be sensitive to other people's feelings and experiences (empathy);
6. **Adult-youth connections** are characterized by supportive relationships with adults so that youth perceive the adults as helpful resources for them.

The items on each sub-scale are rated by an interviewer on a 3-point Likert scale. A higher rating denotes a more positive response than a lower rating for all the sub-scales except for the last item on the Youth-Community Connections sub-scale ("People in your neighborhood/community are mean), which was reverse-coded before further analysis. The response format varies according to the domain: "1" = "not easily at all," "not at all true" or "never" to "3" = "very easily," "completely true," or "always."

5.1 Leadership endline results

At endline, we administered the leadership questionnaire to 666 pupils between June and August 2018. In the sample, the proportion of boys (n = 309, 46.4%) was significantly lower (p < 0.001) than that of girls (n = 357, 53.6%). At endline, the proportion of pupils who responded to the leadership questionnaire was 10.8% more than those who responded at baseline. The increase in the number of pupils could be attributed to the intensified efforts by the study team to reach every pupil who had been exposed to the leadership training sessions.

5.1.1 Leadership questionnaire scores

Descriptive statistics for the sub-scale scores and overall leadership scale scores are summarized in Table 11. The overall mean score on the leadership questionnaire (derived from computing the means of the sub-scale scores) was 2.26 (range: 1.4 – 2.9) out of a possible maximum of 3. This means that the majority of learners endorsed items at the moderate level, close to the rating of '2." Mean scores on the sub-scales ranged from 1.58 on the Social Competences sub-scale, to 2.84 on the Self-Regulatory Efficacy sub-scale. This was the same pattern observed at midline, where more learners endorsed items on the Social Competences sub-scale at the lower end of the rating scale (not easily at all), while for the Self-Regulatory Efficacy sub-scale, more learners endorsed items at the higher end of the rating scale (very easily). The findings suggest that the pupils were better able to resist peer pressure than they were able to be sensitive to other people's feelings. Under the Social Competences sub-scale we asked learners about their capacity for empathy with others, with items inquiring about sensitivity to other people's feelings, their perceptions on whether children they did not like had good ideas, and if they trusted people who are not their friends. To establish self-regulatory efficacy or the ability to resist peer pressure, we asked pupils about their engagement in high risk social behaviors such as taking alcohol and drugs, smoking cigarettes and early sexual activity.

Figure 8 shows the change from baseline to endline on the sub-scale and overall scores. There were improvements over time in sub-scale and overall scores. When considering the Difference-in-Differences (DID) values, the intervention seemed to have had a significant impact (0.091; p<0.05) on self-regulatory efficacy at endline as compared to baseline (Table 5.1). This finding illustrates that pupils in the intervention group reported being better able to resist peer pressure. In terms of magnitude, the pattern from midline was replicated, with the greatest overall change in scores being seen on the Self-Assertive Efficacy sub-scale; the smallest change was seen on the Social Competences sub-scale, with scores decreasing from baseline. This means that whereas pupils' scores showed improvements on five of the leadership sub-scales, social competences seemed to have worsened at endline than at baseline. This negative change could be attributed to the lack of opportunities to show empathy for others, which could be connected to the disadvantaged settings that the pupils were living in where they may have felt that everyone should cater for their own emotional and other needs. The remarkable change in the ability of pupils to stand up for their rights or beliefs, which was measured by the Self-Assertive Efficacy sub-scale, is a testament to their greater sense of confidence in being assertive. On the other hand, given the low scores on the Social Competences sub-scale, there is need to improve pupils' capacity to take on the emotional perspectives of others which will lead to the development of positive and supportive relationships with others (Ma, 2012).

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Table 11: Means and differences on the sub-scales and overall leadership scale

	N	Mean (SD)	Min	Max	Overall change	Adjusted DID
Social Self-Efficacy	666	2.43 (0.34)	1.3	3.0	0.09	0.01
Self-Assertive Efficacy	666	2.40 (0.49)	1.0	3.0	0.28	-0.052
Self-Regulatory Efficacy	666	2.79 (0.32)	1.0	3.0	0.06	0.092**
Youth-Community Connections	666	2.18 (0.40)	1.1	2.9	0.16	-0.140***
Social Competences	666	1.58 (0.39)	1.0	3.0	-0.01	0.039
Adult-Youth Connections	666	2.17 (0.63)	1.0	3.0	0.23	- 0.195**
Overall Leadership Scale	666	2.26 (0.26)	1.4	2.9	0.20	-0.042

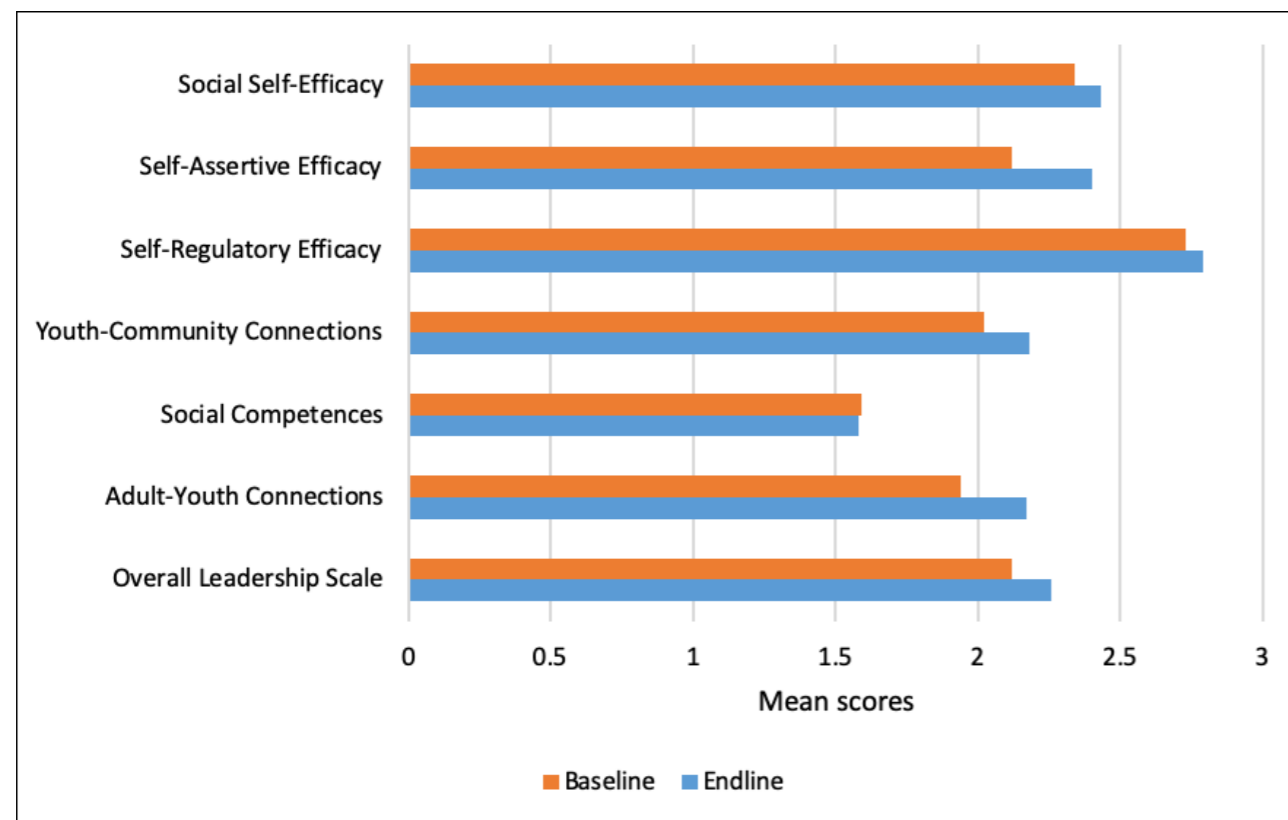*p<0.1; **p<0.05; ***p<0.01; Min=Minimum; Max=Maximum

Figure 8: Change over time on sub-scale and overall leadership scale scores

5.1.2 Site differences

Whereas the scores of pupils in both sites increased from baseline to endline (except for Social Competences sub-scale scores which reduced for pupils in Korogocho), the pattern seen at baseline where pupils in Korogocho had higher scores than their counterparts in Viwandani on the Self-Assertive Efficacy and Self-Regulatory Efficacy sub-scales was replicated at the endline (Figure 5.2). This suggests that pupils in Korogocho had greater improvements in their scores than those in Viwandani. However, the magnitude of these differences increased on the Self-Assertive

Efficacy scale and reduced on the Self-Regulatory Efficacy sub-scale, when we compared baseline and endline scores. Surprisingly, there seemed to be a bigger change in scores among pupils in Korogocho than in Viwandani on the Youth-Community Connections (-0.140; p<0.001) and Adult-Youth Connections (-0.193; p<0.05) sub-scales at endline as compared to baseline (Table 5.1). This finding could be attributed to the fact that in both sites, pupils interacted with adult mentors during the training sessions, and they may have considered these mentors as adults who they could confide in. Opportunities for participation in community activities in Korogocho could also be the driving force behind the results seen on the Youth-Community Connections sub-scale.

The endline results demonstrate that pupils in Viwandani (where the leadership training intervention was delivered) had higher scores on the Social Competences and Adult-Youth Connections sub-scales, as well as on the Overall Leadership scale. The leadership training seems to have had the strongest effect on the Self-Regulatory Efficacy sub-scale, when we compared baseline and endline results across sites. This was illustrated by the fact that it was on these scales that the greatest change was seen for pupils in Viwandani (Table 11)
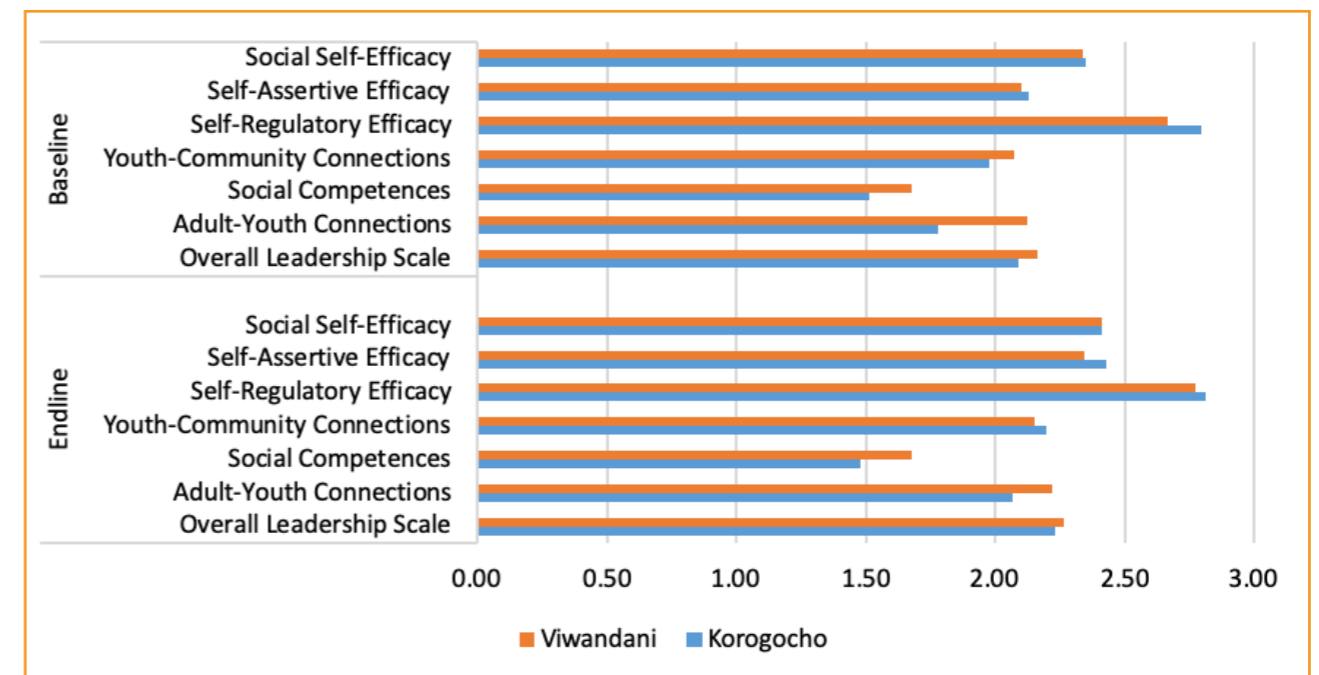
Figure 9: Differences in mean sub-scale and overall leadership scores across sites

5.1.3 Gender differences

Except for a decline seen in boys' Social Competences scores, there were improvements in all the sub-scale and overall leadership scores from baseline to endline for both boys and girls. At baseline, girls had higher scores than boys on the Self-Assertive Efficacy, Self-Regulatory Efficacy and Adult-Youth Connections sub-scales. Although this pattern was maintained at endline, the intervention seemed to have had a stronger effect on the Self-Regulatory Efficacy scores of males (0.115; p <

0.1) than for females (0.072) as the change in scores was greater for males than for females. On the Social Competences sub-scale, whereas girls had lower scores than boys at baseline, there was a remarkable improvement in their scores at endline, and their scores surpassed those recorded among boys (Figure 5.3). These findings are congruent with gender-role socialization where girls are expected to display more empathy towards others than boys, and are in line with past studies where girls have been assessed as being more socially competent than boys (Sonja, Melita, Milena, Jana, & Cirila, 2009), that is, their teachers viewed them as having more positive peer relations. These findings could be attributed to the fact that social skills are an important component of the traditional feminine gender role which is characterized by being nurturing, compliant and more prosocial (Stein & Bailey, 1973).
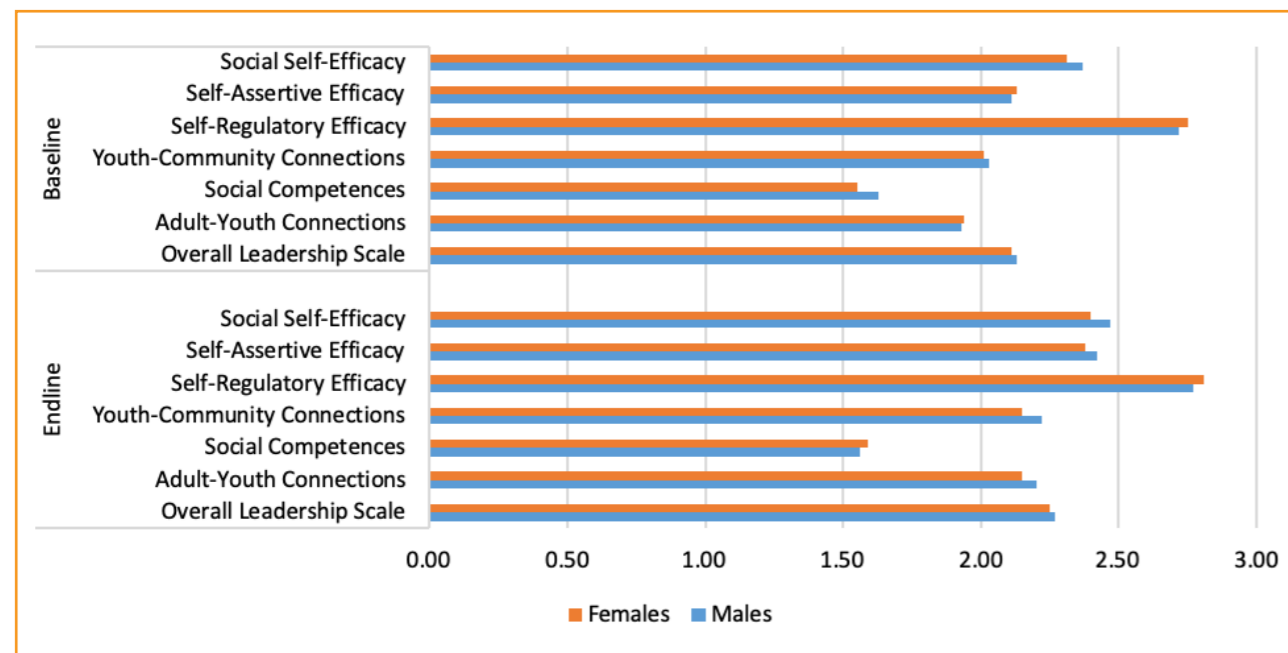

Figure 10: Differences in mean sub-scale and overall leadership scores across gender

6   Qualitative Study Results

This chapter highlights key qualitative results from the endline evaluation. It specifically focuses on the narratives about effects of A LOT-Change on pupils, parents and the community. In addition, the chapter will also provide some anecdotal explanations for some of the quantitative results in order to better understand the observed trends between baseline and endline evaluations. The qualitative results highlighted in this chapter were derived from data collected from eight focus group discussions with parents; four dialogues with pupils; ten key informant interviews with mentors and counsellors; and eight key informant interviews with community leaders.

6.1   Benefits of the intervention to pupils

6.1.1 Improvements in numeracy and literacy

A notable benefit mentioned by project beneficiaries was the marked academic improvement in Mathematics (numeracy) and English (literacy). In literacy, composition writing and an enhanced reading culture were the most cited areas of improvement. On the other hand, improvements in numeracy included a better grasp of mathematical concepts, enhanced ability to interpret problem statements and improved skills in algebra as indicated by one of the pupils,

> **"the numeracy sessions have helped me so much. I used to make mistakes that would really cost me. I would start [calculations] well but fail as I would omit some steps." (Dialogue, Male pupils, Korogocho, 10082018).**

When asked about the specific aspects of the project that had led to the improvements in numeracy and literacy, the pupils agreed that the learning environment in the intervention sessions was more supportive than in their schools. For instance, pupils highlighted that because of overcrowding in their schools, teachers have limited time for individualized support. A female pupil had this to say:

> **"In class the teacher doesn't have the time to teach all of you individually but here we are few and the mentor attends to all of you." (Dialogue, Female pupils, Korogocho, 10082018)**

In addition, the pupils also mentioned the safe, reassuring and trusting learning environment as a contributing factor. In one example, a male pupil in Viwandani described how he changed his negative attitude towards English after his mentor assured him of the importance of doing so. This is what he said:

> **"When I joined here my mentor told me that if you have a negative attitude towards a subject, you will never succeed in it, you will never pass...I started having positive attitude towards it and now, I am passing." (Dialogue, Male pupils, Viwandani, 06082018)**

6.1.2 General academic improvement

Interestingly, there were also reports of general academic improvements in other subjects as a result of the improvements in numeracy and literacy. For instance, since the language of instruction in school is English, pupils were said to better comprehend content in other subjects and consequently perform better. This association was well articulated by a male parent from Korogocho who said:

> "… (the intervention) helps them understand English so everything there from mathematics is in English, everything has English except Kiswahili." (FGD, Male parents with boys in the program, Korogocho, 26052018)

6.1.3 Change of attitude towards "difficult" subjects

The improved academic improvement was also reported to go a long way in motivating pupils to change their negative attitude towards subjects they had earlier considered difficult and consequently gain interest in their education. This is especially encouraging considering that globally, very few women effectively participate in STEM[3] (Science, Technology, Engineering, and Mathematics). One of the biggest contributors to the low participation is what social psychologists refer to as stereotype threat, where society tends to have the notion that "women are not good in math" and therefore strategies geared towards getting rid of this attitude are vital. This is what one of the girls had to say about her positive attitude change towards mathematics:

> "…I used to have a bad attitude in mathematics…I thought mathematics was more for boys than girls. But I improved in mathematics and believed that I would pass. However, the teacher even uses me as an example to encourage others to change attitude in mathematics." (Dialogue, Female pupils, Viwandani, 06082018)

6.1.4 Higher education aspirations

Both parents and pupils pointed out that they were now more hopeful than ever of not only performing well in their academics, but also of progressing to higher levels of education. One of the male parents could not have said it any better when he reiterated that,

> "…initially my child was very poor [in her academics]. Now she scores above 300 marks and she now has hope. She even says she wants to go to secondary school. I haven't seen such in her. So she has aspirations to go far." (FGD, Male parents with girls in the program, Korogocho, 26052018).

One of the motivations often given to pupils to encourage them to study hard is to one day join an institution of higher learning. However, for most of our pupils who have never been exposed to other environments other than the slum and its catchment areas, it is very difficult for them to relate with such incentives. This is why exposure visits to institutions of higher learning had a tremendous effect on the pupil's education aspirations triggered by what they observed. A male pupil attending male dialogues in Viwandani explained:

> "Also, the trips encouraged me because we went to Kenyatta University, I liked it because I saw the school, the library how big it was and I wanted actually someday to be there reading books in the library, it encouraged me to work hard because our teacher told us if you work hard then hard work must be paid." (Dialogue, Male pupils, Viwandani, 06082018)

6.1.5 Positive future life aspirations

The notion that growing up in the slum limits exposure to better life chances which lead to a better future can be very discouraging especially for young people. Exposure visits and motivational talks by various accomplished leaders, some of whom were born and bred in the slum, engendered optimism for a better future among pupils enrolled in the program.

> "U-Tena has helped me a lot because the child has a future. I think she is aiming to reach somewhere. You also take them to places and when they go out she sees things that she can aim to be." (FGD, Female parents, Viwandani, 25052018)

These sentiments were also shared by one of the pupils:

> "It really helps us when people give their life stories and they tell us the challenges and they tell us how they were able to overcome them. It has also helped me in that initially I was not able to stand in front of people and speak. But now I can I can do anything because I have high self-confidence." (Dialogue, Female pupils, Viwandani, 06082018)

6.1.6 Improved self-confidence and esteem

Another outstanding positive change observed in pupils was the ability to better express themselves due to enhanced self-confidence, which according to project beneficiaries was as a result of mentoring in life skills. Subsequently, the improved confidence was said to be a key ingredient in encouraging pupils to be better public speakers as they now had minimal stage fear. A female pupil characterized this lack of fear in this way:

> "…before I came for this session, I used to be very shy and I was not able to speak in front of people. But in the project we were told not be shy and that you are supposed to speak to people face to face." (Dialogue, Female pupils, Viwandani, 06082018)

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The pathway between self-confidence and education outcomes also came out strongly, with pupils pointing out they are now able to better participate in class. For instance, pupils are able to confidently raise up their hands in class to answer questions. A female pupil in Korogocho explains:

> **"… I used to be very shy. I never used to be able to stand in front of a class. When I was called to do a sum on the blackboard I couldn't but with time I started being confident and now I can stand in front of the class and answer a question." (Dialogue, Female pupil, Korogocho, 10082018)**

But the relationship between self-confidence and education outcomes works both ways. For instance, pupils mentioned that being able to articulate themselves better in English had boosted their self-confidence and thus enhancing their participation in class. A female pupil from Korogocho had this to say:

> **"… I used to know that when I go to the front maybe I can speak broken English and then I will be laughed at…we were taught about self-confidence, English and other things so I started catching up and gained that morale." (Dialogue, Female pupil, Korogocho, 10082018)**

6.1.7 Improved responsibility, planning and time management

Pupils enrolled in the project were encouraged to prepare a timetable or schedule of activities that they intended to undertake in a particular day. Also, the schedule was prepared together with parents so as to promote consensus and consequently avoid conflicting activities between parent and child. As a result of this initiative, pupils were reported to be more responsible, accountable, as well as better at time management and planning. A male parent from Korogocho explains:

> **"…She does her schoolwork, she is committed she is able to plan and she even has her timetable. She knows that on Monday she is studying this and on Tuesday it is [another subject]. That timetable guides her and then when time comes to change she changes." (FGD, Male parents with girls in the program, Korogocho, 26052018)**

An even more exciting outcome of the scheduling was that because the pupils' time was now well spent, they were able to avoid engaging in the many social ills around them. A female pupil says,

> **"…boys who come to the program manage their time well and they cannot engage in drug abuse because they usually manage their time but those ones who are outside there get more time to be engaged in drugs." (Dialogue, Female pupils, Korogocho, 10082018).**

6.1.8 Resilience to peer pressure

Additionally, the pupils' ability to make informed choices about their behavior and social interactions was enhanced. Based on the information and experiences learned from the life skills sessions, pupils were able to evaluate the consequences of various actions instead of blindly following what their peers were doing or had asked them to do. A female pupil from Viwandani said:

> **"…If there is someone who is pressuring you to do bad things we were taught by our mentor that you should stand on your own and let your yes be yes and your no be no. Some wanted me not to attend school on Saturday…to walk around and buy clothes but I said no and I stuck to my no." (Dialogue, Female pupils, Viwandani, 06082018)**

6.1.9 Enhanced communication with parents

One of the topics covered in the life skills sessions is effective communication. Pupils are mentored on how to effectively share their ideas, feelings, opinions, needs, and actions both verbally and non-verbally. According to pupils, these skills enabled them to be more open to and engage better with their parents. As a result, they felt comfortable confiding in their parents about issues affecting them that they would otherwise have held on to. A male pupil states:

> **"…I could not talk to my parents on what I needed, I could not tell them what was in my heart, but when I joined…I can communicate with my mother tell her the problem I have, show me things and tell me how the life is, and encourage me to work hard." (Dialogue, Male pupils, Viwandani, 06082018)**

6.1.10 Reduced delinquency among adolescents

According to project beneficiaries, the other notable positive change observed in pupils enrolled in the A LOT-Change project was general improvement in discipline. From the narratives, the adolescent boys and girls were said to have stopped substance abuse, become respectful, more helpful at home in terms of chores and some even reportedly stopped engaging in crime. A male pupil explains:

> **"…You see if it's not for U-tena I could have continued drinking alcohol so, U-Tena helped me a lot because I left the bad group, I am passing my exams and I am grateful…they have taught us that education is the best weapon that can fight poverty." (Dialogue, Male pupils, Viwandani, 06082018)**

This was also corroborated by a female parent from Viwandani who said that since her child joined the project, he had become more respectful towards her. This eventually resulted in their relationship improving.

"…it is not like in the past…now when I talk to him he does not talk back he would rather go out and if he knows he has made a mistake he will tell me to forgive him and if I am the one who has wronged him he will tell me…" (FGD, Female parents with boys in the program, Viwandani, 25052018)

6.1.11 Enhanced leadership qualities

From the leadership component that was being implemented in Viwandani, two key benefits came out. It was not only encouraging to hear from pupils how they had been motivated to take up leadership positions especially in school, but even more so how they were upholding ethics in their various positions. In addition, they took deliberate steps to model good behavior among their peers and siblings as they recognized that a person in leadership is also influential. A female pupil says:

"I am fair. Because we were taught how to be good and be role models in order for them not to follow the bad behaviors that we have but to do the right thing…like in most schools, in secondary schools there are pupils who lead others to strike." (Dialogue, Female pupils, Viwandani, 06082018)

Although the leadership sessions were being offered to pupils enrolled in the project, it was surprising to pick up how some of the parents found the resources and materials used relevant even for them. In one case, a parent from Viwandani described how she referred to the leadership manual in her position as a church leader. This is what she had to say:

"I am actually a leader at the church. There are books that are given to children about leadership. I was able to get the book and it really helped me on leadership because it has a lot that can help you on how to interact with the people that you are leading." (FGD, Male parents with boys in the program, Viwandani, 21072018)

6.1.12 Improved career awareness

From their engagement with various professionals during motivational talks and exposure visits, pupils had the opportunity to learn the education and training pathways it takes to achieve a certain career. Consequently, with the improved career awareness, pupils reported having a positive change in attitude towards subjects that were considered necessary for the careers they wanted. A male pupil in Viwandani explains:

"…once we went to Strathmore [university] we were told by the pupil from Macheo [life skills program in Strathmore] that education is the best weapon that can fight poverty… Another thing I learned is that, everything you do, there is always Maths, but I used to have a negative attitude towards Maths but when I heard about that…I started loving Maths." (Dialogue, Male pupils, Viwandani, 06082018)

6.2   Benefits of the intervention to parents

6.2.1 Positive discipline

Parents reported that due to the counselling sessions, they had embraced positive discipline as a better approach to childcare rather than meting out punitive measures that would hurt their children whether physically or psychologically. Some of the positive discipline strategies mentioned by parents included being friendly to their children, addressing issues when calm, being firm but fair and being a good role model. As a result of these strategies, the parent-child relationship was said to have immensely improved.

"…As a parent, I am not supposed to be harsh with him [the child] because if he is fearful, then he can't be open with you. If you talk to him calmly, he will be able to tell you everything and he won't fear you. You will be close. However, if you are harsh then he wouldn't open up." (FGD, Male parents with boys in the program, Viwandani, 21072018)

However, parents warned that as much as they advocated for being close and friendly to their children, they also ensured that they don't let their guard down by being too lenient or allowing cases of indiscipline to go unpunished. As one male parent from Viwandani said:

"Although it's not that you stop being tough there are some things a child can do and if you are not serious the child cannot know it is a mistake." (FGD, Male parents with boys in the program, Korogocho, 26052018)

6.2.2   Improved parent-child communication and relationship

Just like pupils, parents (especially female) also reported that through lessons learned from counselling, the communication with their children had greatly improved. This in their view had not only improved their relationship with their children but also had enabled them to have fruitful discussions about life and education with them. As indicated by a male parent from Viwandani:

"I can say before this project, she was not open but nowadays she is open and tells me whatever is going on in her life…" (FGD, Male parents with girls in the program, Viwandani, 21072018)

Furthermore, the improved communication has enabled parents and their children to discuss topics that would otherwise have been difficult or deemed taboo to talk about, especially on sexual and reproductive health and rights and drug abuse. For instance this female parent said:

"…now I am able to talk to them I tell them when you sleep with men in your young age you are destroying your girlhood and the men will not love you. So they know why sleeping

with men is bad. I also told them when they get periods they tell me first so that can know how to take care of them…" (FGD, Female parents with boys in the program, Viwandani, 25052018)

Another female parent from Korogocho recalled that as they were growing up, they lacked such information from their caregivers and this could regrettably explain why some of parents experienced poor outcomes in terms of sexual and reproductive health and rights (SRHR) such as teen pregnancies. This parent elaborates:

"…we found ourselves having children at a young age because there was no relationship you are just told not to go there but you are not told the reason…that has taught us to be free with them and we have been told our relationship with the children is very important and this issue of avoiding questions when they ask you…we just answer and just call a spade a spade, just tell him the truth." (FGD, Female parents with boys in the program, Korogocho, 24052018)

However, for communication to be effective, parents advised that it should be two-way, that is, both the parent and child should be given a chance to express their opinions. As one female parent from Korogocho put it:

"I sit them down and I tell them, 'I don't want you to do this and that'. I also ask them to say what they want, or what they are thinking and if I have wronged them." (FGD, Female parents with girls in the program, 24052018)

In addition, having genuine and open communication results in better understanding between parents and their children. For instance, when the child requests an item which the parent cannot afford, the parent should be able to let the child know that they do not have the capacity to provide at that moment. Lying to the child in order to calm them down only results in mistrust when the promise is not kept. This female parent said:

"If they ask me for shoes and I don't have money, I should not tell them that I will buy for them next week. Instead, I should tell them that when I have money, I will buy them even without being asked…They need to be content with what you have…By going for the trainings with my child, it has made it such that, in our house, whether we have or we don't have it's all the same." (FGD, Female parents with girls in the program, Korogocho, 24052018)

6.2.3 Work-life balance

Parents now see the need to find time within their busy schedules to follow-up on their children's education and welfare. Although this might seem like a small feat to many, for parents living in urban informal settlements like in our study areas of Korogocho and Viwandani where majority of them are casual labourers, this is quite an achievement. These parents have limited time for meaningful interaction with their children as most of it is spent looking for work. A male parent in Viwandani explains:

"I work in *jua kali* (informal sector), so sometimes I might be planning to come for a meeting and I get called for work, so I decide to go because I also have to work in order to sustain my family" (FGD, Male parents with girls in the program, Viwandani, 21072018).

As a recommendation, parents who have successfully been able to balance between work and life advised that family matters are equally as important as work and thus all parents should ensure that they plan their schedules and allocate enough time for the same. A male parent explained:

"…so I would tell these guys to balance their stuff, if you plan well…you can't be busy from January to January, you are busy Monday to Monday. I also work during the weekends, sometimes in the field or I travel to my rural place but I still find time to be here because they are equally important…if it was not for the meetings (parental counselling sessions) you wouldn't have known the importance of being close to your child." (FGD, Male parents with girls in the program, Viwandani, 21072018.

According to parents, sparing some time for family comes with its advantages. For instance, it not only brings them closer to their children, it also enables them to understand their children better in terms of issues that could need their intervention and also knowing their friends. A female parent in Korogocho put it this way:

"…[Before] we started to go to counselling I was very harsh to the children I was not spending a lot of time with them but the time we started to go to counselling and we were told when you are friends with your child you will be able to know him better and also get to know his friends, he will be open and tell you about his issues so I am free. Even the father was not very friendly to them but after counselling I told him what we were taught." (FGD, Female parents with boys in the program, Korogocho, 24052018)

6.2.4 Improved parental involvement

Another key accomplishment attributed to the project was the improved involvement by parents in their children's lives and education. Some of the areas mentioned included following up on academic performance, homework support, knowing their children's friends and inquiring about their whereabouts. A male parent explains:

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"…initially when the child comes with the book you are not even bothered to look at it but when we attend the meetings we are told what is happening so we would be able to know where to start or follow up with our children…" (FGD, Male parents with girls in the program, Viwandani, 21072018)

When asked about their roles, it was clear that the top priority among parents was the provision of basic needs such as food and shelter. The fact that education also featured in the list of their priorities was very encouraging as it indicated that parents were appreciative of the importance of education in promotion of wellbeing.

"…it's a parents responsibility to make sure that she gets to know the progress of the child and also its a parent's responsibility to give them food, shelter you see those are our roles it only that you find the state we are in we are not able to achieve all those responsibilities…" (FGD, Female parents with boys in the program, Korogocho, 24052018)

In addition, parents also stated that the other way to get involved is by following up on their children's school participation. For this to happen, parents advised that there needs to be a good relationship with the teachers as one of the parents put it:

"…you must collaborate with the teacher since sometimes some children go to roam around and when as parents we are called by the teacher we refuse to go so we must work together and become one thing." (FGD, Female parents with boys in the program, Viwandani, 25052018).

The issue of following up on their children's whereabouts and friends did not go unmentioned. The consequences of not following up according to parents are dire. For instance, the children could easily be pressured into engaging in the many social ills around them:

"…as parents we contribute because you look at the friends your children hang out with because in this community the friends are the ones who mislead. Like recently there were some children I found smoking bhang and I was not happy about it." (FGD, Female parents with boys in the program, Viwandani, 25052018)

Considering that most parents are casual labours who sometimes work long hours, some of them have devised strategies like working with other responsible adults in the community to look after their children when they are not around.

"…I tell other women to look after them after some time I call them to go and check if they are in the house." (FGD, Female parents with boys in the program, Viwandani, 25052018)

6.2.5 Champions of change

Encouragingly, parents also reported that they take the initiative to become champions of change by passing on lessons learned from participating in the project to other community members. This was reported by a male parent from Korogocho, who said:

"…If you see a child doing other things you just ignore because he is not yours. That does not help us or Kenya. Maybe this child would have been a leader…" (FGD, Male parents with girls in the program, Korogocho, 26052018)

This was echoed by a fellow female parent:

"I advised her to love her mother the way she is and when she does that then her mother will also not hate her the way. Currently she does and currently there is no noise in that house. I have also trained even my neighbors." (FGD, Female parents with girls in the program, Korogocho, 24052018)

6.2.6 Cushioning from financial burden

Parents were grateful for the revision textbooks provided by the project since they would not have otherwise afforded to purchase the same for their children. As a result, some of the parents went the extra mile to ensure that the books provided were effectively utilized by encouraging their children to read the books.

"…I saw some books that I could not buy, I was shocked to see my child with it. I told my child that it is good that (he) had been given the book and he should take care of it, read it and if it is needed then he should return it." (FGD, Male parents with boys in the program, Viwandani, 21072018)

6.3 General benefits of the intervention

6.3.1 Reduction of insecurity

In its own small way, the A LOT-change project was hailed for contributing to reduction in crime and insecurity in the study sites by keeping the young boys and girls occupied in different project activities rather than engaging in criminality. According to community members, this is especially important considering that adolescent boys and girls are recruited into gangs as early as 13 years with the promise of 'a better life'. In addition, the fact that the intervention was conducted during the weekend when crime typically tends to surge was an added advantage according to one of the village elders from Korogocho.

"…mostly on Saturday and Sunday is when there is high rates of crime because that is when there are many people maybe they have come for church and such things…so when they leave class they don't have time for other things…" (KII, Community leader, Korogocho, 22052018)

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7   Discussion

The A LOT-Change project, whose overall goal was to improve learning outcomes, provide mentorship on life skills and leadership training was successfully completed among 653 boys and girls aged 12-19 years and living in urban informal settlements. The integrated after-school support program comprised multiple intervention components to achieve this goal. The intervention sessions which had both classroom-based and practical aspects were facilitated by mentors and counsellors in a systematic manner.

Respondent characteristics. The finding that there were more males than females in Korogocho suggests a change in the population distribution pattern, as earlier studies had indicated that there were more females than males in both sites (Beguy et al., 2015). This change could be explained by population migration patterns, as there is constant out- and in-migration within the slums. With regards to socioeconomic status, participants in Viwandani seemed to be better off than those in Korogocho. This pattern, which has been reported in earlier studies (Oketch, Mutisya, Ngware, Ezeh, & Epari, 2008) and was also seen at baseline, could be attributed to the fact that Viwandani is located close to Nairobi's industrial area, and many of its residents work or seek jobs there.

The significant reduction in the proportion of learners enrolled in LFPS in both Viwandani and Korogocho was noteworthy. This finding could be related to the phenomenon where parents/guardians transfer their children to good-performing public schools when they get to higher classes to increase their chances of passing the end-of-primary school national examinations. In addition, it is unlikely that LFPSs are registered as examination centers. Parents therefore register their children in the nearest examination centers to enable them to sit the national examination. It should be noted however that because there is only one public school in Korogocho and two in Viwandani, it is likely that these transfers have taken place to schools outside the study sites.

Although not significantly different from Korogocho, the lower level of absenteeism in Viwandani could be attributed to the increased motivation to attend school as a result of exposure to the leadership training. Lowered levels of grade repetition in Viwandani could be related to improved school performance because of the after-school support sessions. Participants in an after-school program in South Africa that provided homework support through mentors for learners aged 13-18 years reported that their academic performance had improved as a result of the program (Benkenstein, 2016). The finding that the proportion of pupils who reported that they were supported in their homework by their parents was higher in Viwandani than in Korogocho is interesting given that both sites were exposed to the parental counselling component. It could be that the learners in Viwandani who had been exposed to leadership training may have been more open to requesting support for homework from their parents or guardians. When we compare parental aspirations for children's educational achievement with earlier studies, the current level of 90% is almost twice that reported in the past, at 46% (Oketch et al., 2008). This is a positive finding and points to increased recognition of the importance of higher education by parents. In addition, parental aspirations were reported at higher levels in Viwandani compared to Korogocho, a finding which could be attributed to the increased confidence of parents in their children's abilities following their exposure to the leadership component.

Pupil achievement in numeracy and literacy. Pupils in Viwandani had better mean scores than those in Korogocho for numeracy content and cognitive areas, and they recorded higher positive gains in both numeracy and literacy (though not significant for literacy) achievement. This finding could be related to what psychologists call the 'Rosenthal effect' (Rosenthal & Jacobsen, 1968), where learners perform better when others place higher expectations on them. Learners who were exposed to the leadership training also got to experience practical aspects of leadership, and this could have instilled in them the motivation and discipline to do well academically so that they could attain the leadership qualities that they were being trained in.

Pupil behavior and life skills. The leadership component seemed to have had an effect on educational goals and future aspirations (improved, though not significantly), getting along with teachers (higher proportions), self-confidence (increased), parental monitoring (improved, particularly among girls), perception that one will be liked for engaging in sexual activities (decreased) and proportion of pupils reporting to have a boy/girlfriend (increased). These findings provide a good basis for scaling the intervention to other areas so that more pupils at this level can benefit from these positive effects.

However, for some of the outcomes such as delinquent behavior, pupils' perceptions on schooling and effort, pupils' perceptions about peer behaviors, and sexual activity, the scores remained stable indicating a carry-over effect from baseline as there was no room for improvement. These findings may suggest that such behaviors may have already been part of the pupils' repertoire. Rather than targeting change in such behaviors, programs should seek to enable pupils to maintain or pass on the tenets through peer-to-peer counselling.

For other outcomes such as delinquent behavior, the impact was observed at higher levels in Korogocho than in Viwandani suggesting that there was an interplay between the outcomes assessed through the life skills and leadership tools. This association will be investigated deeper through further analysis.

Pupil leadership skills. Overall, the leadership scores showed improvement from baseline to endline for both sites, especially for Self-Assertive Efficacy (the ability to speak up for one's rights). That pupils in both sites improved their overall leadership scores suggests, as has earlier been mentioned, that there is an interplay between the skills assessed on this component and that of life skills. However, the leadership training seemed to have had an effect on Self-Regulatory Efficacy (significantly) - the ability to resist negative peer pressure - and Social Competences (non-significant). This finding could be related to the fact that the adolescent girls and boys could have borrowed strategies of how to

sidestep the numerous challenges (one of which is negative peer pressure) from the experiences shared by motivational speakers, some of whom were born and raised in the same informal settlement or had undergone similar challenges when growing up.

Surprisingly, the scores for pupils in Korogocho on the Youth-Community Connections and Adult-Youth Connections sub-scales were better than for pupils in Viwandani which had the leadership component. The lack of differences on the Youth-Community Connections sub-scale could be related to pre-existing differences within the sites. Pupils in both sites were exposed to adults whom they could turn to when they were in trouble through the mentorship sessions which could explain why the leadership training component did not seem to have an effect on the Adult-Youth Connections sub-scale.

Qualitative results. The qualitative study provided deeper insights into some of the findings that were seen in this study. Both parents and pupils reported positive changes in academic achievement, attitudes towards subjects previously deemed as being 'difficult,' aspirations for higher education, self-confidence, awareness of consequences of certain behaviors, openness, delinquent behavior and organization. These findings triangulate what was found through the quantitative surveys.

Pupils reported being motivated to take up leadership positions and gained opportunities to envision possible career pathways which is a positive outcome of the leadership training component. Early leadership experiences have been reported to have a positive impact on future adult outcomes such as employment and earnings (Anderson & Lu, 2017). With regards to parents, the improved parental involvement has a bearing on the relationships that adults have with their children, and will lead to better outcomes among children. Overall, the project seems to have had a positive impact on pupils, parents and the community as a whole.

8   Lessons learned

The A LOT-Change model has demonstrated that integrated approaches work. This is because the target group benefits from multiple programs under "one roof" instead of receiving piecemeal or fragmented interventions from different institutions which in many cases, may not be coordinated. In this case, the A LOT-Change model consisted of homework support, mentoring in life skills, leadership training, parental counseling and transition to secondary school subsidy, all geared towards improving learning outcomes and wellbeing of the pupils.

Structured programs are easier to evaluate. Having a well-defined monitoring, evaluation and learning (MEL) framework is important for both programming and research purposes. This also includes a robust theory of change that describes how the project activities result in expected outputs and outcomes. Through the A LOT-Change MEL framework for instance, we were able to monitor intervention uptake by keeping weekly records of sessions held and attendance for each of the sessions. In addition, the project was rigorously evaluated at baseline, midline and endline.

Another key lesson is that capacity building of the intervention implementers is very important to ensure that they provide correct support and guidance. For instance, mentors and counsellors in the A LOT-Change program were trained on the objectives of the program, how to use intervention manuals, facilitation skills and basic class management strategies. In addition, APHRC worked with MKK and U-Tena to strengthen their resource mobilization, financial management, organizational development such as reviewing their strategic plans, participation in national and international conferences, and other administrative needs such as reporting and MEL.

It's also important to build lasting partnerships with different stakeholders for the success and sustainability of a project. In our case, the project has forged strong partnerships with beneficiaries, community members, schools, community based organizations, education officials and research institutions. In terms of sustainability, the use of locally based mentors and counsellors demonstrates that when properly empowered, community members can actually run community-based afterschool support programs with limited resources/funds.

Teachers and schools cannot be left out of interventions that touch on students or learning. This is the reason why despite the A LOT-Change project being an after-school support program, we made deliberate steps to have regular teacher-mentor forums to sensitize them about the project so as to eliminate the notion that the project was in competition with them. Teachers were also integral in providing the much needed support in training mentors on facilitation skills, class management and intervention delivery. The forums also provided a platform for the mentors to give feedback on subject areas that they observed most students struggling with so that teachers could focus on these back in school.

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There is a window of opportunity to continue participating in the review and development of life skills education resources. As a result, evidence from the A LOT-Change model especially in operationalization of various life skills concepts, nurturing through non-formal strategies and measurement of the same will be very crucial for this review process.

Engagement with like-minded organizations working on life skills provides an opportunity to share and learn from each other and consequently improve project delivery. One such platform is the Regional Education Learning Initiative (RELI) through which the A LOT-Change project has been able to share experiences and lessons learned, especially on nurturing and assessment of life skills.

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