



BASELINE REPORT

ADVANCING LEARNING OUTCOMES FOR TRANSFORMATIONAL CHANGE

PHASE III

2021



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LIST OF ABBREVIATIONS AND ACRONYMS

A LOT-Change	Advancing Learning Outcomes for Transformational Change
AMREF ESRC	Ethics and Scientific Review Committee
APHRC	African Population and Health Research Center
CAC	Community Advisory Committee
CASEL	Collaborative for Academic, Social, and Emotional Learning
CBO	Community-Based Organization
EFA	Exploratory Factor Analysis
ESRC	Ethics & Scientific Review Committee
FGD	Focus Group Discussion
HH	Household
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
IDI	In-depth Interview
KCPE	Kenya Certificate of Primary Education
KICD	Kenya Institute of Curriculum Development
KII	Key Informant Interview
MoE	Ministry of Education
NGO	Non-governmental Organization
SD	Standard Deviation
SER	Social-emotional Resiliency
SRHR	Sexual Reproductive Health and Rights
STEM	Science, Technology, Engineering and Mathematics
STIs	Sexually Transmitted Infections
TV	Television

Suggested citation: Abuya, B.A., Muhia, N., Mutisya, M., Kiroro, F., Ngware, M. (2021). Advancing Learning Outcomes for Transformational Change: Baseline report. Nairobi: APHRC



Acknowledgements

Special thanks goes to all the co-authors who contributed to the different sections of the report. The authors thank the anonymous donor whose investment in the project has contributed to the much needed evidence on delivery of life skills; modelling of after-school support programs; parental involvement; and improving learning outcomes.

We would also like to acknowledge our implementing partners, Miss Koch Kenya and U-Tena youth organization for their diligence in delivering the Advancing Learning Outcomes for Transformational Change (A LOT-Change) project since 2013. We are also grateful to the adolescent boys and girls, their parents and guardians, mentors, counsellors and community leaders who have continued to take part in the A LOT-Change intervention activities as well as taking their time to participate in the study.

In addition, we would like to thank the Ministry of Education (MoE), the Nairobi County Education office and schools in the study areas for the continued support since the inception of the project back in 2013. We would also like to thank the APHRC internal review committee and AMREF Ethics and Scientific Review Committee (ESRC) for their guidance and support in ensuring that the project was both scientifically and ethically sound.

Executive Summary

» 01 Characteristics of respondents:

- A total of 918 study participants were included in the study. Of these, 371 were followed up from A LOT Phase II whereas newly recruited cohort comprised of 547 learners.
- The average learner age was **15.8 years**, ranging from **13.0 to 21.6 years**. By sex, the mean age of boys (**15.9**) was slightly greater than that of girls (**15.7**).
- A bigger proportion of fathers had post primary education (**54.7%**) than mothers (**41.2%**).
- About 4% of the fathers had university level education compared to 1.5% of the mothers.
- Overall over **91%** attended school in the last schooling week. About **3.1%** missed school once, **2.3%** missed twice, whereas **2.3%** missed the entire schooling week.
- The main reasons for missing school included lack of school fees (**43%**), sickness (**32.9%**), no learning activity (**11.4%**), and did not feel like attending (**6.3%**).
- The proportion of learners who had weekly homework assignments was higher for Mathematics (**94.7%**) than for English (**91.6%**).
- About **80.1%** of learners always completed the Mathematics assignment whereas **86.7%** always completed their English assignments.
- About **59%** of learners in the follow-up group received after-school support as compared to **50%** in the new-cohort.
- Over half (**56.5%**) of learners never received support from their HH members in English with the new cohort contributing to a higher proportion at **59.9%** compared to to the follow-up cohort at **51.7%**.



- There was a significant association between the cohort and frequency of support they received from HH members in Mathematics and English with p-values of 0.012 and 0.036 respectively. This means that learners in the follow-up cohort were more likely to receive homework support in English and Maths compared to learners in the new cohort.

» 02 Achievement in numeracy and literacy:

- The follow-up cohort seems to have a head start, significantly scoring better in numeracy and literacy in the descriptive analysis. While in the multiple regression the differences become smaller and not significant. This implies that the earlier intervention had some accrued benefits to the learners.
- In terms of gender, girls' performance was relatively similar in numeracy assessment irrespective of the cohort, while among boys, the follow-up scored 28.01 points more than the new cohort; and the difference was statistically significant.
- Students enrolled in boys' schools tended to perform better in numeracy. In particular, boys enrolled in boy's schools performed significantly better in numeracy than boys who were enrolled in mixed schools. In literacy, we observed that students enrolled in single-sex schools performed equally better than those in mixed schools; with boys in mixed schools significantly scoring lower than boys enrolled in boys schools.
- Though only 19% of the students were enrolled in private schools, they consistently performed lower than those enrolled in public schools. The private schools tended to be day schools, located in Nairobi, and in most cases remain attractive to students who could not get better placement in public secondary schools, or because they are near and allow one to commute daily, reducing the cost that comes with boarding.

» 03 Pupil behaviour and life skills:

- Students in Viwandani and those in the follow-up group had significantly higher education and future life aspirations at 2.87 and 2.88 respectively, out of a maximum score of 3.
- At least nine in every ten parents indicated that they would like their children to reach university level. This was the case across all the categories of gender, site and cohort.
- A significantly higher proportion of parents were optimistic that a bigger proportion of boys (67.3%) than girls (60.6%) will study up to university level and that a bigger proportion of learners from follow-up cohort (68.2%) than in the new-cohort (60.8%) will study up to university.
- In terms of self-confidence, there were significant/notable differences of student's perceptions about their self-confidence by site (p-value=0.01) and by cohort (p-value =0.0495) but not by student's sex. This meant that students residing in Viwandani felt more self-confident compared to those from Korogocho and that the follow-up group were more confident about themselves compared to the new-cohort.
- In terms of sexual activities and pubertal issues the proportion of learners who had had sexual activity in the new cohort (6.2%) was more than twice that of the follow-up group (2.7%) indicating that the cohort had significant association with the sexual activity (p-value=0.020, and that follow-up cohort was doing better at abstaining from sexual activity than the new cohort.

- The level of knowledge by parents about where their children spent time after school was significantly higher for girls than for boys. Similarly, knowledge about whom the child spends time with was significantly higher for girls compared to boys.

» 04 Social-emotional resiliency:

- Boys scored significantly higher scores for self-efficacy as compared to girls with p-values of 0.004. Self-efficacy mean scores for Viwandani were also significantly higher than those of Korogocho (p-value=0.049). The scores indicated that boys and adolescents residing in Viwandani believed in their capacity to achieve various tasks despite the challenges they faced.
- By cohort, the follow-up cohort had significantly higher scores on self-management (p-value=0.001), self-efficacy (p-value=0.026), self-assertiveness (p-value=0.006), self-awareness (p-value=0.004), and in relationship with supportive adults (p-value=0.009). They were thus better placed to resist peer pressure, believed in their capacity to achieve various tasks despite the challenges faced; speak up for their rights and have supportive relationships with adults around them.

» 05 Qualitative results:

- With the many negative SRHR outcomes affecting girls in urban informal settlements, such as early sexual debut, teenage pregnancies, early marriages, sexual harassment and violence, the project was lauded for empowering adolescents, particularly girls to make better informed choices. From the perspective of girls, the intervention made them more assertive in resisting advances by boys and men to engage in risky sexual behavior.
- This ability to express oneself without fear was cited as a key difference between adolescents who are enrolled in the A LOT-Change project and those not enrolled. This was attributed to life skills sessions on self-confidence and self-esteem where the adolescents are mentored on believing in their abilities and qualities.
- The academic improvements of the students encouraged some parents to be motivated to educate their children and their aspiration for higher education have been revamped. They have now taken deliberate efforts to ensure that their children continue with their education with minimal disruptions.
- Both students and parents intimated that thanks to the program, they are now able to communicate effectively with their peers as well as between themselves. The adolescents reported the enhanced ability to effectively express, persuade and transmit their feelings, ideas and knowledge to their peers, parents and other individuals.
- The sustained gains and changes observed in the ALOT-Change project participants, also reinvigorated the champions of change within the communities. This prompted other community members not only want to know more about the project but were also eager to emulate those changes. Other project beneficiaries reported passing down the knowledge they had gained to other community members who are not enrolled in the project. For some adolescents, that meant being good role models to their peers, for others it meant convincing their peers to quit social ills such as drug abuse and absconding school.

- In terms of future life and education aspirations, the adolescents were categorical that listening to life experiences that they could relate to, also went a long way in motivating them that it was actually possible to make it life.
- Parents were happy to note that their children's discipline had greatly improved since their children were enrolled in the project. The key areas of improvement included respect and obedience to their parents.
- Parents highlighted being more involved in their children's lives and education as a result of being sensitized on the importance of doing so in the parental counselling sessions. Some of the strategies that they found most effective were following up on their children's whereabouts, knowing their children's peers, following up on their children's academic progress, monitoring what their children are watching on TV and phone usage.
- What worked for the young adolescents in secondary school was that they were able use the lessons learnt coming out of primary school to sidestep the challenges of peer pressure. The students were able to utilize the knowledge acquired in life skills during A LOT Change II to help them avoid joining bad groups.
- However, challenges remained as they entered the new environment that included; violence, aggressiveness and bullying, theft of items from those enrolled in school for the first time, loss of concentration in secondary schools, and stress due to the number of subjects offered in secondary school.
- But the tenets of the A LOT Change program has trickled into secondary school. These include; supporting fellow students and sibling with homework, reinforced students management of time, reinforced confidence to speak up in secondary school, good choice of friends. In so doing we can say that these intervention effects were also sustained into the first year of secondary school.

1.0

Introduction

1.1 BACKGROUND

With the increasing 21st century demands, it has become critical for education stakeholders to ensure that education systems nurture students who are not only academically competent but also responsible, caring, and socially competent (Cristóvão, Candeias, & Verdasca, 2017). These views are emphasized by Greenberg et al (2003) who postulates that learning should go beyond basic academic skills (reading, writing, counting) to promote students' social-emotional competence, character, health, and civic engagement. These non-academic competencies go by different names such as life skills, soft skills, 21st-century skills, transferable skills, social-emotional learning or psychosocial skills (CASEL, 2015; Cimatti, 2016; World Health Organization, 1994).

The World Health Organization (1994) defines life skills as the psychosocial skills needed to deal with the challenges and demands of everyday life, with a focus on five competencies that include decision making and problem solving, creative thinking and critical thinking, communication and interpersonal skills, self-awareness and empathy, and coping with emotions and coping with stress. The other commonly referenced framework is the Collaborative for Academic Social and Emotional Learning (CASEL) which defines social and emotional learning as the processes through which children and adults acquire and apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve constructive goals, empathize with others, establish and maintain positive relationships, and make decisions responsibly (CASEL, 2003, 2015). Looking at the two frameworks described above, it is clear that there is a convergence of competencies despite the different terms used to define them.

Other than the need to have robust education systems, the increased investment in education by governments worldwide, meaning that more young people are now spending more years in school. As a result, they are prone to negative social, emotional and mental outcomes such as depression and social isolation. For instance, according to Rudolph, Lambert, Clark, and Kurlakowsky (2001), as students transition from elementary to middle school they are often faced with both academic and emotional stresses as a result of the new setting that comes with difficult academic material, strict grading systems, and making new friend. As a result it is vital for young people to develop skills such as concentration, impulse control, and emotional regulation to overcome such challenges (Lopes & Salovey, 2004).

In the Kenyan context, the ongoing curriculum reforms encompass a competency based approach geared towards imparting learners with seven core competencies deemed important to thrive in the 21st century, that is: communication and collaboration, self-efficacy, critical thinking and problem solving, creativity and imagination, citizenship, digital learning and learning to learn (KICD, 2017). Some of the developed countries such as the United States of America have gone a step further and incorporated social emotional learning into academic learning which has been taken as a national priority (Weissberg & Cascarino, 2013), with the National Conference of State Legislators passing a resolve to support the teaching of social emotional skills in 2001 (Hoffman, 2009).

» Importance of social emotional skills

Extant literature indicates that programs focusing on the social and emotional wellbeing of students are associated with improved academic achievement enhanced life and educational aspirations, greater interest in schooling, improved self-confidence, enhanced parent-child relationship; enhanced resistance to negative peer pressure, and increased parental involvement in their children's education and lives (Abuya et al., 2018; Abuya et al., 2015). In addition, research indicates that positive social-emotional outcomes are important determinants of academic achievement (Blake, Piovesan, Montinari, Warneken, & Gino, 2015). A meta-analysis by Durlak, Dymnicki, Taylor, Weissberg, and Schellinger (2011) showed that social-emotional interventions produce significant positive effects on social competencies, attitudes, behavior and academic performance.

Furthermore, social-emotional programs have been shown to reduce student aggression and bullying in schools (Durlak et al., 2011). Students with social-emotional skills are able to engage in constructive communication and conflict resolution. This is especially important considering that over the recent past, Kenyan secondary schools have experienced their fair share of arson attacks. The attacks are mostly exacerbated by the fact that students lack the negotiation and conflict resolution skills whenever they disagree with the school administration and thus resulting in such acts (Muhia, 2018; Muhia & Abuya, 2016). With bullying rampant in Kenyan secondary schools (Ndetei et al, 2007), social-emotional skills for students at this level become very critical as a mitigation measure.

Interestingly, social-emotional development is an effective classroom management strategy. The argument is that, children with healthy social-emotional outcomes such as regulating emotions, conflict resolution, collaboration and communication skills are less disruptive and effectively participate in the classroom (Jones et al., 2014). In terms of preparing students for the world of work, social-emotional skills have also been shown to be important for work life. For instance, a report by the World Economic Forum (2016) proposed that emotional intelligence will be one of the top 10 job skills in 2020.

Given the significance of secondary education as a bridge to students' success in both the world of work and higher education, and the importance of having the necessary skills to promote their success, we report on a three year community based holiday support program that sought to impart a broad spectrum of life skills using the social-emotional framework to adolescent girls and boys enrolled in secondary school and living in urban informal settlements. We continue to emphasize intervening during adolescence because this phase is characterized by both physical and psychological changes that predispose them to drug and substance abuse, risky sexual behavior and uninformed decision making (Blum, Bastos, Kabiru, & Le, 2012; Johnston, 2010; Kabiru & Orpinas, 2009).

» Parental involvement

The importance of parental involvement cannot be understated. Research evidence shows that parental involvement plays a pivotal role in not only motivating children to study well but also to in improving their wellbeing (Fan & Chen, 2001; Jeynes, 2003, 2007; Wilder, 2014). For instance, in a cross-sectional survey of grade 6 students in Uganda, active parental involvement was found to have a significant positive effect on students numeracy and literacy scores (Mahuro & Hungi, 2016). In addition, where parents are involved in their children education, students report more effort, concentration, attention, interest in learning, seek challenging tasks, persist through academic challenges, experience satisfaction in schoolwork, are more motivated to read and voluntarily participate in literacy activities (Gonzalez-DeHass, Willems, & Holbein, 2005). A study by Sui-Chu and Willms (1996) showed that parental involvement, particularly in discussing school activities and helping children plan their programs, was strongly associated with academic achievement. The study also concluded that irrespective of the family background, parental involvement had an effect on academic achievement. Parental involvement is not only associated with enhanced academic performance but also with reduced school absentees (Hayes, 2012). Some studies also recommend that if both parents are involved, the academic gains for their children are likely to be higher (Perriell, 2015).

Parental involvement is also associated with enhanced sexual reproductive health and rights for adolescent girls. For instance, family characteristics, such as parental involvement, monitoring and relationship with parents are associated with likelihood of engaging in sexual activity, experiencing sexual violence and engaging in drug and substance use (McBride et al., 2005; Pilgrim & Blum, 2012). In addition, parent-adolescent communication on sexual reproductive health issues is linked to reduced prevalence of adolescent pregnancy (Kassa, Arowojolu, Odukogbe, & Yalaw, 2018). This is especially important considering that adolescents would prefer to discuss sexual reproductive health and rights (SRHR) issues with their parents as compared to their teachers and peers.

Parental involvement has also been linked to improved wellbeing among children. For instance, in a study by Flouri and Buchanan (2003) parental involvement was found to be significantly contribute to their children's happiness. This is consistent with other studies that indicate that, children who discuss about the importance of education and future education plans with their parents tend to do better emotionally (Wang & Sheikh-Khalil, 2014).

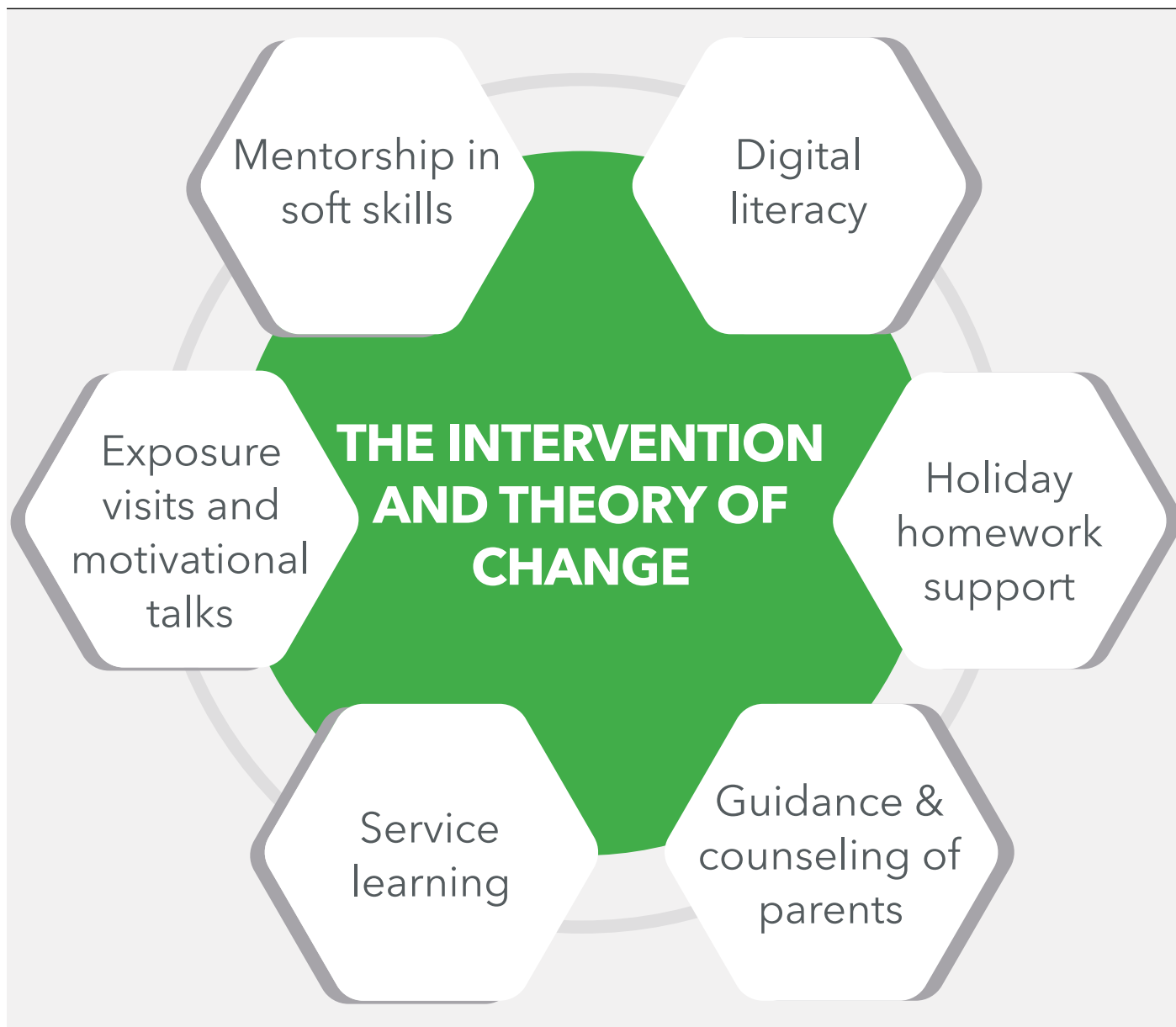
» Why this research is situated in the urban informal settlements

Studies on status of education show that residence in an urban informal settlement is strong factor associated with poor education outcomes (Ejakait, Mutisya, Ezeh, Oketch, & Ngware, 2011). A systematic review of urban poverty and education by Silva-Laya, D'Angelo, García, Zúñiga, and Fernández (2020) highlighted that despite the urban poor accessing school, they are not able to fully attain their right to education due to low academic achievement, low future aspirations and resource deprivation. Similarly, inequality is documented in an education study by APHRC in 2010, which showed that pupils living in non-slum areas had higher rates of primary school completion and transition to secondary school (92 per cent and 72 per cent) compared to their counterparts in urban informal settlements at 76 per cent and 46 per cent respectively (Admassu, 2013). Aging, gender dynamics in academic achievement are at play, with some studies showing that boys not only perform better in school but also have better chances of transition to secondary school and tertiary levels (Ngware, Ciera, Abuya, Oketch, & Mutisya, 2012).

Research evidence also indicates that adolescents living in urban informal settlements experience numerous sexual reproductive health and rights challenges (Beguy et al., 2013). For instance, they are more likely to engage in sexual activities at an early age (Dodoo, Zulu, & Ezeh, 2007; Kabiru, Beguy, Undie, Zulu, & Ezeh, 2010; Zulu, Dodoo, & Chika-Ezeh, 2002). Early sexual encounter is attributed to the high incidence of poverty among households in urban informal settlements which forces young women to engage in transactional sex in exchange for basic needs (Stoebenau, Heise, Wamoyi, & Bobrova, 2016). Evidence also shows that girls living in urban informal settlements experience frequent sexual harassment and violence in and out of school (B. A. Abuya, Onsomu, Moore, & Sagwe, 2012). There is also a strong association between sexual reproductive health and education. For instance, teenage pregnancies have been found to increase the risk of dropping out of school and reducing the likelihood of attaining higher levels of education (Basch, 2011; Hofferth, Reid, & Mott, 2001; Mott & Marsiglio, 1985). Another qualitative study by B. A. Abuya, Onsomu, and Moore (2012) found that some of the key challenges limiting school participation for girls include sexual harassment within families, domestic and unpaid labor, poor parental involvement, inadequate role modeling and poverty.

Parental involvement has also been shown to be low in urban informal settlements. For instance, a study by Oketch, Mutisya, and Sagwe (2012), examining parental aspirations as a mechanism of parental involvement showed that parents living in slums have lower aspirations for their children's educational attainment when compared to those who live in non-slum areas. The study went on to highlight that despite the low aspirations, these parents nevertheless aspire for higher levels of educational attainment for their children than their own levels of education. This underscores the need for education interventions to also focus on parental involvement.

High crime rates are another characteristic of urban informal settlements. A study by Mberu, Wamukoya, Oti, and Kyobutungi (2015) found that the leading cause of death among male youth and adults was injuries as a result of assaults, implying the higher incidence of involvement in violent crimes (Ezeh et al., 2017). The downside of this is that crime has a direct negative impact on student learning (Burdick-Will, 2013). On the other hand studies also show the reverse effect in that improving education has the potential to reduce crime among offenders and potential offenders and is thus an important policy tool in the fight against this vice (Lochner & Moretti, 2004; Machin, Marie, & Vujić, 2011).



The myriad of challenges affecting adolescents in urban informal settlements motivated the African Population and Health Research Center (APHRC) in partnership with Miss Koch Kenya and U-Tena to initiate the A LOT-Change after-school program in Korogocho and Viwandani in 2013. The first phase (2013-2015) only targeted adolescent girls in grades 6-8 and comprised of homework support in numeracy and literacy, life skills mentoring, parental counseling, and transition to secondary school subsidy. From the successes of the initial phase, the intervention was scaled up in phase 2 (2016-18) to include a leadership component and also target both adolescent boys and girls, with the other components remaining the same. A LOT Change Phase III is a follow-up study of the phase II cohort who transitioned to secondary school in 2019. In this Phase, APHRC in liaison with Miss Koch Kenya and U-Tena are testing the feasibility of implementing the A LOT-Change model among older adolescents and also establishing the sustainability of the effects of the intervention as observed in phase II on the adolescents in secondary school. A breakdown of phase III intervention components is provided below:

1.2 THE INTERVENTION AND THEORY OF CHANGE

Exposure visits and motivational talks: These intervention components provide practical opportunities that challenge adolescent girls and boys to start thinking about their prospective future careers and pathways to those careers. Exposure visits expose the enrolled adolescents to work environments and institutions of higher learning. On the other hand, professionals in various sectors share experiences about their professions and encourage the adolescents to push themselves out of their comfort zone and raise their personal goals and aspirations. Furthermore, these components are important since it is at secondary school level (Form 2) that students begin to select subjects that they feel will be more relevant to future aspirations and careers. Therefore, the motivational talks from individuals in different careers will give them some information of what is required academically to excel in that career. Four motivational talks and one exposure visit are planned annually.

Holiday homework support: Here, the peer-to-peer support strategy is used to provide a platform for the adolescents to share knowledge on the various secondary school subjects and complete their holiday homework. The importance of peer-to-peer support lies in the ability for students from various schools and with varied capabilities will support each. The group discussions are facilitated by a mentor who assists the students to identify and prioritize topics for discussion. The key difference between the holiday homework support and extra tuition, which has been outlawed by the Ministry of Education is that, there will be no teaching involved in the holiday homework support. Twelve holiday homework sessions are conducted annually.

Digital literacy: Under this component, we will partner with local computer colleges to train students on the effective and safe use of digital content and devices. It is expected that as a result of the training, students will acquire the requisite knowledge, skills and behavior to enable them to effectively and safely interact with various digital content and devices. Thus, digital literacy will enable students to be more than computer literate as they will also be able to safely and securely use technology while being able to assess the nature of the information acquired in order to support and enhance the environment (British Council, 2015). In addition, digital literacy has been recognized as one of the key competencies on which the revamped competency based curriculum will focus (KICD, 2017). This being a short course, students will be enrolled for the component in the last year of the project.

Mentorship in soft skills: This module involves mentoring and imparting soft skills (self-awareness, self-management, social-awareness, relationship skills, and responsible decision making) among adolescent boys and girls to enable them to successfully overcome the challenges of growing up as they transition to adulthood. The mentorship is also meant to empower them with the set of tools required to maneuver the new secondary school environment where they have to make new friends, work in teams, overcome peer pressure, and circumvent ills such as bullying. Twenty four soft skills sessions are undertaken annually.

Service learning: The service learning activities provide a platform for the adolescents to put what they have learned to practice. With supervision from their mentors, the adolescents are engaged in the entire process of identifying a problem that they want to solve, designing the solution(s), mobilizing for partners, sensitizing community members, undertaking the identified service learning activity and documenting the lessons learned. This way, they not only own the process but are also feel accountable and responsible for providing solutions. In addition, it is expected that this will promote social responsibility and citizenship skills. One service learning activity is undertaken annually.

Guidance and counseling of parents: This intervention component sensitizes parents and guardians of adolescent boys and girls enrolled in the project on how best to be involved in the children's lives and education. Parents are placed in support groups facilitated by a counsellor, where they share experiences and support each other on parenting. To achieve this, ten parental counselling sessions are held annually.

In the short-term, these intervention components are expected to broaden the enrolled students' view of prospective future career paths in different sectors and knowledge of what it takes to get there; improve their social responsibility and citizenship skills; improve soft skills knowledge among adolescent boys and girls; improve learning outcomes; enhance their knowledge and skills in the use of digital hardware and related software;

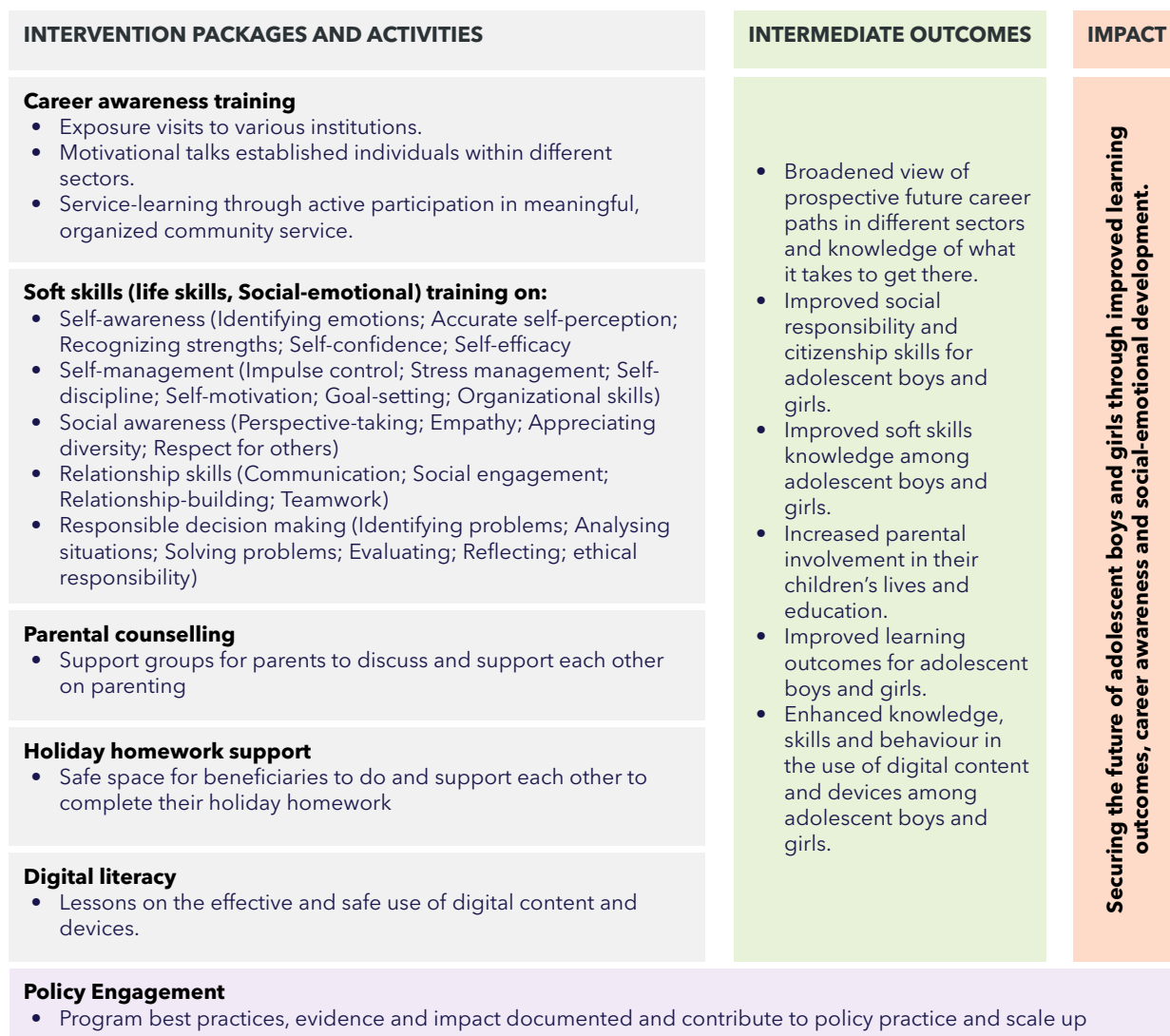


Figure 1.1: A LOT-Change III Theory of Change diagram

1.3 RECRUITMENT, TRAINING AND DATA COLLECTION

A team of 24 field staff were recruited for the baseline training and data collection. The trainees underwent rigorous training on project objectives, quantitative and qualitative research skills and research ethics. In addition, all the field staff consented to, and signed the APHRC child protection guidelines to ensure that all field staff were responsible and accountable for safeguarding the welfare of children they were interacting with by protecting them from harm and abuse. The training took place on November 4-8, 2019. The team was also trained on electronic data collection using SurveyCTO software. Key highlights included how to maneuver through different questionnaires, uploading the latest version of the data collection software and transmitting data to the main database. For quality control the training also included mock interviews, role plays and inter-rater reliability tests (to measure the extent to which data collectors were assigning the same score to the same variable). These quality control measures enabled trainees to practice and point out areas that the trainers needed to focus on more in the training and consequently ensure field staff were well equipped for data collection.

A full sample of targeted respondents was uploaded into the SurveyCTO software and data collectors given an equal number of respondents. Quantitative data was collected between November 13, 2019 and December 15, 2019. Out of a target of 1256 respondents, data was successfully collected from 935 students. In addition, the software allowed field staff to enlist new eligible adolescents enrolled in secondary school form one. The additional respondents formed the comparison group (new cohort) whose outcomes would be compared to the follow-up cohort to assess the sustainability of project gains. After filling all the relevant tools data was then transmitted to the main database on a daily basis, to enable the research team access to data and track progress in the field. Where the research team noted inconsistencies in the data, the same was communicated back to the field team for immediate correction. Additionally, a WhatsApp group was set up to facilitate communication between the field and research team, for instance, to communicate updated versions of the data collection software.

Field meetings were held every week for the team to update the field leadership on progress, strategies for mobilizing respondents, lessons learned, challenges and any matter arising that needed attention. Field staff were also provided with security to help them access respondents during late hours and as protection for themselves and the field equipment. In addition to the field meetings, field supervisors in the two study sites conducted sit-ins and spot checks for each of the data collectors to minimize data collection errors.

The following questionnaires were fielded:

- Individual schooling history questionnaire was used to collect data on the pupils' schooling history and attendance including the type and location of school, absenteeism from school, change of school, repetition and extra tuition.
- Individual behavior/soft skills questionnaire collected data on levels of pupils' soft skills (self-awareness, self-management, social-awareness, relationships and responsible decision making). In addition, the questionnaire collected information on people's knowledge, attitudes and practice on sexual reproductive health and rights and drug and substance abuse.
- Social-emotional resilience questionnaire assessed the students' social-emotional resilience by focusing on six key competencies: social self-efficacy (the ability to relate to and communicate effectively with others); self-assertive efficacy (the ability to speak up for one's rights); self-regulatory efficacy (the ability to resist negative peer pressure); youth-community connections: neighbourhood support & activities; social competencies; and adult-youth connections outside of home and school.
- Parental/guardian involvement questionnaire gathered data on parental involvement in the education of boys and girls in the community in terms of provision of resources, homework support, school follow-up, and follow-up to know how, where and with whom they spend their time.
- Literacy and numeracy written assessments. The literacy assessment was used to evaluate the students' ability to read, write, speak and listen for effective communication. On the other hand, the numeracy assessment evaluated their ability to access, use and interpret and communicate mathematical information and ideas.

Separate days were set aside for administering the numeracy and literacy assessments. A total of 635 assessments were administered with Viwandani having conducted 363 Numeracy and 363 Literacy assessments and Korogocho 272 Numeracy and 272 Literacy assessments. In addition to the mobilization by field staff, dedicated mobilizers were engaged to ensure as many adolescents as possible were reached for the assessments considering that the Christmas break was approaching. Considering that each of the assessments took about two and a half hours, refreshments were provided to all the participants to boost their energy levels.

Qualitative data collection followed quantitative data collection and was staggered between December 4, 2019 and January 31, 2020. The qualitative team consisted of two individuals (moderator and assistant moderator) both of who were involved in qualitative studies in the previous phases of the A LOT-Change project. The team held a one day induction to discuss how to establish rapport, minimize interviewer bias, use probing questions, manage transitions, and determine when they had sufficient information to move to the next question.

A total of 110 respondents including students, parents, mentors, counsellors and community leaders were interviewed through in-depth interviews, focus group discussion and dialogues as indicated in Table 1.1. The main focus of the qualitative interviews were divided into four areas: provide an in-depth understanding of the sustained effects of the program for students and parents who were earlier enrolled in the A LOT-Change program; gather students' secondary school experiences; get opinions on feasibility of implementing the A LOT-Change program among older adolescents and capture participants' expectations for the new phase. Daily debriefs were held to discuss interview dynamics, reflect on what went well or not, and identify opportunities for improving future interviews. Below is a description of qualitative respondents and their selection.

- **Selection of pupils:** Four dialogues, two in each site, were held with adolescent boys and girls who were enrolled in phase II (2016-2018) of the A LOT-Change project. Separate dialogues were held for adolescent boys and girls. Interviews were conducted after seeking consent from their parents as well as assent from the participants.
- **Selection of community leaders:** Two key informant interviews were conducted with community advisory committee (CAC) members in charge of education in Korogocho and Viwandani. The CAC is tasked with reviewing and sensitizing of community members about APHRC projects.
- **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 who deliver the afterschool support program to adolescents and parental counselling were selected for key informant interviews.

Table 1.1: *Distribution of qualitative interviews*

Study Population	Korogocho (n=56)	Viwandani (n=54)	Total (N=110)
Focus group discussions (FGDs)			
Parents	34	32	66
Key informant interviews (KIIs)			
Community Advisory Committee member in charge of education	1	1	2
Mentors	3	3	6
Counsellors	2	2	4
Dialogues			
Adolescent boys and girls	16	16	32

1.4 DATA ANALYSIS

» 1.4.1 Quantitative data analysis

We used a mix of approaches to analyse the baseline data as described in this section. Firstly, we conducted descriptive data analyses which involved means, frequencies and percentages. Tests such as Chi-square tests, T-tests, and Mann-Whitney tests were used to establish whether there were significant associations or differences by various groups/factors on the outcomes of interest. Secondly, given a number of indicators we utilized exploratory factor analysis, a dimension reduction technique to simplify a large number of variables into smaller number of unobserved variables made up of interrelated items. For items that were measured using a Likert scale, 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. The average scores enabled easy mapping back to the original Likert scale response continuum. Additionally, proportions were also used to assess the perceptions towards the student's behavior. Thirdly, we used regression analysis in order to understand relationships between variables. For various sections the results were categorized by sex, site and cohort sub-groups among other categories. The results are presented using tables and figures. A detailed description of the approaches used is described in each of the chapters.

» 1.4.2 Qualitative data analysis

All the baseline qualitative data were tape recorded and transcribed verbatim in English 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 while the inductive codes were thematic areas that emerged during the coding process. A coding report organizing the qualitative data into themes of interest guided by the research objectives was then generated. The team then used the coding report to summarize key findings.

In addition to systematic thematic analysis to ensure trustworthiness and validity of the qualitative data, other techniques employed were detailed transcription, transcription of data and constant comparison (Anderson, 2010; Tian & Dumlao, 2020). First, the transcribed data was crosschecked against audio files to ensure consistency with the verbatim transcriptions. Through triangulation, we posed a couple of similar questions to the study participants on the same study phenomenon to ensure that contradictory evidence was examined and that the researcher's bias is minimized.

2.0

Characteristics of Respondents

2.1 SAMPLE CHARACTERISTICS

We interviewed a total of 918 study participants. 371 were followed up from A LOT Phase II whereas newly recruited cohort comprised of 547 learners. The proportion of girls (52.3%) was more than that of boys (47.7%) with similar distribution across the cohorts. In terms of site, slightly more participants were from Viwandani (50.3%). Majority of the students had been enrolled in public secondary schools (77.8%) which is expected since the proportion of public secondary schools enrolment in Kenya is 92% (Republic of Kenya, 2016). More students attended boarding (43%) compared to either Day or Mixed-Day and Boarding. Finally, more than half of the students (51.2%) attended mixed gender schools. See Table 2.1.

Table 2.1: Sample classification

Characteristic	Classification	COHORT	OVERALL	
		Follow-up	New Cohort	
Total	ni	371	547	918
Average learner's age	Mean (SD)	15.6(1.02)	16.0(1.27)	15.8(1.18)
Frequency	Percentage	%	%	%
Learner's sex	Boy	46.9	48.3	47.7
	Girl	53.1	51.7	52.3
Learner's site	Koch	46.1	52.1	49.7
	Viwa	53.9	47.9	50.3
School type	Public	81.4	75.3	77.8
	Private	18.6	24.7	22.2
Boarding status	Boarding	48.3	40.0	43.4
	Day	35.6	44.4	40.9
	Mixed Day & Boarding	16.2	15.5	15.8
School's location	Korogocho	1.6	5.7	4.0
	Other non-slum Nrb	33.7	35.8	35.0
	Other slum	4.0	3.7	3.8
	Outside Nairobi	57.1	49.4	52.5
	Viwandani	3.5	5.5	4.7
School gender	Girls	32.1	26.7	28.9
	Boys	23.5	17.6	19.9
	Mixed	44.5	55.8	51.2

2.2 LEARNERS' AGE

The average learners' age was 15.8 years ranging from 13.0 to 21.6 years. By sex, the mean age of boys (15.9) was slightly greater than that of girls (p-value=0.011). The mean age of students from Korogocho were significantly greater than those from Viwandani (p-value<0.001) and by type of school those studying in private were older than those from public schools (p-value<0.001). Slightly greater difference in age among those studying in mixed schools and among those in day schools.

Table 2.2: Mean age of learners

Characteristic	Classification	N	Mean learner's age (SD)	By Site	
				Koch	Viwandani
Overall		918	15.8(1.18)	16.1(1.27)	15.5(1.00)
Learner's sex	Boy	438	15.9(1.17)	16.2(1.16)	15.5(0.98)
	Girl	480	15.7(1.19)	16.0(1.08)	15.5(0.96)
Site	Koch	456	16.1(1.27)	-	-
	Viwa	462	15.5(1.00)	-	-
Type of school	Public	714	15.7(1.16)	16.0(1.27)	15.5(0.99)
	Private	204	16.2(1.19)	16.5(1.23)	15.8(1.03)
School gender	Girls	265	15.6(1.19)	15.9(1.36)	15.3(0.89)
	Boys	183	15.7(1.15)	16.1(1.21)	15.4(1.00)
	Mixed	470	16.0(1.17)	16.3(1.23)	15.7(1.04)
Boarding status	Boarding	398	15.5(1.01)	15.9(1.04)	15.3(0.94)
	Day	375	16.2(1.27)	16.3(1.37)	15.9(1.01)
	Mixed Day & Boarding	145	15.7(1.15)	16.0(1.25)	15.5(1.04)

2.3 PARENTAL EDUCATION STATUS

As relates to the parental education indicator, a bigger proportion of fathers had post primary education (54.7%) than mothers (41.2%). Similarly the proportion of fathers (3.7%) with no education was less compared to that of the mothers (5.8%). Further, 4% of the fathers had university level education whereas only about 1.5% of the mothers had that level of education as portrayed in Figure 2.1. The results further indicate that there is a significant association between Mother's education attainment and the cohort (p-value=0.006) where follow-up cohort depict higher proportions of mothers with post primary education than the new cohort. Whereas for fathers, there is no significant association between father's their education attainment and the cohort they belong(p-value=0.066).

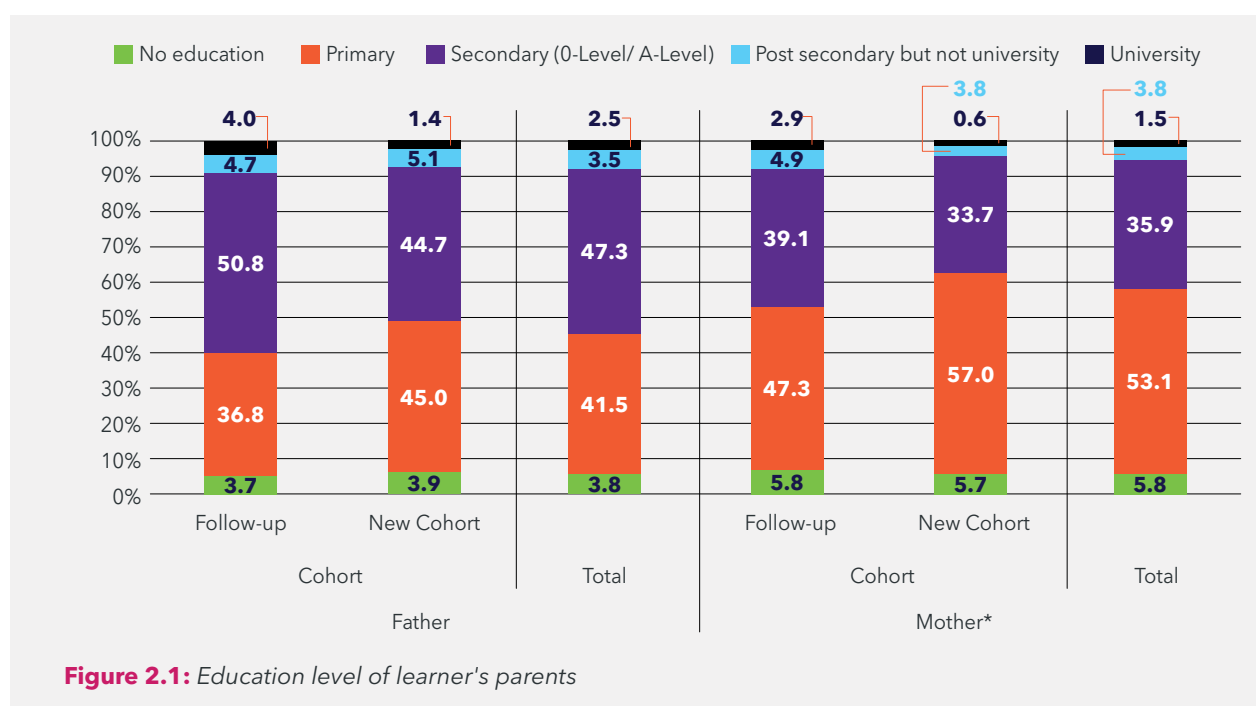


Figure 2.1: Education level of learner's parents

2.4 SCHOOL REPETITION

Grade repetition by learners was recorded across all the grades (all those who repeated in form 1 were in the new-cohort). Majority of the grades recorded zero repetitions ranging from a proportion of 93.5% (Grade 4) to 99.3% (Form 1). Majority of the repetitions happened only once with proportions ranging from 0.7% (Form 1) to 6.4% (Grade 4) as portrayed in Table 2.3.

Table 2.3: Number of times learners repeated grade

Grade/Standard	Proportion of number of times repeated				
	#	0	1	2	3
1		95.1	4.3	0.6	0.1
2		96.0	3.7	0.2	0.0
3		94.9	4.7	0.2	0.1
4		93.5	6.4	0.1	0.0
5		94.9	4.8	0.2	0.0
6		94.1	5.5	0.4	0.0
7		94.8	5.1	0.1	0.0
8		97.3	2.6	0.1	0.0
Form 1		99.3	0.7	0.0	0.0

2.5 SCHOOL ATTENDANCE AND ABSENTEEISM IN THE LAST SCHOOL WEEK

Learners were asked to report their schooling attendance during the last complete schooling week before they broke for holidays. Overall over 91% attended school in the last schooling week. Among those who missed, 3.1% missed once, 2.3% missed twice, 0.1 percent (emanating from the new cohort) missed thrice whereas 2.3% missed the entire schooling week which incorporated 2.7% from the follow-up cohort and 2.0% from the new cohort as provided in Table 2.4.

Table 2.4: School's attendance in the last complete schooling week

Number of days missed school in the last complete school week	COHORT		
	Follow-up	New Cohort	Total
0 days	91.6	91.1	91.3
1 day	3.0	3.2	3.1
2 days	1.4	3.0	2.3
3 days	1.4	0.6	0.9
4 days	0.0	0.2	0.1
5 days	2.7	2.0	2.3
Total	369	540	909

Learners who indicated to have missed school during the last schooling week (31 in total) were requested to state reasons that lead to that. The main reasons included lack of school fees (43%), sickness (32.9%), no learning activity (11.4%) and did not feel like attending (6.3%). Bad weather, family reasons, bullying threats and working were among the other reasons stated by learners though by a significantly smaller number of learners as shown in Figure 2.2. It should be noted that there was no mention of missing school because of work or bullying and threats among the follow-up cohort.

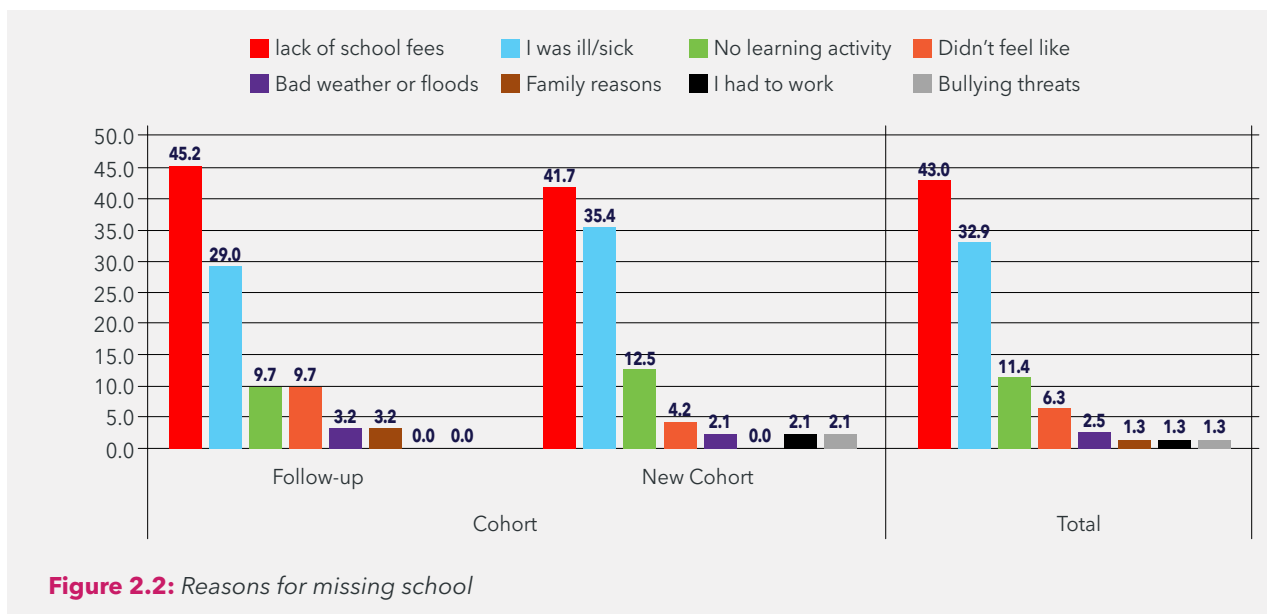


Figure 2.2: Reasons for missing school

2.6 LITERACY AND NUMERACY HOMEWORK

Homework frequency per week was assessed. The proportion of learners who had weekly homework assignments was higher for Mathematics (94.7%) than for English (91.6%). In addition, although half of the participants were attending boarding schools, they reported receiving holiday homework as provided in Table 2.5.

Table 2.5: Homework frequency

Homework	Mathematics			English		
	Follow up	New Cohort	Total	Follow up	New Cohort	Total
Never	4.6	5.9	5.4	8.4	8.5	8.5
Once a week	3.5	4.4	4.1	6.8	9.8	8.6
Twice a week	4.9	7.0	6.2	8.4	11.3	10.1
Three times a week	10.0	10.4	10.2	11.7	12.6	12.2
More than three times	21.4	25.6	23.9	11.1	12.0	11.7
In boarding but has holiday homework	55.6	46.7	50.3	53.7	45.7	49.0
Total	369	540	909	369	540	909

2.7 LITERACY AND NUMERACY HOMEWORK COMPLETION STATUS

We assessed how frequent students completed the homework assignments that were given to them using a scale of "Never", "Rarely", "Sometimes", "Usually" and "Always". About 80.1% of learners always completed the Mathematics assignment whereas 86.7% always completed their English assignments. The proportions were evenly distributed across the cohort subgroups as shown in Figure 2.3. There was no significant association between the completion of homework status by learners and the cohort.

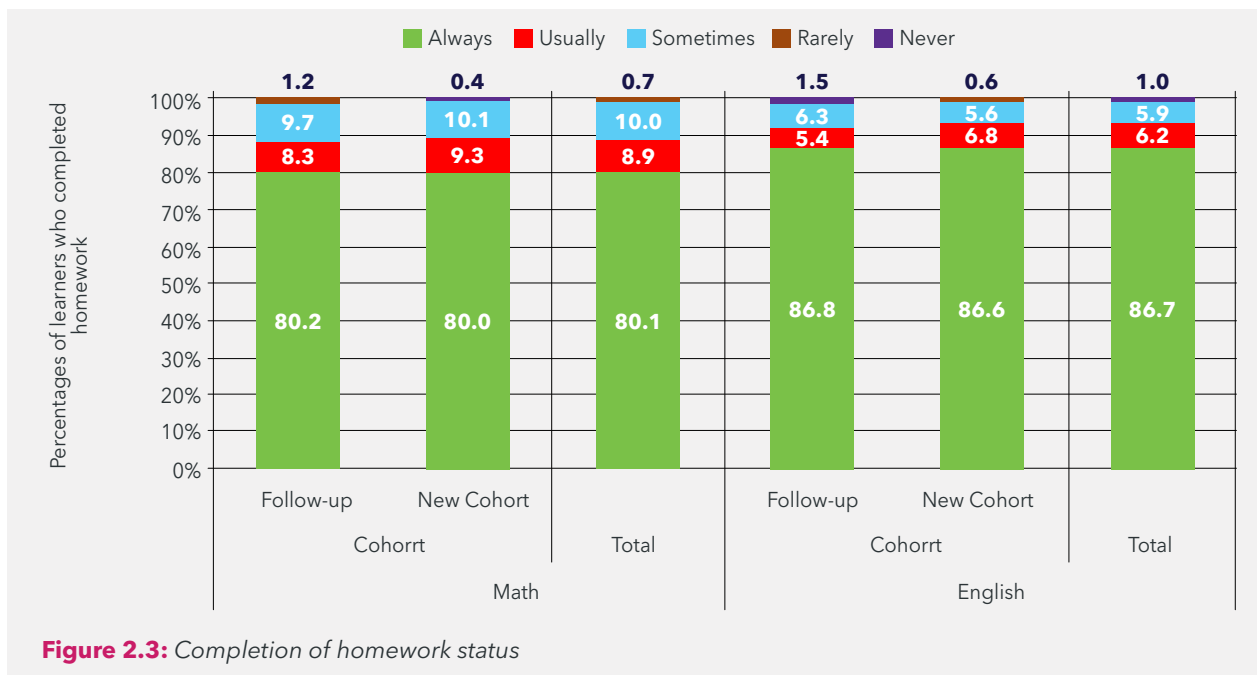


Figure 2.3: Completion of homework status

2.8 ACCESS TO AFTER SCHOOL SUPPORT

About 59% of learners in the follow-up group received after-school support, whereas in the new-cohort only half of the participants received after-school support. In total, about 53.7% had received after-school support as provided in Figure 2.4. There was a significant association between the cohort and homework support (p-value=0.007). This finding indicate that follow-up group had benefitted more from the after-school support compared to those in the new-cohort.

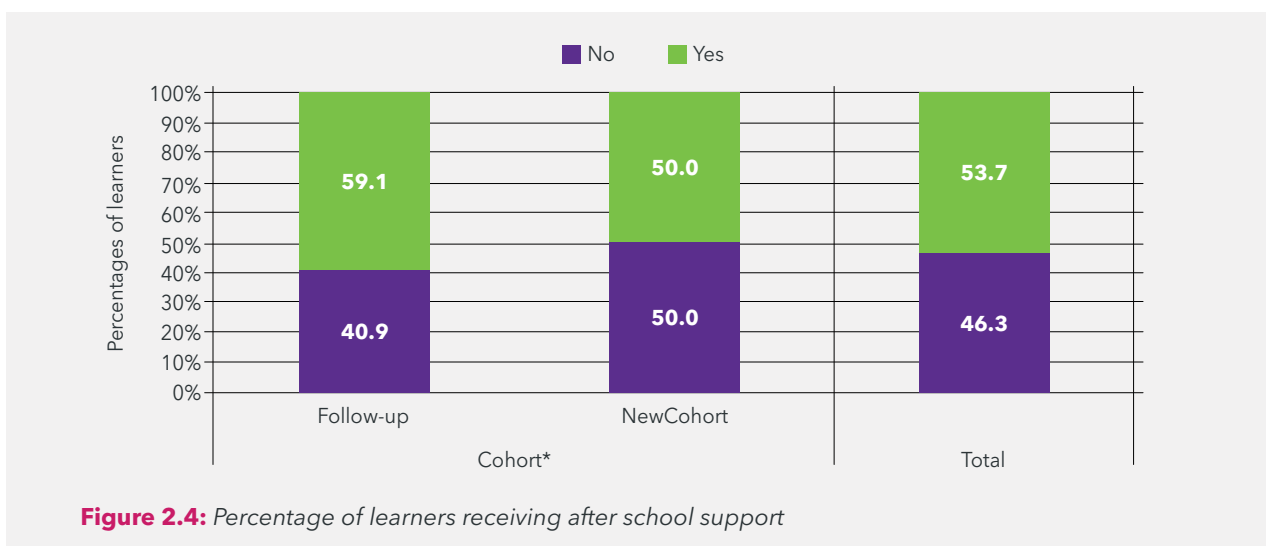


Figure 2.4: Percentage of learners receiving after school support

Among the learners who indicated to be receiving after-school support, 92.4% indicated to have received the support from the non-governmental organizations (NGOs) whereas about 5% received from their schools. Further results are as shown in Figure 2.5.

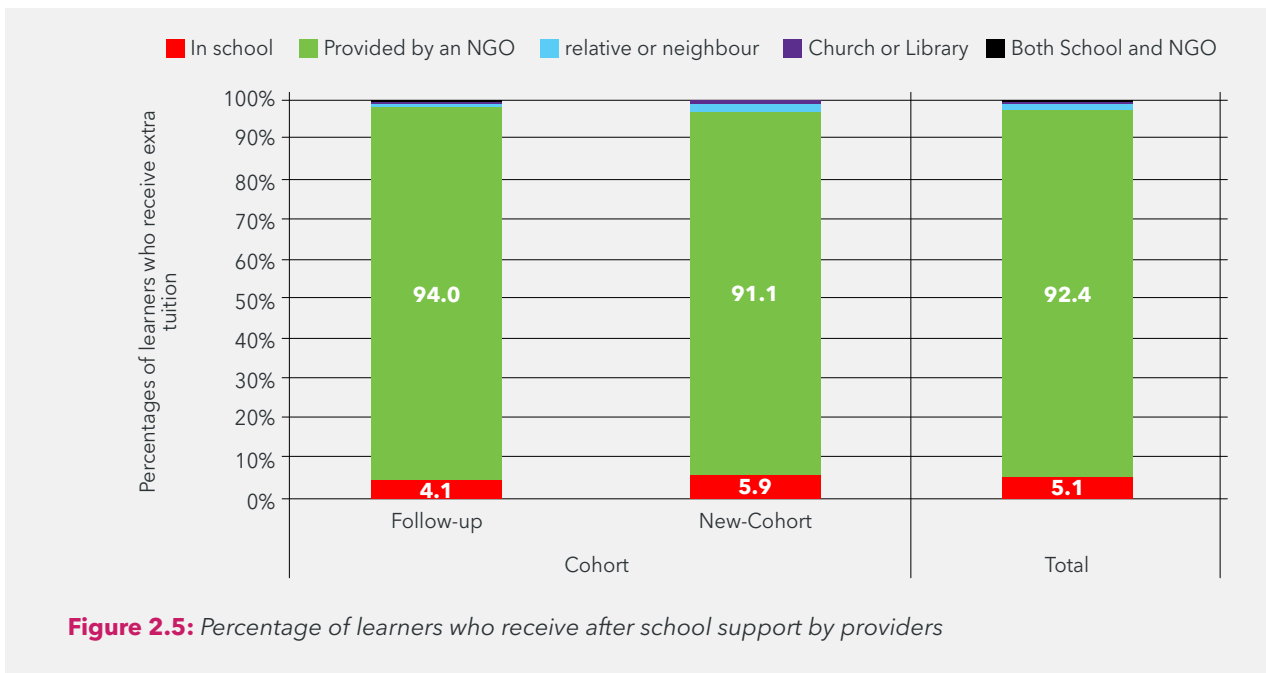


Figure 2.5: Percentage of learners who receive after school support by providers

2.9 HOMEWORK SUPPORT BY HOUSEHOLD MEMBERS

Assessment of homework support indicated that over half (56.5%) of learners never received support from their HH members in English with the new cohort contributing to a higher proportion at 59.9% compared to the follow-up cohort at 51.7%. Similarly, about 44.5% did not have any support in doing Mathematics homework from HH members with a higher proportion emanating from the new-cohort (47.1%) compared to the follow-up cohort (40.7%) as portrayed in Figure 8. There was a significant association between the cohort and frequency of support they received from HH members in Mathematics and English with p-values of 0.012 and 0.36 respectively, meaning that the interventions delivered to the follow-up group during Phase II may have impacted the level of support family members provided to the learners.

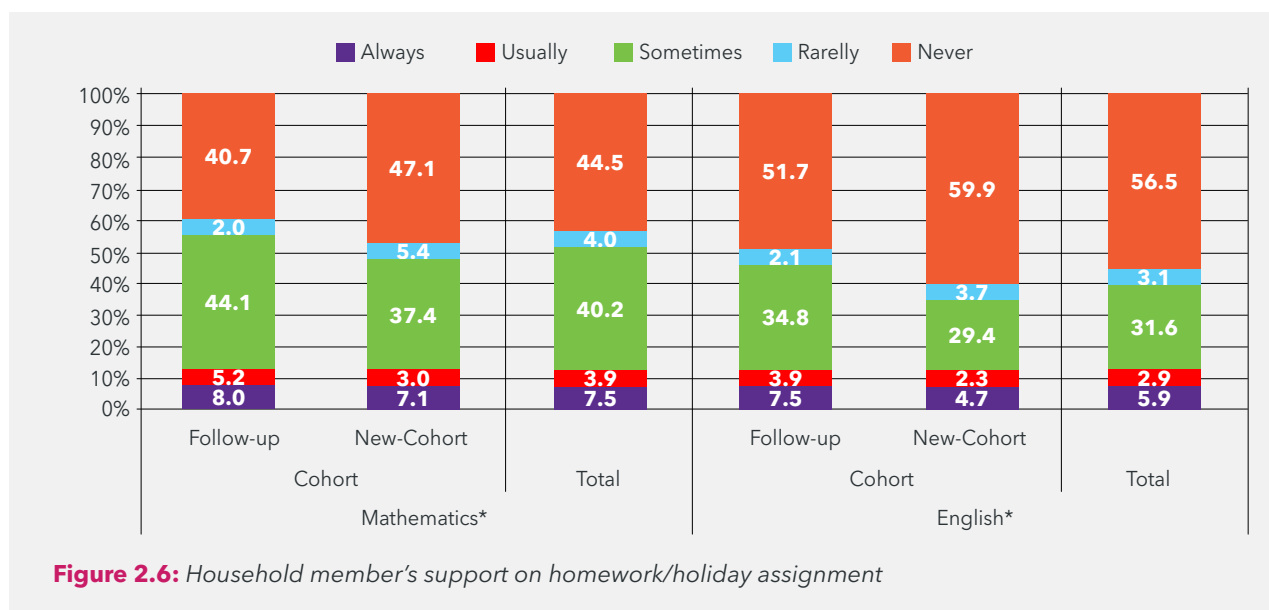


Figure 2.6: Household member's support on homework/holiday assignment





3.0

Effect of ALOT-Change on Pupil Achievement in Numeracy and Literacy

3.0 EFFECT OF ALOT-CHANGE ON PUPIL ACHIEVEMENT IN NUMERACY AND LITERACY

In this chapter, we present the pupil assessment achievement in numeracy and literacy at the baseline. The study involves two groups of learners, dictated by participation in an earlier study conducted between 2016 and 2018: the follow-up and new cohort. The follow-up cohort, recruited in 2016, included learners enrolled in primary level, standard six, and living in Korogocho and Viwandani sites. The cohort of learners were part of the A LOT Change intervention, and followed until 2018 when they sat for their primary level exit examination. By the time of the baseline in 2019, the learners were already in secondary school in Form One, which is equivalent to grade 9. The new cohort was recruited in 2019 and included learners enrolled in secondary form one, and residing in the two sites. The only difference between the two is their participation in this earlier study. The adopted design enables evaluating the long-term effects of after school support, parental counselling, and leadership in improving learning outcomes. Following this, the new cohort can be termed as the comparison group.

Pupil achievement was measured using the curriculum for upper primary level and secondary form one grades developed by experts for this study. To establish whether there was a baseline balance, we compare achievement mean scores between the new and follow-up cohorts. It is, however, worth noting that any significant differences in the means between the two groups, and that favour the follow-up cohort potentially indicate sustained effects of the earlier intervention.

The developed numeracy tests consisted of 45 items, with 20 multiple choices (A to D) items relating to the upper primary content area, while the remaining 25 to secondary form one content. The later items were open-ended and learners were expected to show their working and having a clear visible answer. The rubric for scoring the open-ended items included awarding to a maximum of three points for each item: For applying the correct formula, process, and answer. Fifteen of the 20 multiple-choice items attracted one point for choosing the correct response, while the remaining five attracted two points. Thus, the total score for the numeracy items was 100. The numeracy items covered various content areas organized by topics and Bloom's taxonomy cognitive domains (knowledge, comprehension, application, and analysis and evaluation).

The numeracy reliability indices using Cronbachs Alpha were 0.92 for the overall assessment and 0.77 and 0.90 for upper primary and secondary level content items respectively. All the numeracy items, except two, were all loading only to the first-factor when examined using eigenvalues of at least 0.3. The exceptional items, one had a loading value of 0.19 for factor 1 and 0.30 for factor 2, meaning it was somehow measuring a different construct. The other item was loading to both factor 1 (0.43) and factor 2 (0.31). We, however, did not drop the items following deeper examination that showed they had very little influence once excluded. We shall continue monitoring their behavior at endline.

The literacy assessment was grouped into six-question items, organized in terms of their content area, each with multiple sub-items. The main items included composition (20 points), cloze test (10 points), comprehension (20 points), narrative (20 points), poetry (50 points), and grammar (15 points). The literacy items covered the same four cognitive domains covered by the numeracy items. The literacy reliability index was 0.84, and all the items were loading to factor 1. The overall assessment that included both literacy and numeracy assessment has a reliability index of 0.84, and as expected, the literacy items significantly loaded into both factor 1 and 2, indicating that the tools were both reliable and measured well the constructs of interest.

We analyzed the assessments using Rasch measurement techniques and the test scores for each subject were transformed into a scale with a mean of 500 and a standard deviation of 100. The transformation enabled valid comparison in pupil achievement between and across subject content areas and cognitive domains. Besides, the transformation makes it easier to interpret and quantify any observed differences in the overall performance in terms of standard deviations. For instance, a difference of 25 points can be interpreted as one-quarter of a standard deviation (0.25), while a difference of 50 points as one half of a standard deviation (0.5). However, this interpretation is only relevant to the overall comparisons, and not the stratified analysis by gender and study site.

3.1 PUPIL ACHIEVEMENT IN NUMERACY AND LITERACY

The results of pupil achievement in numeracy and literacy are presented in Table 3.1. We make a comparison between the new and follow-up learners, for each assessment, then stratified by gender, and study site. For numeracy, we also compare within the curriculum levels of the items. Overall, the follow-up group achieved better than the new cohort and this is in line with the hypothesis of the current study indicating sustained effects of the earlier interventions.

For **numeracy**, the follow-up cohort significantly scored on average 17.70 points (0.177 standard deviations) as compared to the new cohort. When stratified by the study site, in Korogocho, the achievement for both new and follow-up cohorts was not significantly different. Viwandani seemed to be driving the observed overall differences, with a mean difference of 23.30 points, in favour of the follow-up cohort. In terms of gender, we find that girls performed relatively similar in numeracy assessment irrespective of the cohort, while among boys, the follow-up scored on average 28.01 points more than the new cohort; and the difference was statistically significant. In terms of the level of the content, there seemed to be a baseline balance on the primary level items, despite the follow-up cohort scoring slightly higher. However, we observe significant differences in performance when examining secondary level items, with the follow-up cohort posting higher average scores than the new cohort. When comparing across gender, boys tended to score higher in numeracy than girls - for both new and follow-up cohorts. For instance, when comparing gender performance within the cohorts, boys scored significantly higher than girls by 49.57 points ($P=0.001$) and 28.80 ($P=0.015$) in the follow-up and new cohort respectively.

For **literacy**, the follow-up cohort posted better achievement both in the overall and after being stratified by gender and study site. Other than Korogocho, in which the difference in the standardized mean scores was significant at 10%, the rest are significant at least at 5%. Overall, the follow-up cohort scored on average 0.26 standard deviations in literacy more when compared to the new cohort. In regard to literacy achievement, Viwandani, and girls seemed to drive the overall differences in achievement between the two cohorts. When comparing gender, girls irrespective of the cohort achieved better in literacy than boys, though the differences were not significantly different.

Table 3.1: Mean scores for numeracy and literacy

(a) Numeracy								
	New			Follow-up			Mean Difference	
	n	Mean (C)	SE	n	Mean (T)	SE	T-C	P-Value
Overall	309	491.73	5.78	271	509.43	5.92	17.70	0.033
Korogocho	129	496.85	9.10	111	506.65	8.74	9.80	0.442
Viwandani	180	488.06	7.50	160	511.36	8.00	23.30	0.034
Boys	151	506.52	8.84	135	534.53	9.21	28.01	0.029
Girls	147	477.73	7.83	135	484.97	6.87	7.24	0.491
Prim. Items	309	494.10	5.68	271	506.73	6.07	12.62	0.129
Form 1 Items	309	491.37	5.80	271	509.83	5.89	18.46	0.026

(b) Literacy								
	New			Follow-up			Mean Difference	
	n	Mean (C)	SE	n	Mean (T)	SE	T-C	P-Value
Overall	309	488.09	5.97	265	513.88	5.66	25.79	0.002
Korogocho	130	492.88	8.82	111	514.29	7.97	21.42	0.077
Viwandani	179	484.62	8.09	154	513.59	7.88	28.97	0.011
Boys	148	481.85	9.16	133	506.20	8.20	24.35	0.050
Girls	146	494.01	8.05	131	521.89	7.82	27.88	0.014

(c) Combined (Numeracy and Literacy)								
	New			Follow-up			Mean Difference	
	n	Mean (C)	SE	n	Mean (T)	SE	T-C	P-Value
Overall	294	488.65	6.03	259	512.89	5.87	24.24	0.004
Korogocho	126	496.29	8.87	110	510.89	8.26	14.60	0.234
Viwandani	168	482.91	8.19	149	514.37	8.20	31.45	0.007
Boys	143	493.56	9.37	129	526.64	9.03	33.08	0.120
Girls	141	483.59	8.13	129	499.67	7.41	16.07	0.148

3.2 CHANGES IN PUPIL SCORES BY CONTENT AND COGNITIVE DOMAINS

Table 3.2 numeracy cognitive areas as per the Blooms Taxonomy. Overall, the follow-up cohort performed better in all the cognitive domains as compared to the new cohort. For instance, the follow-up cohort scored 19.65 scores and 18.03 scores equivalent to 0.20 and 0.18 standard deviations more in knowledge and comprehension items than the new cohort did. We do not observe significant differences in the application and analysis items, despite the follow-up cohort posting on average higher scores. The scores for the content areas are not presented since they were spread over various topics as per the curriculum outcome areas.

Table 3.2: Mean scores for numeracy cognitive areas by study group

Cognitive Area	New			Follow-up			Mean Difference	
	n	Mean (C)	SE	n	Mean (T)	SE	T-C	P-Value
Knowledge (6)	309	490.82	5.61	271	510.47	6.12	19.65	0.018
Comprehension (22)	309	491.57	5.86	271	509.61	5.82	18.03	0.030
Application (13)	309	494.57	5.81	271	506.20	5.91	11.63	0.163
Analysis (3) and								
Evaluation (1)	309	493.52	5.63	271	507.39	6.13	13.87	0.096

Table 3.3 shows the scores for each of the literacy content areas assessed. The scores for each content were computed separately and triangulated to a mean of 500 and a standard deviation of 100. On average, the follow-up scored above the standardized mean of 500 across all the content areas, while the new cohort was below the mean. All the differences between the follow-up and new cohort are significant at least at 10%. The cloze test had the highest difference of 0.335 standard deviations, followed by comprehension at 0.242 standard deviations. The cloze test required the students to read a paragraph and fill blanks spaces with the most appropriate words. The words were not provided and therefore required a good mastery of the language, while comprehension involved answering a set of items from a provided passage. We also observe that despite a difference in performance in composition, grammar, and poetry between the two groups of learners, it was only significant at 10%.

Table 3.3: Mean scores for literacy content areas by study group

Content Area	New			Follow-up			Mean Difference	
	n	Mean (C)	SE	n	Mean (T)	SE	T-C	P-Value
Composition	309	493.26	6.17	265	507.86	5.45	14.60	0.081
Cloze test	309	484.54	5.80	265	518.03	5.81	33.49	0.001
Comprehension	309	488.81	5.78	265	513.05	5.94	24.23	0.004
Narrative	309	491.04	5.95	265	510.45	5.74	19.42	0.020
Poetry	309	493.23	5.61	265	507.89	6.22	14.66	0.080
Grammar	309	493.05	5.89	265	508.10	5.86	15.06	0.072

3.3 MULTIPLE REGRESSION ANALYSIS

Table 3.4 presents the results of multiple regression, with pupil achievement in numeracy, literacy, and combined scores as the main outcome. We observed significant differences in pupil performance between the two groups in the descriptive analysis. In the regressions analysis, the differences persist, however they become smaller and not significant. The differences in performance as indicated in the descriptive analysis are largely explained by the interaction between pupil and school gender and the type of school attended. In particular, boys enrolled in boys' schools (single gender) performed significantly better in numeracy than boys who were enrolled in mixed schools and girls irrespective of their school gender. In literacy, students enrolled in single-sex schools had better scores than those in mixed schools; with boys in mixed schools significantly scoring lower than boys enrolled in boys schools.

Table 3.4: Regression analysis

	Numeracy		Literacy		Combined	
	Coef (SE)		Coef (SE)		Coef (SE)	
Cohort: New	-		-		-	
Follow-up	3.93	(7.47)	12.00	(7.52)	9.40	(7.51)
Pupil & School gender						
Boy # Single	-		-		-	
Boy # Mixed	-66.22***	(13.19)	-57.43***	(13.26)	-68.66***	(13.16)
Girl # Single	-60.22***	(10.37)	1.25	(10.4)	-35.52***	(10.37)
Girl # Mixed	-82.57***	(13.68)	-21.86	(13.59)	-62.31***	(13.56)
Study Site: Koch						
Viwa	-19.09*	(7.89)	-17.04*	(7.95)	-23.05**	(7.93)
School Type: Public						
Private	-40.05***	(9.8)	-72.81***	(9.78)	-57.01***	(9.89)
Pupil Age	-9.51**	(3.5)	-5.97	(3.53)	-8.84*	(3.5)
Boarding status: Boarding						
Day	-30.70**	(11.43)	-12.22	(11.52)	-28.05*	(11.42)
Mixed	-20.47	(12.36)	-25.69*	(12.58)	-27.95*	(12.45)
Constant	732.45***	(55.79)	639.72***	(56.3)	713.53***	(55.91)
R-squared	0.23		0.23		0.25	
N	580		574		553	

* p<0.05, ** p<0.01, *** p<0.001

In both literacy and numeracy, private schools posted on average lower scores than those in public schools. In the sample, about 19% of the students were enrolled in private schools. The private schools also tended to be day schools, located in Nairobi, with half of those enrolled in them being day scholars. However, the results of boarding status are mixed, with day and mixed day schools performing significantly lower than boarding schools in numeracy and literacy respectively. Given the smaller proportion of students enrolled in private schools, we did not explore the interaction between school type and boarding status. Older students also tended to score lower. Pupil age ranged from 13 to 19. Those aged between 13 and 15 years tended to have similar mean scores (results not shown), however, any subsequent increment in age was associated with reduced scores in literacy and numeracy.



Pupil behaviour and life skills

4.0 PUPIL BEHAVIOUR AND LIFE SKILLS

This chapter presents the nature of the student's behavior and life skills components categorized by cohort, sex of the student and study sites. Specifically, the chapter presents data on educational goals and aspirations of student's participating in the study, their perceptions on schooling and its environment, parental involvement, self-confidence and engagement in sexual activities.

For items that were measured using a Likert scale, 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. The average scores enabled easy mapping back to the original Likert scale response continuum. Additionally, proportions were also used to assess the perceptions towards the student's behavior. For various sections the results were categorized by sex, site and cohort sub-groups.

4.1 DELINQUENT BEHAVIOR

Delinquency is a 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. The motivation behind life-skills mentoring was to impart 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 the number of times they had engaged in different kinds of delinquent behavior in the past four months using 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 0.79, which indicates high reliability. Looking at those who indicated that they had never been involved in delinquent behavior across sites, sex and cohort, majority (ranging between 94 % and 100%) of the learners reported that they had never stayed away from home without parental permission, had never carried a weapon for self-defense, had never hit or threatened to hit an adult, and had never used, sold or delivered drugs or alcohol as portrayed in Figure 4.1 and Table 4.1.

However, we found that the proportion of learners who indicated that they had never started a fight with peers or taken something that did not belong to them without permission was lower with overall proportions of 78% and 81% respectively. A test of proportions on the two items was conducted and the results indicate that although the proportion of learners from Viwandani who had never started a fight was slightly higher than those from Korogocho, the difference was not significant at 5% level (p -value=0.48). Similarly by cohort, there was no significant difference between follow-up group (80%) and the new cohort (76%) with a p -value=0.25. On the other hand, this difference was significant by student's gender whereby a greater proportion of girls (84%) had never started a fight compared to boys (70%) with a p -value<0.001. Regarding stealing (taking away something belonging to someone else without permission), across study sites, a significantly higher proportion were available in Viwandani (88%) of those students who never participated in the behavior than those from Korogocho (74%) with a p -value<0.001, whereas by study sex and cohort the difference was not significant.

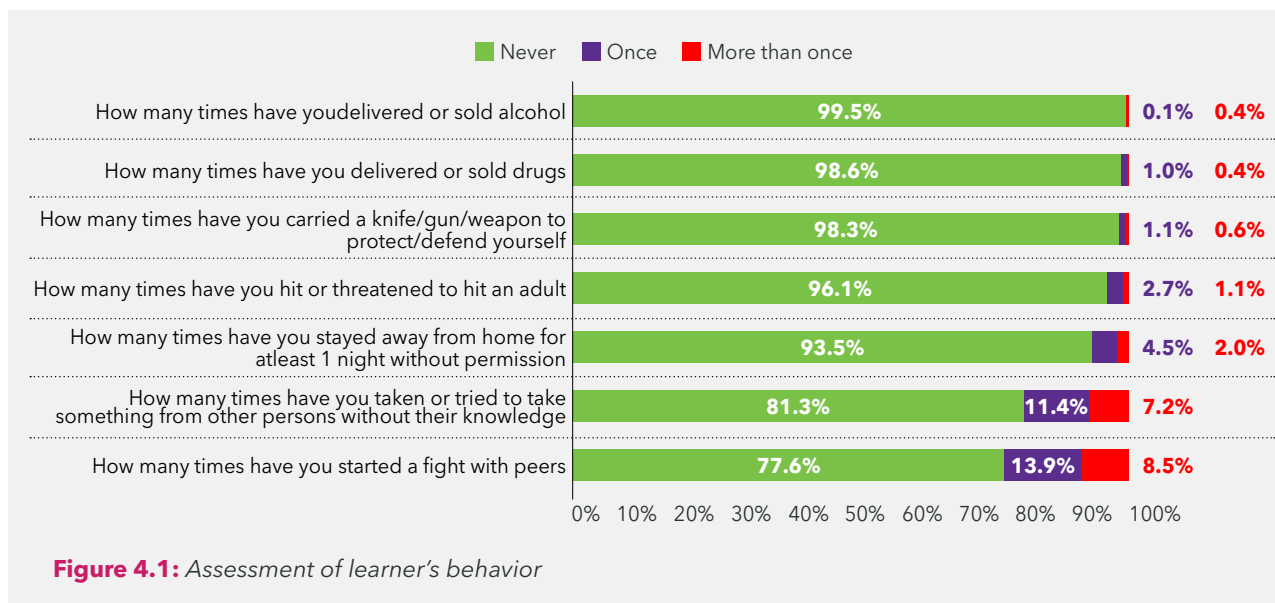


Table 4.1: Learner's behaviour assessment

		Total	Learner's sex		Study site		Cohort	
			Boy	Girl	Koch	Viwa	Follow-up	New-Cohort
How many times have you stayed away from home at least 1 night without permission	Never	94%	91%	96%	91%	96%	97%	91%
	Once	4%	6%	3%	7%	2%	2%	6%
	More than once	2%	3%	1%	2%	2%	1%	2%
How many times have you started a fight with peers	Never	78%	70%	84%	76%	79%	80%	76%
	Once	14%	18%	10%	15%	13%	12%	15%
	More than once	8%	12%	6%	9%	8%	8%	9%
How many times have you taken something that belonged to someone else without their knowledge	Never	81%	79%	83%	74%	88%	83%	80%
	Once	11%	13%	10%	16%	7%	10%	12%
	More than once	7%	7%	7%	10%	5%	6%	8%
How many times have you carried a knife/gun/weapon to protect/defend your	Never	98%	97%	99%	97%	99%	99%	98%
	Once	1%	2%	1%	2%	0%	0%	2%
	More than once	1%	1%	0%	1%	0%	1%	1%
How many times have you hit or threatened to hit an adult	Never	96%	95%	98%	95%	98%	98%	95%
	Once	3%	3%	2%	4%	2%	1%	4%
	More than once	1%	2%	0%	2%	1%	0%	2%
How many times have you delivered or sold drugs	Never	99%	99%	99%	98%	100%	99%	99%
	Once	1%	1%	1%	2%	1%	1%	1%
	More than once	0%	1%	0%	1%	0%	0%	0%
How many times have you delivered or sold any alcohol	Never	100%	99%	100%	100%	100%	100%	99%
	Once	0%	0%	0%	0%	0%	0%	0%
	More than once	0%	1%	0%	1%	0%	0%	0%

4.2 EDUCATIONAL GOALS AND FUTURE ASPIRATIONS

Educational goals and future aspirations of students were captured using 10 attributes (Abuya et al., 2015; Abuya et al., 2019) as shown on Table 4.2. The attributes assessed pupils' aspirations to pursue and complete various levels of formal education and future wellbeing. 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 10 items was 0.68 indicating an acceptable level of inter-item correlation. The educational goals and future aspirations were high across learner's sex, site and cohort. The overall mean was 2.85 which translates to high aspiration level. The difference in the overall scores was tested by use of t-test and found to be significant by study site (p -value=0.0003) and by cohort (p -value=0.0003), meaning that students in Viwandani and those in the follow-up group had higher education and future life aspirations. There was however no significant difference by learner's sex (p -value=0.385).

Table 4.2: Learners education goals and future aspirations

Chances that you will ...	Total	Learner's sex		Study site*		Cohort*	
		Boy	Girl	Koch	Viwa	Follow-up	New-Cohort
finish secondary school?	2.92	2.91	2.92	2.89	2.95	2.96	2.89
have a job that you enjoy doing?	2.92	2.92	2.92	2.89	2.95	2.92	2.92
be respected in your community	2.92	2.94	2.91	2.90	2.94	2.94	2.91
be able to own your own home?	2.91	2.93	2.89	2.87	2.94	2.93	2.89
be able to move to a better area?	2.91	2.91	2.92	2.88	2.94	2.95	2.88
have a happy family life?	2.89	2.90	2.88	2.87	2.90	2.92	2.87
stay in good health most of the time?	2.88	2.89	2.86	2.84	2.91	2.91	2.85
have a job that pays well?	2.85	2.86	2.85	2.81	2.89	2.89	2.83
go to university?	2.75	2.74	2.75	2.70	2.79	2.80	2.71
get pregnant or make someone pregnant?	2.53	2.55	2.52	2.55	2.52	2.57	2.51
Overall	2.85	2.86	2.84	2.82	2.87	2.88	2.83

*the overall mean significantly different at 5% level

In addition, parents were presented with a two-pronged question about their academic aspirations of their children. First, was the highest level of education that parents aspired their children to reach and secondly, was the realistic level of education that they thought their children would reach given their life situation. At least nine in every ten parents indicated that they would like their children to reach university level. This was the case across all the categories of gender, site and cohort. Asked about the realistic level they think their children will reach, only about six out of every ten indicated university level across all categories. A closer examination of the proportions indicated no significant difference by study site (p -value=0.594). On the other hand, there were significant differences by sex (p -value=0.042) and cohort (p -value=0.027) indicating that a higher proportion of parents are optimistic that a bigger proportion of boys than girls will study up to university level and similarly a bigger proportion of learners from follow-up cohort than in the new-cohort will study up to university. See Table 4.3 for detailed results.

Table 4.3: Parental perceptions on education aspirations for their children

		Total		Learner's sex		Study site		Cohort	
		N		Boy	Girl	Koch	Viwa	Follow-up	New-Cohort
Highest level would you like child to reach?	Secondary	10	1.1%	1.4%	0.8%	1.1%	1.1%	0.8%	1.3%
	College	58	6.4%	5.8%	7.0%	7.4%	5.4%	3.3%	8.5%
	University	839	92.5%	92.8%	92.2%	91.5%	93.5%	95.9%	90.3%
What the realistic highest level would you like him /her to reach?	Secondary	126	13.9%	13.9%	13.9%	11.9%	15.9%	14.9%	13.3%
	College	202	22.3%	18.8%	25.5%	25.3%	19.4%	16.9%	26.0%
	University	577	63.8%	67.3%	60.6%	62.8%	64.7%	68.2%	60.8%

4.3 SELF-CONFIDENCE AND SUPPORTING OTHERS TO FEEL CONFIDENT

We assessed self-confidence using a set of items that sought to find out how pupils felt about themselves and the extent to which they encouraged their peers to feel good about themselves. The pupils rated themselves using a Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree) regarding how they felt about themselves and the scale of 1 (always) to 4 (never) regarding how often they encourage others to feel good about themselves. The overall mean score of student's self-confidence was 4.92 out of a possible optimal score of 5 whereas that of encouraging peers to feel good about themselves was 2.92 out of a possible optimal score of 4. We used the Wilcoxon rank-sum test (also known as Mann-Whitney test) for its applicability to test for differences across categories in non-parametric sets of data. The test checks for equality of medians across groups of a variable. We found no significant differences across the categories of site, student's sex and cohort at 5% level in students encouraging their peers to feel good about themselves. On the other hand, there were significant/notable differences of student's perceptions about their self-confidence by site (p-value=0.01) and by cohort (p-value =0.0495) but not by student's sex. This meant that students residing in Viwandani felt more self-confident compared to those from Korogocho and that the follow-up group were more confident about themselves compared to the new-cohort. See Table 4.4.

Table 4.4: Self Confidence and Peer pressure

Category		Self Confidence	Wilcoxon rank-sum test	Supporting others to feel confident	Wilcoxon rank-sum test
		Mean (s.e)	Pvalue	Mean (s.e)	Pvalue
Overall		4.92(0.01)		2.92(0.03)	
Site	Koch	4.89(0.02)	0.0100*	2.88(0.04)	0.3353
	Viwa	4.96(0.01)		2.95(0.05)	
Student's Sex	Boy	4.93(0.02)	0.8615	2.88(0.05)	0.2224
	Girl	4.92(0.02)		2.95(0.05)	
Cohort	Follow-up	4.96(0.01)	0.0495*	2.92(0.05)	0.9901
	New-cohort	4.90(0.02)		2.91(0.04)	

4.4 PARENTAL INVOLVEMENT AND MONITORING

Parental monitoring was subjected to nine attributes (Abuya et al, 2015; Abuya et al, 2019), which captured the learner's perceptions on their parents knowledge about where and who they spend their time with, what they do during free time and the type of TV programs they watch. The responses were coded either "never knows (1)", "sometimes knows (2)" or "usually knows (3)". First looking at the parental perceptions, the overall mean score for the knowledge about where the child spends time after school was 2.8 out of possible 3, similarly the mean score of knowledge about whom the child spent time with was 2.77. For the two assessment items results indicate that the level of knowledge about where the child spent time after school and with whom was significantly higher for girls than for boys, and among parents in Viwandani compared to those in Korogocho. There were no significant differences between the follow-up and new category. Secondly, looking at the student's perceptions, a composite score on parental monitoring was generated from nine items using Cronbach's Alpha which yielded an inter-item reliability of 0.82 (a high reliability score). Findings reveal that there were significant differences among each of the items evaluated by site and among seven of the nine items by sex but none by cohort at 5% level. The means scores from Viwandani were higher than those from Korogocho across all the nine items. By sex, apart from parent's knowledge about the types of magazines students read and their greatest friends, all the other items had better scores from girls than boys and were significantly different as portrayed in Table 4.5.

Table 4.5: Parental involvement and monitoring

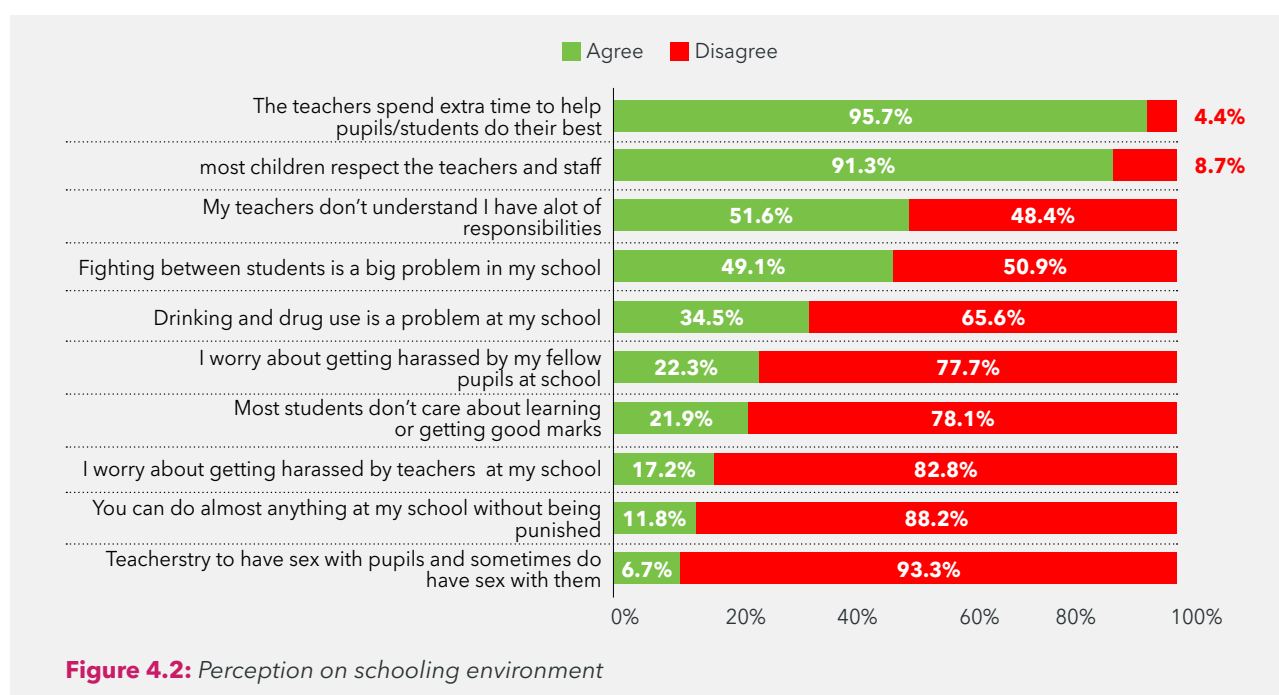
Parental Knowledge	Overall	Site		wrs 1	Sex		wrs	Cohort		wrs
	Mean (s.e)	Koch	Viwa	p-value	Boy	Girl	p-value	Follow-up	New Cohort	p-value
about where child spends time after school	2.80(0.01)	2.76(0.02)	2.89(0.03)	0.001*	2.79(0.03)	2.86(0.02)	0.012*	2.88(0.04)	2.78(0.02)	0.22
about who spends time with the child after school	2.77(0.02)	2.74(0.02)	2.87(0.03)	0.005*	2.77(0.03)	2.84(0.03)	0.025*	2.86(0.04)	2.77(0.02)	0.107
student's Your parents know -										
where spend time weekday evenings	2.73(0.02)	2.67(0.03)	2.78(0.02)	0.003*	2.69(0.03)	2.77(0.02)	0.016*	2.73(0.03)	2.73(0.02)	0.928
who you spent time with weekday evenings	2.64(0.02)	2.58(0.03)	2.70(0.03)	0.003*	2.58(0.03)	2.70(0.03)	0.001*	2.64(0.03)	2.64(0.03)	0.892
where you spend time on weekends	2.71(0.02)	2.65(0.03)	2.77(0.02)	0.001*	2.65(0.03)	2.76(0.02)	0.001*	2.7(0.03)	2.72(0.02)	0.469
who you spend time with on weekends	2.63(0.02)	2.58(0.03)	2.69(0.03)	0.003*	2.56(0.03)	2.70(0.03)	0.000*	2.63(0.03)	2.64(0.03)	0.635
what you do during free time	2.39(0.03)	2.31(0.04)	2.48(0.03)	0.000*	2.32(0.04)	2.46(0.03)	0.009*	2.43(0.04)	2.36(0.03)	0.303
how you spend your money - if any	2.11(0.03)	2.02(0.04)	2.20(0.04)	0.002*	2.02(0.04)	2.19(0.04)	0.001*	2.15(0.04)	2.08(0.04)	0.248
what TV programs, videos/films you watch	2.37(0.03)	2.28(0.04)	2.45(0.03)	0.001*	2.31(0.04)	2.42(0.03)	0.012*	2.4(0.04)	2.34(0.03)	0.499
different types of magazine that you read	2.30(0.03)	2.15(0.04)	2.44(0.03)	0.000*	2.27(0.04)	2.33(0.04)	0.208	2.31(0.04)	2.29(0.03)	0.733
your greatest friend	2.56(0.03)	2.52(0.04)	2.61(0.04)	0.020*	2.57(0.04)	2.55(0.04)	0.913	2.61(0.04)	2.53(0.04)	0.107

1 Wilcoxon signed rank test

*significant at 5% level

4.5 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 disagree) to 5 (strongly agree) which corresponded to 1 (worse school environment) to 5 (better school environment). We summed (Strongly agree and agree) to obtain Agree and summed (Strongly disagree, Disagree and Not sure to obtain proportion of those who disagreed). At least nine out of ten students indicated that their teachers spend extra time to help them do their best across all school types, study sites, learner’s sex and cohorts. Majority of students (about nine in every ten) respect their teachers across all subcategories although slightly lower in Korogocho. Only about half of the learners indicated that teachers understand their responsibilities. On the other hand, only about a tenth indicated that it is possible to do anything in school and escape punishment while less than tenth (majority being girls) indicated that teachers tried to have sex with students. Detailed results are shown on Figure 4.2



4.6 SUBSTANCE ABUSE

Examining drug and substance use among adolescent populations is imperative since studies have shown that the debut to substance use for example for a study conducted in the US range between 13.2 years and 15.1 years for alcohol and cocaine respectively (Bracken et al., 2013). Drug and substance use in our study was assessed using a total of nine substances. A huge proportion of learners however had not ventured into drug abuse ranging from 97.0% to 100%. The three top most substances in use are miraa (3.0%), followed by bhang (2.5%) and alcohol (2.4%). None of learners had ever consumed glue or heroin. The average age (and the standard deviation) of debut use for alcohol, miraa, bhang and pills was 13.4 years (2.3), 13.8 years (2.2), 13.8years (2.0) and 14.4 years (1.6) respectively. Results indicate that among the follow-up cohort, there wasn't anyone who was smoking bhang or chewing miraa as at the time of study (current use). Similarly, there were no reports of current use of bhang among girls and among Viwandani learners. Also, there were no reports of current alcohol consumption among students in Viwandani. As at the time of conducting the study none among those who were using bhang, were willing to stop their consumption , however, a caveat should be applied while interpreting the results on the current withdrawal levels due to the few numbers involved as provided in Table 4.6.

Table 4.6: Substance use by various categories

		Total	Sex of the student		Study site		Cohort		
			Boy	Girl	Koch	Viwa	Follow-up	New-Cohort	
Alcohol	No	785	97.6%	97.4%	97.9%	97.7%	97.5%	97.3%	97.9%
	Yes	19	2.4%	2.6%	2.2%	2.3%	2.5%	2.7%	2.1%
Miraa	No	780	97.0%	95.3%	98.6%	96.2%	97.8%	98.5%	95.9%
	Yes	24	3.0%	4.7%	1.4%	3.8%	2.2%	1.5%	4.1%
Bhang	No	784	97.5%	95.9%	99.0%	97.7%	97.3%	98.8%	96.6%
	Yes	20	2.5%	4.2%	1.0%	2.3%	2.7%	1.2%	3.4%
Pills	No	797	99.1%	98.7%	99.5%	99.3%	99.0%	100.0%	98.5%
	Yes	7	0.9%	1.3%	0.5%	0.8%	1.0%	0.0%	1.5%
Current use (among those who ever used)									
Bhang	No	18	90.0%	87.5%	100.0%	77.8%	100.0%	100.0%	87.5%
	Yes	2	10.0%	12.5%	0.0%	22.2%	0.0%	0.0%	12.5%
Miraa	No	19	79.2%	83.3%	66.7%	73.3%	88.9%	100.0%	73.7%
	Yes	5	20.8%	16.7%	33.3%	26.7%	11.1%	0.0%	26.3%
Alcohol	No	17	89.5%	90.0%	88.9%	77.8%	100.0%	88.9%	90.0%
	Yes	2	10.5%	10.0%	11.1%	22.2%	0.0%	11.1%	10.0%
Ever thought of quitting in the last 4 months?									
Bhang	No	2	100.0%	100.0%	0.0%	100.0%	0.0%	0.0%	100.0%
Miraa?	No	3	60.0%	66.7%	50.0%	50.0%	100.0%	0.0%	60.0%
	Yes	2	40.0%	33.3%	50.0%	50.0%	0.0%	0.0%	40.0%
Alcohol	No	1	50.0%	0.0%	100.0%	50.0%	0.0%	100.0%	0.0%
	Yes	1	50.0%	100.0%	0.0%	50.0%	0.0%	0.0%	100.0%

4.7 SEXUAL ACTIVITY AND PUBERTY

In this study, we sought to understand the pupils' involvement in sexual activities, which included engaging in sex, deep kissing and fondling; perceptions on the consequences of engaging in early sex; and perceptions on delayed sexual activity. Across both sexes, sites and cohort, sexual activity at baseline remained low and in tandem with what was observed during the Phase II of the study (Abuya et al., 2019). Kissing (8.7%) and fondling (7.1%) occupied the greater proportion compared to foreplay and heavy petting.

Only one in every twenty learners (4.7%) had engaged in sexual activity as at the time of the study. The proportion of boys (6.7%) who had engaged in sexual activity was more than twice that of the girls (2.9%) indicating significant association between sexual activity and gender of the learner (p -value= 0.010). Similarly, the proportion of learners who had had sexual activity in the new cohort (6.2%) was more than twice that of the follow-up group (2.7%) indicating that the cohort had significant association with the sexual activity (p -value=0.020). The proportion of learners who had engaged in sexual activity and studying in private high school (8.7%) was more than twice the proportion that was in public high schools (3.5%) indicating a significant association of the school type attended by the learner with sexual activity (p -value=0.004). Among those who had engaged in sexual activity, 52.6% were sexually active within a period of 12 months preceding the survey. The average age of sexual debut was 14.2 years with an SD of 2.2, which was not significantly different cross the categories. See Table 4.7.

Table 4.7: Sexual related behaviours

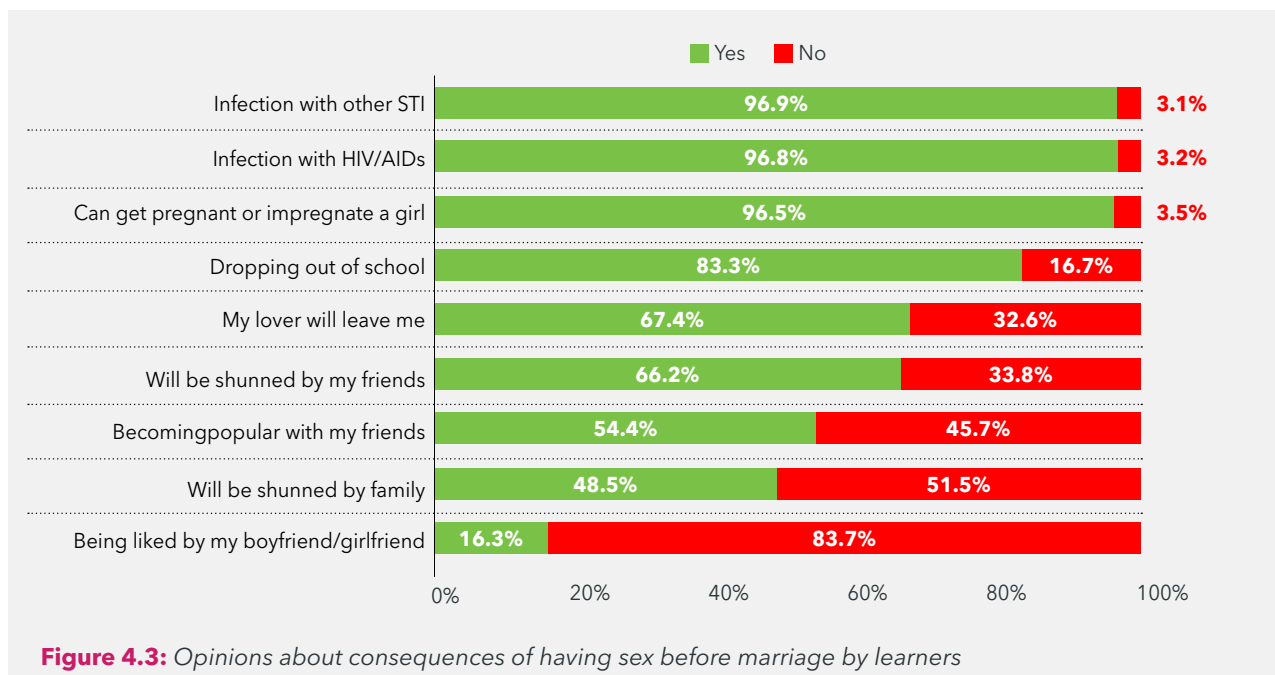
		Total	Sex		Site		Cohort	
			Boy	Girl	Koch	Viwa	Follow-up	New-Cohort
Ever had sex	No	95.3%	93.3%	97.1%	94.5%	96.1%	97.3%	93.8%
	Yes	4.7%	6.7%*	2.9%*	5.5%	4.0%	2.7%*	6.2%*
Average age in years for initial sexual intercourse		14.2	13.8	15.1	14.8	13.5	13.7	14.4
Examining related activities								
Have you ever been involved in kissing	No	91.3%	89.6%	92.8%	90.2%	92.4%	93.5%	89.7%
	Yes	8.7%	10.4%	7.2%	9.8%	7.7%	6.6%	10.3%
Have you ever been involved in fondling	No	92.9%	89.6%	95.9%	90.7%	95.1%	94.9%	91.5%
	Yes	7.1%	10.4%	4.1%	9.3%	4.9%	5.1%	8.6%
Have you ever been involved in heavy petting	No	97.5%	96.6%	98.3%	97.0%	98.0%	98.2%	97.0%
	Yes	2.5%	3.4%	1.7%	3.0%	2.0%	1.8%	3.0%
Have you ever been involved in foreplay	No	98.4%	97.4%	99.3%	98.5%	98.3%	98.2%	98.5%
	Yes	1.6%	2.6%	0.7%	1.5%	1.7%	1.8%	1.5%

Students 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 4.8). 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 students across all categories (sex, site and cohort) indicating a baseline ceiling effect on the level of awareness, this is similar to the phase II study results (Abuya et al., 2019).

Other notable consequences of early sexual activities included 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. At least half of the students agreed that engaging in sexual activities would make them popular among their friends - this proportion depicts some change from phase II endline where only about two in five thought so. In terms of the sub-categories, a higher proportion of those who believed they would become more popular were girls, students residing in Viwandani and those belonging to the new-cohort. 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. On the hand, the proportion of students who thought they would be liked for engaging in sexual activities was low across all categories (less than two in every ten), see more results as portrayed in Table 4.8 and Figure 4.3. It should be noted that higher proportions of learners knew the consequences of engaging in early sexual intercourse.

Table 4.8: *Opinion of learners regarding consequences of having sex before marriage*

Proportion that indicated 'yes'	Total	Learner's sex		Study site		Cohort	
		Boy	Girl	Koch	Viwa	Follow-up	New-Cohort
Physiological consequences							
Can get pregnant / impregnate	96.5%	96.4%	96.7%	96.0%	97.0%	96.4%	96.6%
Infection with HIV/AIDs	96.8%	96.9%	96.7%	96.7%	96.8%	97.3%	96.4%
Can be infected with other STI	96.9%	97.2%	96.7%	96.7%	97.0%	97.3%	96.6%
Other consequences							
Can drop out of school	83.3%	78.8%	87.6%	81.5%	85.2%	83.0%	83.6%
Will become popular	54.4%	48.5%	59.8%	50.9%	57.8%	50.6%	57.1%
Will be liked	16.3%	17.9%	14.8%	17.0%	15.6%	15.2%	17.1%
Will be shunned by family	48.5%	40.9%	55.5%	44.6%	52.4%	48.2%	48.7%
Will be shunned by my friends	66.2%	56.7%	74.9%	63.4%	68.9%	64.9%	67.1%
Will left by a lover	67.4%	54.9%	79.0%	65.4%	69.4%	67.9%	67.1%



Knowledge and awareness about delaying sexual activity was high among learners as shown on Table 4.9. About 95% reported that they are able to decline sexual demands from a friend and a similar proportion indicated that they had no plans of engaging in sexual activity while still in school. About 78% are capable of declining sex request from a friend and still maintain their friendship, this proportion was similar across gender, site and cohort. However, about three in every ten think that they will lose a friend if they do not have sexual intercourse with them, results depict similar proportions by site and cohort. There were significant differences (p-value=0.001) by gender where one in every four of boys think that they will lose a friend if they do not have sexual intercourse with them compared to three in every ten girls.

Table 4.9: Delay of sexual activity

	Total	Sex		Site		Cohort	
		Boy	Girl	Koch	Viwa	Follow-up	New-Cohort
Knows how to say NO to a friend who wants to have sex with me	95.9%	94.3%	97.4%	95.7%	96.1%	97.0%	95.1%
Knows how to decline sex without losing a friend	77.9%	78.0%	77.7%	77.4%	78.3%	77.7%	78.0%
Will lose a friend if you do not want to have sex	29.2%	23.5%	34.5%	28.6%	29.9%	28.6%	29.7%
Has no plan of engaging in sex while still in school	95.2%	93.0%	97.1%	95.0%	95.3%	95.2%	95.1%

4.8 SOURCE OF INFORMATION ON SEX, DRUGS, SMOKING AND ALCOHOL

Students were asked about the sources of information on sex, drugs, smoking and alcohol. The sources included teachers, Miss Koch Kenya or U-Tena (the A LOT-Change implementing partners), television, friends, parents and family members, non-governmental organizations or community based organizations other than the implementing partners, seminars, social media, radio and newspapers or books. Table 4.10 shows the proportions of students that indicated 'Yes' for each of the sources. Results showed that the five greatest sources of information about sex, drugs, smoking and alcohol came from their teachers, the A LOT-Change intervention (Miss Koch Kenya and U-Tena), television, friends and parents taking the fifth position.

Table 4.10: Sources of information about sex, drugs, smoking and alcohol

Proportion that indicated yes	Sex	Drugs	Smoking	Alcohol
Teachers	31.8%	34.2%	35.7%	35.1%
Miss Koch or U-tena	17.0%	18.9%	15.9%	17.2%
Television	13.8%	13.3%	13.9%	13.3%
Friend	11.1%	11.2%	11.9%	11.7%
Parents and family	6.6%	5.9%	8.0%	9.1%
Other NGOs & CBOs	5.7%	4.6%	4.0%	4.0%
Seminars	4.5%	4.1%	3.7%	3.4%
Social media	4.2%	2.0%	1.6%	1.6%
Radio	3.5%	3.0%	2.7%	3.2%
Newspapers & books	1.7%	2.9%	2.5%	1.5%

5.0

**Social Emotional
Resilience**

5.0 SOCIAL EMOTIONAL RESILIENCE

We used 36 items to assess the students' social emotional resilience (SER). To allow us understand the aspects of SER better, we used the exploratory factor analysis (EFA) approach for dimension reduction. The EFA enables us to simplify a complex set of many variables into fewer interrelated components (also referred to as latent constructs)(Tavakol & Wetzel, 2020). A factor is an unobserved variable that is as a result of more than one observed variables and which accounts for the variation among these observed variables (Brown, 2015). We obtained five factors in total from EFA which we classified them based on their corresponding related survey items as follows; adolescent's community connections, self-management, self-awareness (self-efficacy, self-assertiveness), their relationship with supportive adults, and enablers for social awareness. We used these classifications as categories for computation of mean scores which ranged from 1.95 to 2.77 out of possible 3. Further we conducted t-tests to check if there were significant differences of mean scores by sex, site or cohort. A description of the SER items as captured in the questionnaire is provided below:

1. **Self-efficacy** is a person's feeling about that they can perform any work by utilizing their abilities or actions. It is the belief in one's capabilities in order to perform work in ambiguous or difficult situation;
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."

Self-efficacy and enablers of social awareness had significantly higher mean scores for boys' than girls' with p-values of 0.004 and <0.001 respectively. On the other hand, by site, self-efficacy mean scores for Viwandani were significantly higher than those of Korogocho (p-value=0.049). Finally by cohort, we find that the Follow-up cohort had significantly higher scores on self-management (p-value=0.001), self-efficacy (p-value=0.026), self-assertiveness (p-value=0.006), self-awareness (p-value=0.004), and in relationship with supportive adults (p-value=0.009). They were thus better placed to resist peer pressure, believed in their capacity to achieve various tasks despite the challenges faced; speak up for their rights and have supportive relationships with adults around them.

Table 5.1: Social emotional resilience scores by sex, site and cohort

	Mean	Std. Err.	Sex			Site			Cohort		
			Boy	Girl	p-value	Koch	Viwa	p-value	Follow-up	New-cohort	p-value
Community connections	2.23	0.02	2.26	2.20	0.063	2.21	2.25	0.283	2.26	2.21	0.148
Self-management	2.77	0.01	2.76	2.78	0.551	2.79	2.76	0.224	2.82	2.74	0.001**
Self-efficacy	2.61	0.01	2.64	2.57	0.004**	2.58	2.63	0.049*	2.64	2.59	0.026*
Self-assertiveness	2.54	0.01	2.53	2.54	0.727	2.52	2.56	0.154	2.58	2.51	0.006**
Self-awareness ¹	2.57	0.01	2.59	2.56	0.176	2.55	2.59	0.053	2.61	2.55	0.004**
Relationship with supportive adults	2.28	0.02	2.30	2.26	0.376	2.30	2.26	0.281	2.35	2.23	0.009**
Enablers for social awareness	1.95	0.01	2.00	1.91	0.000**	1.95	1.95	0.820	1.97	1.94	0.234

P - values are derived t-tests

*significance level at 5%

**significance level at 1%

¹self awareness is a combination of self-efficacy and self-assertiveness



6.0

Qualitative Study Results

6.1 SUSTAINABILITY OF CHANGES OBSERVED IN PREVIOUS PHASE

This chapter checks if the positive changes observed at the end of Phase II (2016-2018) (Abuya et al., 2019) when the adolescents were completing their primary school education were sustained even after they joined secondary school. The baseline qualitative results indicate that the positive changes - in academics, resilience to resist peer pressure, self-confidence, time management, future aspirations, parent-child communication, parental involvement and positive parenting strategies - persisted one year later after the adolescents joined secondary school. In addition, both adolescents and parents reported taking deliberate steps to be their champions of positive change in their communities by passing down knowledge and skills they had learned to other community members.

» 6.1.1 Academic benefits

There was a general consensus among adolescents, parents and mentors that the academic improvements - especially in mathematics - that both parents and adolescents reported at the end of the three year after-school support program were sustained through to secondary school level. With the stereotype threat that girls do not perform well in mathematics and STEM related subjects, it was especially encouraging to hear girls reporting that they are now interested in and performing well in mathematics. According to students, these academic improvements were mostly attributable to the support, close relationship and encouragement they received from mentors, as said by one of the adolescent girls.

It is usually claimed that Mathematics is not for girls but the A LOT-Change program made it easier for us...we were confident approaching a mentor with difficult topics because she/he was more close to you...So I am really grateful to them because now that I am in high (secondary) school it is easy to do Mathematics and other subjects because we had a good foundation... (Dialogue, adolescent girls, Viwandani, 04122019).

Academic improvement was not only limited to numeracy and literacy, also general interest in studying. As one of the parents put it, compared to other adolescents of the age in the community, those enrolled in the A LOT-Change project spend more time studying rather than engage in time-wasting activities like loitering especially during school holidays.

It is different because one spends time studying, and the other does not spend time studying. There is a difference between children enrolled in the project and those not in the project... when schools are closed, those in the project do not stay 2 or 3 hours without studying...the other just to loiter until schools open. (FGD, mothers with girls in the program, Viwandani, 17122019).

The attribution of academic improvement to mentors was however not meant to discredit the important role by teachers. According to the students, one of the key reasons why the support by teachers in school was not seen to be as effective as that by mentors was that teachers seemed to be overwhelmed and as result had little time for individual support. In addition, some teachers were also said to be harsh and thus becoming unapproachable by students as cited by one of the students who said that "we are afraid of some teachers".

The teacher would say I have a lot of work to do, I have other classes to attend to. So, you remain there with your question with nobody to ask (not audible) but when you come to the A LOT-Change program, the mentor has time for you... he/she explains very well until you understand. (Dialogue, adolescent girls, Viwandani, 04122019).

As a result of the academic improvements, some parents mentioned that their motivation to educate their children and aspiration for higher education have been revamped. They have now taken deliberate effort to ensure that their children continue with their education with minimal disruptions.

From class six he started to perform better in class and when he sat for his end of primary school examination, he surpassed the marks that I had expected he would get...So, I too took initiative to help him proceed with his education...I hope that when he joins form two and continues with his education, he will become better. (FGD, fathers with boys in the program, Korogocho, 20122019).

» 6.1.2 Enhanced life skills for resisting peer pressure

The resilience to engage in drug and substance abuse and other irresponsible behavior was frequently mentioned by the adolescent boys and girls as one of the skills they have been able to apply in their daily lives. The life skills sessions equipped the girls and boys with information on the various types of drugs, their dangers and thus having the ability to avoid in engaging the same. According to the students the teaching of life skills was particularly important considering the indiscriminate drug and substance abuse in community by children, youth and adults alike.

The biggest difference is that most of those who aren't in the program smoke a lot of bhang... we are taught about drug abuse and drug misuse. So that makes us not use drugs. (Dialogue, adolescent boys, Korogocho, 06122019).

You know a thief doesn't start by going to steal in the bank, he/she starts with small things. Like there are some boys my son used to hang out with, sometimes they would go and steal somebody's tomatoes and run away with them but when he started coming here he has stopped that, he even doesn't walk with those boys. So, it is very good to tell them..., and again if a child does wrong it just doesn't mean that you beat him/her, it is talking to him/her. (FGD, fathers with boys in the program, Viwandani, 18122019).

In addition, both adolescent boys and girls also stated their ability to stand up for their own rights and what they believe in (assertiveness). What was interesting, is that they have learnt how to stand their ground in a calm and positive way. For instance, one of the students shared how he is able to avoid pressure to engage in drugs by telling his friends that he is 'busy'.

The one who gives you peer pressure, you don't want to follow him or you don't want his stories, or if he tells you to use bhang for example, you tell him that you are a bit busy, so that he knows you are busy and you go your way. (Dialogue, adolescent boys, Korogocho, 06122019).

The mentorship on self-awareness (being cognizant of their personality, strengths, weaknesses, thoughts, beliefs, emotions, and motivations) was also attributed to the ability to avoid negative peer pressure by the adolescent boys and girls. The adolescents reported being able to make informed decisions on what to engage in and weighing the consequences of their intended actions.

I think it is self-awareness. Knowing yourself and understanding yourself so that you don't engage in the behavior they are engaging in. And also peer pressure, you look at whether it is positive or negative. (Dialogue, adolescent boys, Korogocho, 06122019).

With the many negative SRHR outcomes affecting girls in urban informal settlements, such as early sexual debut, teenage pregnancies, early marriages, sexual harassment and violence, the project was lauded for empowering to make better informed choices. For instance girls cited being more assertive in resisting advances by boys and men to engage in risky sexual behavior.

We know how to deal with those men who tell you they will give you a future and then they let you go...we should not look at the things like money, but we should look at my future.” **(Dialogue, adolescent girls, Viwandani, 04122019)**

» 6.1.3 Enhanced self-confidence and esteem

The ability to express oneself without fear was cited as a key difference between adolescents who are enrolled in the A LOT-Change project and those not enrolled. This was attributed to life skills sessions on self-confidence and self-esteem where the adolescents are mentored on believing in their abilities and qualities. As result, of the diminished fear, the adolescents were reported to be better at public speaking, expressing their views and interacting with other people.

The difference I've observed as a beneficiary of the program and the others who are not is that I have been able to express myself efficiently in English which was a thing I had a challenge before but now I think everything is okay. I've also been able to believe in myself, when I go to like a conference somewhere I am able to express myself with confidence. **(Dialogue, adolescent boys, Viwandani, 04122019).**

» 6.1.4 Improved communication and parent-child relationship

Narratives by both parents and their children indicated that thanks to the program, they are now able to communicate effectively with their peers as well as between themselves. On one hand, the adolescents reported the enhanced ability to effectively express, persuade and transmit their feelings, ideas and knowledge to their peers, parents and other individuals.

My child was not able to express herself but from the time she started getting the life skills training she can now sit with others and tell stories and even in the house she can talk freely... she has opened up and can talk about things that are disturbing her. **(FGD, mothers with girls in the program, Korogocho, 16122019).**

On the other hand, parents cited their improved ability to have open and honest conversations with their children. According to parents, one of the major causes of conflicts in the household is the lack of open and honest communication between family members. Therefore, parents should ensure that they honestly engage their children on all matters. For instance, parents should let their children in on the household financial status so that they do not end up feeling that their parents do not want to provide for them yet, it is funds that could be lacking.

You need to sit together and discuss it, and you tell them as the father about what you can afford, and if the mother also has something she adds to it. If she doesn't have, then you sit down and let the child know that whatever he wanted to eat is not affordable to the parents at that moment. But in future if you get some cash, you should remember that your child wanted something some days back. **(FGD, fathers with boys in the program, Korogocho, 20122019).**

Parents however advised that for communication to be effective, it has to be two-way meaning that both the child and the parent should have a chance to express their ideas and opinions. This way, both parties feel respected. A male parent attending an FGD said, "...it is a must that when there is an issue, you must look at it keenly and see how best you can help him or how you can help each other.” **(FGD, fathers with boys in the program, Korogocho, 20122019).**

The improved communication between parents and their children was said to result in improved parent-child relationship and consequently enabling their children open up about challenges and problems they were facing.

That you should strive to have a good relationship with your child, so that the child knows you are not their enemy, but their friend because everything that he does when he's young will have its consequences in his old age...Apart from that, when you are close to him, it will be much easier for you to learn the kind of friends he has. So, through this, you get a chance to tell him that when he makes friends with other children, he should be able to know where such friendships are leading them to... (FGD, fathers with boys in the program, Korogocho, 20122019).

Another parent reiterated how the open communication with her child has not only resulted in sharing of opinions but also brought them closer, "My child used to be quiet but since joining the project, for something that is bad she asks me she does not keep them in her heart...my child and I were not friends before but now we are friends; if she wants anything she tells me we are now very close..." (FGD, mothers with girls in the program, Korogocho, 16122019)

It was also worthwhile noting that parents acknowledged that project mentors had a hand in encouraging the adolescents to open up to their parents to ensure that they get the best advice and assistance possible.

He tells me, "[Mentor's name] tells us that if someone has an issue he should share it with his parent. Don't share outside. If you share out there you will be misdirected..."the project has given him the intelligence to know that a parent is number one to know your secrets before he shares them outside. (FGD, mothers with boys in the program, Viwandani, 17122019).

Interestingly, parents also mentioned that their own communication skills have also improved thanks to the parental counselling sessions they attend. As a result of these sessions, they reported being able to discuss with their children topics in SRHR, that they would have otherwise considered difficult or taboo before due to religion or tradition. This open communication was especially important for male parents with girls in the project. For instance they reported that they could now talk about and even provide sanitary pads for their daughters, which according to them was a huge gain.

Now like this, you know nowadays you teach the even to talk about relationships, relationship of boys and girls. Even now she comes and tells you dad that issue of like pads, you know earlier she wasn't talking but now they are told those things are normal. Even now she can write for you in her school budget. (FGD, fathers with girls in the program, Viwandani, 18122019)

Same with me, my child does not hide anything, she tells me what the boys tell her out there, she does not hide anything, she tells me the boys tell her to "atoe form" (engage in sex) but I advise her to finish her education first. (FGD, mothers with girls in the program, Korogocho, 16122019)

The parental counseling and life skills session were also credited for breaking the religion barrier to effective communication about sexual reproductive health and rights. For instance parents reported being comfortable to talk to their children because they are well informed. A female parent from Korogocho stated that:

In the Islamic religion it is very hard to talk face to face with the girl and talk about sex, but since now I understand and she understands, we are open to each other, she cannot hide anything from me and I cannot also hide anything from her. (FGD, mothers with girls in the program, Korogocho, 16122019).

» 6.1.5 Champions of change

Narratives show that the positive changes observed in the ALOT-Change project participants, prompted other community members to not only want to know more about the project but were also eager to emulate those changes. Other project beneficiaries reported passing down the knowledge they had gained to other community members who are not enrolled in the project. For some adolescents, that meant being good role models to their peers, for others it meant convincing their peers to quit social ills such as drug abuse and absconding school. While for some, it was taking deliberate to change the negative narratives associated with urban informal settlements such as the rampant use of abusive language.

Okay. Mine is about my friend in school who hated Mathematics for sure. But I told her about what my mentor told me that Math is just about playing with numbers. And we started studying together and she really improved. Now she aims at 50 and above... (Dialogue, adolescent girls, Viwandani, 04122019).

In this village there is use of abusive language all the time and everywhere...people know me and respect me, so I ask parents not to abuse their children because it is a bad lesson and tomorrow the children will also use the same on them... FGD, mothers with girls in the program, Korogocho, 16122019).

However, it is not all roses for project participants when it comes to conveying knowledge they have learned in the project to other community members. As one female parent from Korogocho reiterated, when faced with resistance from other parents, they are able to persevere the challenges since they feel empowered by the skills they have acquired from the project.

When you approach such a parent to correct them they turn to you and ask you if you have instilled discipline to your own child before you interfere with her own. I persevere with that and I go ahead to talk to her, I tell the parent to try and handle the child well since the child is theirs...some use more harsh words to us than used to their children, so there are a lot of challenges but we try to handle them through the education acquired from the project. (FGD, mothers with girls in the program, Korogocho, 16122019).

» 6.1.6 Enhanced future life and education aspirations

Growing up in the urban informal settlements can sometimes result in low education and life aspirations mainly due to the limited opportunities and experiences in such settings. This is perhaps why the exposure visits to various institutions and motivational talks by several professionals was said to go a long way in motivating the adolescent boys and girls to want to achieve more both in the life, education and their future careers. In one example, a trip to the airport where the adolescents met with individuals working in various departments sealed the deal for one of the students who always wanted to become a pilot.

When we went to JKIA it really changed my life. I think it's also what motivated me to work at least extra hard for KCPE...Then I saw the pilots, I even spoke to one there. I greeted one, he told us to work hard I can do it...I will be the one flying those planes so it kept on pushing me, it kept on motivating me to work harder. (Dialogue, adolescent boys, Viwandani, 04122019).

In addition, the exposure visits and motivational talks enabled the adolescents to have a broader view of possible careers to pursue in future and also have an idea of the pathways to achieve them. As a result, they are able to make better life choices unlike their peers (not enrolled in the project) whose career perspectives might only be limited to what is around them.

And even the motivation talks that we have, sometimes they can bring people like doctors, lawyers, and all of us have different careers (ambitions). So you can share anything with the professional; talk to him or her get the knowledge. (Dialogue, adolescent girls, Viwandani, 04122019).

The adolescents also had high future aspirations for a better life, away from the challenging slum life and aspiring to uplift their families.

She even tells me that she does not want to engage into such kind of (bad) friendship because she wants to get education first, she says that the advice from the project has inspired her to work hard in school and get a good grade, she for example tells me "I want to take you out of poverty and enable us to go far"...so I feel that I have high hopes for her. (FGD, mothers with girls in the program, Korogocho, 16122019).

According to the adolescents, listening to life experiences that they could relate to also went along way in motivating them that it was actually possible to make it life. This is what one of the male adolescents said about that:

For me those motivational talks and exposures helped me so much because what I was seeing in motivational talks was a real testimony...So when somebody was telling me about his story, how he struggled and now he came to make it. It really encouraged me and I came to know that, your tomorrow is build up by your today and that's why till now I'm working hard to become that what I want... (Dialogue, adolescent girls, Viwandani, 04122019).

» 6.1.7 Engagement in household chores

With household chores traditionally perceived as a female role, reports of boys being more involved in household chores was a seen a major milestone for the A LOT-Change project especially by female parents. A female parent from Korogocho alluded to this by saying:

Nowadays, he asks for work to help out in the house...he normally says, 'after homework give me work'...he has improved because of the project. (FGD, mothers with boys in the program, Korogocho, 16122019).

The fact that some of the adolescent boys undertook household chores out of the recognition that their sisters and mothers needed a helping hand was an indication of reduced of gender inequalities.

Sometimes I am in my business and maybe his sister is overwhelmed with mopping the house, washing the clothes and is tired, he comes and mops the house, he washes the utensils and yet he is boy...he knows I come from my business hungry so he cooks and prepares tea. (FGD, mothers with boys in the program, Korogocho, 16122019).

» 6.1.8 Time management and planning skills

Adolescents enrolled in the A LOT-Change project are trained on how to schedule various activities (both school and home) using timetables. As a result of this, they were said to be more organized and effectively able allocate time for the different tasks they are responsible for. A parent in a female FGD explained, "she has a planned duty roster, she has become more organized, she knows what time is for what, and even time to do her revision...she knows what she is supposed to be doing." (FGD, mothers with girls in the program, Korogocho, 16122019).

In addition, idleness was cited as a major factor that leads many adolescents towards the path of engaging in social ills such as drug abuse and loitering. The A LOT-Change project intervention was thus applauded for keeping adolescents engaged in positive activities during their free time, which would have otherwise been utilized in wrong way.

Most of them engage in drug abuse because they have free time almost from morning to evening...so you find that they loiter in the community, they involve themselves in those things. (Dialogue, adolescent boys, Korogocho, 06122019).

When asked about the time management differences between adolescents enrolled in the project and their peers who are not enrolled, another added:

There is a difference because those who are not in the program do not have anything to do. Like most of my friends are always playing P.S (PlayStation). They don't come to the program, they don't go to the library to read... I have seen that they don't remember anything in school. (Dialogue, adolescent boys, Korogocho, 06122019).

» 6.1.9 General discipline improvements

Parents were happy to note that their children's discipline had greatly improved since their children were enrolled in the project. The key areas of improvement included respect and obedience to their parents. As result, there were reports of minimal conflicts between parents and their children. A mother with a girl in the project explains:

In terms of discipline there is a difference...when you tell the child something they listen but if you compare with a child who is not in the project, the other one will respond back at you the way they want, they answer back to their parents the way they want... (FGD, mothers with girls in the program, Korogocho, 16122019).

» 6.1.10 Appreciating diversity

It was encouraging to listen to reports by adolescents that they have learned to appreciate that human beings are different and unique and that these differences should be embraced rather than become a point of ridicule or conflict. This is in light of the cultural diversity in urban informal settlements.

If my skin colour is black and the other person is light skinned, so the other person should respect me and should not abuse me or do anything evil to me. If I have black hair and the other person has brown hair, I shouldn't laugh at them or do something to them but those that are out there, they laugh at people, abuse them or treat them like they are not fit. So we have been taught to respect other people who are different from us... (Dialogue, adolescent girls, Korogocho, 06122019)

» 6.1.11 Parental involvement

Parents highlighted being more involved in their children's lives and education as a result of being sensitized on the importance of doing so in the parental counselling sessions. Some of the strategies that they found most effective were following up on their children's whereabouts, knowing their children's peers, following up on their children's academic progress, monitoring what their children are watching on TV and phone usage. A mother of a boy in the program extrapolates:

When she brings her friends in the house, I demand to know what kind of friends they are because there are friends who will come to the house and watch funny movies, I normally tell her if that happens she is messing up her life, so I have seen a good change in her. As a parent

I try to speak in the house and say I don't want that bad company, walk with the good one. So that fear is gone. He can go out and I ask him where he was and he tells me where he was. (FGD, mothers with boys in the program, Viwandani, 17122019).

One female parent from Viwandani even revealed how she spot checks on her sons to just ensure that he is where he said he should be, even if it means making some surprise visits to the library.

As a parent I will go (at the local library) without them knowing and sit there for like 30 minutes investigating what they are doing. If I see they are not doing what is right I go in and tell them 'In this hall I don't want anybody coming who has bad behavior'... they get surprised when I go in. (FGD, mothers with boys in the program, Viwandani, 17122019).

On getting involved with their children's education, a female parent from Viwandani recalled how she ensures her children have enough time for studying, and provides them with the required learning materials and also contacts the teacher whenever her children face challenges.

Once they are done with housework they go into books. I tell them every book you need is on the table...If you feel like reading it, you go ahead and read it. They told me, "Mum there is a book that we don't understand well." I asked them which one. They told me they had difficulties with mathematics and requested that I contact the teacher for assistance... I went and saw the teacher... (FGD, mothers with girls in the program, Viwandani, 17122019).

According to a male parent from Viwandani, the importance of getting involved in your child's life and education is that one is able to intercept and mitigate issues before they get out of hand.

You have to know, where she/he is going and for how long and who will she/he be with and at what time will she/he be back...So, we were told you have to go and know what is going on because there could be other things they have hid there and you have no idea and you are in that house and you live with them. (FGD, fathers with girls in the program, Viwandani, 18122019).

Parents also pointed out the fact that, parental involvement also constitutes modeling correct behavior in their children. According to the parents, what they do and say has a bearing on their children's behavior both in the short and long term. For instance, sending your child to buy cigarettes or alcohol may result in the child using the same.

Maybe he sends the child to go and buy for him alcohol or cigarettes. You know the child will grow up knowing it is ok.... (FGD, fathers with girls in the program, Korogocho, 20122019).

» 6.1.12 Positive parenting strategies

One of the greatest gains of parental counselling reported by parents was on adopting positive strategies in raising their children especially in avoiding corporal punishment - which in most is physically and psychologically harmful to their children - and embracing less hurtful approaches like calmly discussing and solving issues with their children. Parents also reiterated that, since they adopted these positive parenting strategies, the relationship with their children also improved since they have become more approachable and can easily talk to each other. As a result, most parents mentioned that their children now consider them as friends.

His father was very strict. I was also very strict...So after his father started going for the parental counselling sessions, he changed. So even when I am very strict with them the father tells me, "That is not how children should be handled"...Now I see their relationship is okay, when he has a problem he can go to his father and explain himself. (FGD, mothers with boys in the program, Viwandani, 17122019)

Parents are also getting taught on how to live with our children – how we can raise them, how to talk to them, how to socialize with them. Not that when a child comes to you, you talk harshly to him, instead, you listen to him and he tells you his concerns, and you advise him on bad things so that he knows that everything has its time. There's time for watching television, time for going to work. (FGD, fathers with boys in the program, Korogocho, 20122019)

According to the parents, corporal punishment has become common place since it is intergenerational and as such is considered as an effective form of discipline. However, from experience, they have now realized that physical punishment results to more harm than good. For instance, children may run away from home or elope for fear of being beaten. In regard to this a male parent with a girl in the project explained:

I have been raised by harsh parents...my mother and father would cane me if I did something wrong. Corporal punishment was also common in school. So when I got married and had children, I resorted to caning as the mode of discipline...when I started counselling, we were told that talking to your child and correcting them is better than canning...it may reach a point she/he may run away, she can even elope and get married while in school because at home she is beaten...One thing that has helped me is talking with the children without using a whip... (FGD, fathers with girls in the program, Viwandani, 18122019).

Another female parent recalled how her children used to run away whenever they saw her even without making a mistake or avoid being close to her all together, an indication of the weakened family ties due to corporal punishment. This female parent with a boy in the project explains:

I was an angry person. When the child makes a mistake I used to beat them. But ever since I started going to our sessions, I discussed with fellow mothers and I stopped being angry. This is because when my child sees me even when they haven't made a mistake they used to run. If I entered the house and he was seated, he would get up and go. (FGD, mothers with boys in the program, Viwandani, 17122019).

Some parents also alluded to the negative health effects they experienced as a result of being angry all the time. Although not clear whether it was self-diagnosis or not, most of them mentioned getting stomach ulcers. A male parent with a daughter in the program says, "... every time I got angry I would choke and my voice would disappear. That developed until I had ulcers. I could fall sick for a week... (FGD, fathers with girls in the program, Viwandani, 18122019).

» 6.1.13 New friendship among parents attending sessions

The fostering of new friendships came out strongly as a positive unintended outcome among parents attending the parental counselling sessions. According to parents, these friendships are not limited to the counselling sessions and more often than not they find themselves seeking advice and assistance of other life issues.

We as parents have also come together and we have known each other. So I know when I have a certain problem, if I know a man like this one, we talk to each other and we understand each other and if it is on any issue we can help each other because we are in one project. (FGD, fathers with boys in the program, Viwandani, 18122019).

As a result of the close friendship, parents also reported how they pass on information to other parents who for one reason or the other are not able to attend the counselling sessions. This was not only indicative of the close relationship among parents enrolled in the project, but also that parents value the lessons learned in the counselling sessions.

First, the relationship between a parent and my fellow parents here because we got to know each other, I know this parent is in this project. So even if he has another issue and doesn't attend that session, he will tell me, "parent, in this session we discussed this and that." (FGD, fathers with girls in the program, Korogocho, 20122019).

» 6.1.14 Positive behavior change for parents

Participating in the A LOT-Change project was also credited with prompting parents to positively change their behavior. For instance, a counsellor from Korogocho gave an example where in the initial days of the project some parents used to attend the counselling sessions while drunk thus making it difficult to engage them. With time, these parents started taking the sessions seriously once they saw the benefits of what they were learning about.

I remember there are some parents who used to come when drunk... That is because they were not informed but now because they are informed there is a very big difference... there were also male parents who never used to come and nowadays they even come to the sessions running because they are interested in the project... (KII, counsellor, Korogocho, 13122019).

6.2 ADJUSTING TO SECONDARY SCHOOL

Research evidence suggests that secondary education is important to young people, particularly girls in the following five ways: First, secondary education reduces the incidences of HIV and AIDs among girls; secondly, it enables adolescent girls stay longer in school and therefore, less likely to marry early; thirdly, it alleviates poverty among girls by offering an opportunity to continue with schooling, thereby increasing the likelihood to get better paying jobs hence higher wages; fourthly secondary education ensures that benefits also accrue to the whole society as girls and young people stay in school longer, thereby are less likely to participate in youth violence, neither become victims of crime (Rihani, 2006). For girls, secondary education presents numerous benefits. Girls 'secondary education increases social benefits that accrues to their respective societies through increasing political and civic participation, reduced episodes of sexual harassment, and a lower odds of young women being trafficked for labor and for sex. Secondary education enables girls to make decisions that cushion them against HIV/AIDS by having the information to prevent the disease, change the way of thinking so that girls are more likely to adopt self-protective behaviour (Rihani, 2006; WorldBank, 2018). For these benefits to be realized adjusting to secondary school is necessary. This is the reason why we purposed to follow the cohort of girls and boys to secondary school, to see if what they learnt in the intervention program in primary school would hold. During the baseline, we listened to the cohort of adolescent girls and boys as well as their parents on the following: What has worked for both pupils and their parents in enrolling in secondary school, what challenges have they faced; and how the A LOT Change program has assisted in adjusting to secondary school.

» 6.2.1 What worked well for students and parents by pupils enrolling in secondary school?

The A LOT Change cohort had been in the program since 2016, and therefore were looking forward to joining Form one in 2019, armed with the skills that they had acquired during the program in primary schools, and a number of them supported through the subsidy program provided by the A LOT Change program (B. Abuya, Ngware, Hungi, Mutisya, Muhia, Kitsao-Wekulo, et al., 2019). From the narratives of the pupils and the parents we see that the following worked well for both pupils and their parents. These included; coping in the general context of being in secondary school, improving the development of talents, ability to resist peer pressure and maximum use of time. While the challenges that affected the secondary school going students and their parents included; violence, being aggressive and bullying, theft of items from those enrolled in secondary school for the first time, loss of concentration in secondary schools, and stress due to the number of subjects offered in secondary school. How A LOT Change assisted in adjusting to secondary school included; supporting fellow students and siblings with homework, reinforced students management of time, reinforced confidence to speak up in secondary school, and choice of good friends.

» 6.2.1.1 Coping in the general context of being in secondary school

The pupils who joined secondary schools, seemed very enthusiastic about the general ecosystem within the secondary schools. From the narratives of the pupils, being in secondary school was an exciting venture and presented a new environment which was necessary yet important for improving their education. For some of the students, being in secondary school presented an opportunity for them to experience a different environment in a school that was away from the usual—within the urban informal settlements—and away from home and the primary schools. Girls attending the pupils' dialogues in Korogocho had this to say:

Personally what I loved about joining school is the environment. Let me say I came from ghetto and went to another environment... I was used to noise... whenever you passed by the roadside [referring to the environment where she was from], before people were used to talking and now went to a quiet environment [Emphasis added] where everyone is on their books. (Dialogue, adolescent girls, Korogocho, 06122019).

In addition to the pupils appreciating the difference in environment that secondary school presented them, what also worked for them was the sense of community that seemed to exist within these schools. This was particularly evident among the adolescents who joined the boarding schools, away from home. The sense of community seemed to have come out of being away from home, and thereby relying on the peers for support. This is what the female pupils attending a dialogue in Korogocho said:

What I liked in secondary is the act of helping each other out where people are together and help each other out unlike in primary when one used to say you have to deal with your situations and there in secondary, we are helping each other. (Dialogue, adolescent girls, Korogocho, 06122019).

» 6.2.1.2 Improving and development of pupils' talents

One of the significant features of secondary education, that also stood out for the adolescents was that at the secondary school level, there were vast opportunities to improve talent. This was due to the presence of clubs, like music and drama clubs. The presence of these clubs enabled adolescent girls and boys to sharpen their skills and talents in music and drama. They saw this as an added advantage over what they did in primary school. Adolescent boys attending the pupil dialogues in Korogocho had this to say:

I like secondary school, because of talents like music and drama. When I was in primary, I was not participating in music, but when I went to secondary school, I started participating in music. I feel it is helping me because I can cope with my feelings and I can share with my music teacher because I trust him. (Dialogue, adolescent boys, Korogocho, 06122019).

In addition, to participating in music and drama, the young adolescents got an opportunity to participate in science classes and clubs and in games. Participating in the science lessons enabled the pupils to perform science experiments, hence reconcile some of the ideas they saw online and what they did in the classrooms. Moreover, participating in games, enabled the young adolescents to exercise and avoid being idle. Adolescent boys attending pupil dialogues explained this experience in this way:

What I found good in secondary school is how you can perform experiments. I liked watching science shows on TV... So, I got that opportunity to sit with teachers who are qualified in that field, and they shared with me their personal experiences. Also, we started to learn about those elements and other things. Another thing I liked about secondary school is rugby. It helped me because I wasn't fit. I liked to just sit. A sedentary lifestyle...Rugby gave me that chance to show my skills. Now I am good in rugby. My rank in rugby is high (Dialogue, adolescent boys, Korogocho, 06122019).

According to the adolescent pupils, the presence of avenues to improve their talents in schools gave them a chance to further improve some of the skills they had developed in primary school. For example, the presence of debating clubs, helped the students to sharpen their public speaking skills, thereby being better public speakers. The male adolescents attending dialogues in Viwandani explained the experience in this way:

There we have preps, we have been able to see...to experience new things. We have clubs for example there is debate club; it helps you in your confidence, it helps you in your speech, and you can be able to express yourself to other people fluently [Emphasis added]... (Dialogue, adolescent boys, Viwandani, 04122019).

It must also be noted that the development of talents, whether in class during science or outside the classroom during games, further inculcated in the young people the competitive spirit with their peers. This was a good realization to the secondary school students, who had been the best coming out of their primary schools, getting to secondary school was not an end in itself. It dawned on them that there was still a lot of room to improve on those skills. The male adolescents attending dialogues in Korogocho explained this in this way:

What I like about secondary are the functions and the games because there are many games. Nobody can be left out because you can involve yourself in other games. Also the more you are in secondary school you get more competition so you know where you are and you can improve in your academics. You put in more work and decide you want to surpass the other people, like get to number 50. (Dialogue, adolescent boys, Korogocho, 06122019).

» 6.2.1.3 Ability to resist peer pressure

Moreover, what worked for the young adolescents in secondary school was that they were able to use the lessons learnt coming out of primary school to sidestep the problem of peer pressure. The students were able to utilize the knowledge acquired in life skills during A LOT Change II to help them avoid joining bad groups. Male pupils from Viwandani explained:

Not to forget some of the things which we were being taught when we were in this duration from 2016 to 2018 in the A LOT Change program by U-Tena. We were told that we should not, allow ourselves to be pushed around by other people and we should not follow the bad behaviors. So, I have been able to see it and whatever we have been taught I have applied it. I have been able to efficiently choose my friends. The ones I know that we have the same targets, the same goals we are moving in the same direction and I have been able to also put a boundary on the friends who I know will have bad influence in me... Still in secondary school what we were being taught in this duration has really helped me out so I enjoy that... (Dialogue, adolescent boys, Viwandani, 04122019).

The fact that these young people had been able to use the lessons learnt from the A LOT Change program to resist peer pressure was re-emphasized by the parents of the adolescents. These parents acknowledge that the skills taught in the program has shielded their daughters from being influenced by other girls into leaving home and not attending school. Thereby, being able to have to effectively transition into the secondary schools with ease. Mothers of girls in the program from Korogocho intimated:

My girl came home and told me, "there is a Form Three girl who told me to say I am going to school but on the way I change to home clothes and I join them to where they are going" . When I asked her what she has decided, she told me...she wants to continue with school, she also warned me not to tell the principal because they (referring to the other girls) will be summoned and they will know I am the one who have reported and they will beat her, so as a parent I just try to talk to her and advise her on what to do... (FGD, mothers with girls in the program, Korogocho, 16122019).

» 6.2.1.4 Maximize the use of time

From the narratives of both adolescents and their parents it was also clear that what worked for young girls and boys in secondary school, was the opportunity to organize oneself and keep the focus on learning. This organization by the secondary school students was achieved through waking up early and starting their studies early. This ensured that the adolescents got into the habit of organized. This brought about satisfaction and contentment among the adolescents about life in secondary school. Female adolescents attending dialogues in Korogocho explained:

M: *Okay. R3 what did you really like about secondary school?*

R3: *What I personally love about secondary is that there are increased subjects...they are many but it also gives you the drive to work hard...You also find that there is waking up early to go to class to study and that really impressed me...(Dialogue, adolescent girls, Korogocho, 06122019).*

Moreover, the adolescents also felt that they had enough time to dedicate to their studies, compared to what they were able to do while in primary school. For example, they intimated that in secondary school, they were able to have adequate time during the prep time (usually a set aside time for revision) for them to complete their homework as well as undertake revision of the subjects. Female students attending dialogues in Korogocho explained this experience:

*What I loved about there is that you have enough time to study unlike in primary...when you come from school, you find that you have a lot to do and you don't get the time to read your books but in secondary, you find that evening, you have enough prep time to read everything and understand whatever you were taught **(Dialogue, adolescent girls, Korogocho, 06122019)**.*

*Mothers with daughters in the program saw the maximization of time to be an outcome of efficient planning among the young people, thereby creating enough time for their studies. The young adolescents were able to plan their time on their own, without necessarily waiting on their mothers to prompt them on what to do. This is what mothers with girls in the program said, "I can say, that my daughters since they joined the program with U-Tena, I haven't seen any problem because, even in the house without planning work for them, they plan themselves and do it. Once they finish they go to study. So the program is good" **(FGD, mothers with girls in the program, Viwandani, 17122020)**.*

» 6.2.2 Challenges faced by A LOT-Change students and parents in secondary school education

» 6.2.2.1 Violence, aggressiveness and bullying

*One of the challenges that seemed to have affected the young adolescents who joined secondary school was various forms of violence, which manifested itself in the form of other older students being aggressive and bullying the Form One students. The violence, aggression and bullying was mostly experienced by the boys from the program from both Viwandani and Korogocho. This started with the young Form One students being called names such as "monos" (referring to them being the newest entrants into Form One) in the particular school. This is how the boys attending dialogues in Viwandani explained this phenomenon, "yeah for me, just like from what R3 (referring to other respondent) has said, life in high school is very challenging. At times we Form Ones, we really face a hard time in school; our peers just monolizing (referring to the demeaning treatment from the senior students), us calling us funny names but we just cope with it. .. **(Dialogue, adolescent boys, Viwandani, 04122019)**.*

Name-calling was one of the forms of bullying. However, other boys also mentioned that bullying is perpetuated by those students whose performance is below average in school. Bullying was also perpetuated by those who were in the senior classes, like the Form Fours who saw the incoming Form Ones as an easy target. Male students who were part of a dialogue in Viwandani intimated:

*When I entered the school after about one week, the Forms Ones were complaining that they were bullied by the Form Fours...[Those] doing well in their exams, are the ones who don't bully the Form Ones...the others whose performance are low they are the ones who bully the Form Ones. Then there are... some other pupils who say that their buckets are being stolen. Others said that their boxes had been broken and I was feeling very bad... **(Dialogue, adolescent boys, Viwandani, 04122019)**.*

Violence against the students was also netted out in the dormitories and on the queues for food. In secondary schools, the dormitories are shared among students in Form One to Form Four. In this kind of scenario, it may be inevitable that the senior students can net out a lot of violence to the younger students who are entering school in Form One. This violence was also seen as students queued for food, atypical of the rush that students engage in as they rush for food in schools, and the need to be on top of the queues. Male students attending the dialogues in Korogocho extrapolated:

What changed for me is increased violence. In our school, violence is everywhere. In the lines for food to the dorm. You find that you argue with people about the simplest things. Like in our school even bread...Even though...every class has been given bread, there must be a scramble. Like last time I got burned because of someone pouring tea on me while people were scrambling for bread. ..(Dialogue, adolescent boys, Korogocho, 06122019).

» 6.2.2.2 Theft of items from those enrolled in school for the first time

Another major challenge that the students faced as they entered secondary school, is theft. Theft normally happened to new students in two ways: Either they lent out their belongings to the older students in their dormitories, or they left their clothes or uniform on the lines, and they never found them. The first scenario happens because the new entrants into Secondary school do not know who they lent their items to and in the second scenario, they would not know where to start looking for the lost items that disappear from either the cloth lines or within the dormitories. Girls who were part of the dialogues from Korogocho explained:

For example, those of us who are in boarding, the first week I was silent and people would come borrow something and they don't return it. And, if you hang your clothes in the hanging line you later come back and find they are missing. So I found out that [all my things] were stolen...and I didn't have anything to wear... (Dialogue, adolescent girls, Korogocho, 06122019).

The parental narratives show that theft posed a challenge to the parents who had taken their children to join Form One. For the parents the challenge was that theft denied their adolescent girls and boys some of the crucial school items like school shoes, which they had acquired through the use of the subsidies, disbursed to the parents to support their children's transition to secondary school.

What I saw in secondary school, the challenge is that, when my son went there his shoes were stolen and you know as a parent that you have bought shoes and you know you are through with that, and you are waiting for something else, then you are told that shoes were stolen... Then after sometime, he came home. And, I asked him why you come with a sweater haven't; you have just come with a shirt, and he said it is hot and I just knew that it had gotten lost [Emphasis added]... (All laugh)... I know, you don't want to tell me but even the sweater is lost... (FGD, fathers with boys in the program, Viwandani, 18122020).

Even as the parents lamented on theft in schools as their children entered Form One, some of the parents cautioned against being too harsh to their daughters and sons. Some parents felt that in as much as theft incapacitates the ability of the students to function well in schools, theft can happen to anyone and anywhere. It is important to acknowledge the difficulties that the students faced as they entered into the new environment of secondary school. Fathers attending FGDs in Viwandani said:

Eeeh, he will survive. So, we have such kind of challenges, but you cannot be too harsh to the child because of theft. One can also steal from you, even though at first you can be harsh so that he takes care of his property. For example books, you can buy books, we were given something here for books, you buy something like dictionary and one is one thousand six hundred then you hear that it has been stolen. This gives you chills even in the house, you will feel aaah... (FGD, fathers with boys in the program, Viwandani, 18122019).

» 6.2.2.3 Loss of concentration in secondary schools

One of the other challenges that was identified particularly by parents was the loss of concentration as the students entered secondary schools. This loss in concentration was noticeable among girls, and was also mainly reported by fathers of girls, who reside in Korogocho. The loss of concentration was explained by parents in two ways: That children who attend non-state schools are usually closer to their teachers when they are in primary school. This allows to have maximum concentration and hence tend to perform well. Secondly, the parents felt that the reason why teachers in the non-state schools in the slums tend to be closer to the students, is because of being subjected to performance contracts that binds them to their work. The parents felt that this is not true of those teachers in the public schools, who up to 2018, were not subjected to the performance contracts. Most importantly is the assertion that in secondary schools teachers taught, and left and it was the responsibility of the students to follow up with the teachers if they needed to. This sometimes was not easy for those who had come out of the non-state schools where they were used to being supervised by teachers when they were in school. This is how the fathers with girls in the program explained the phenomenon of loss of focus:

Since she joined, I see there are some changes because of concentration. She has started knowing what education is... You know at times these informal schools, and these government schools, and the established private schools, there is a difference. These informal and private schools usually get very close to the child [Emphasis added] because of what is called the contract which they sign. They are normally given performance contracts, and if your class will not perform well in this subject, then I don't see the reason for you being here. But the government ones don't have that. The teacher teaches and leaves and now it is up to the child's effort. So if you observe you will see there is a difference there. So, this thing became a problem to her. When she reached secondary school, it was that the teacher teaches and leaves... (FGD, fathers with girls in the program, Korogocho, 20122019).

» 6.2.2.4 Stress due to the number of subjects offered in secondary school

From the student narratives, another challenge was the stress that the students experienced because of being in secondary school and being exposed to a high number of subjects taught in secondary school. The students were in a dilemma on how to make their timetables and balance their time while ensuring that they cover all the subjects. The female students who attending dialogues in Viwandani had this to explain:

It was tiresome because in primary we are used to do 5 subjects, then, we are told we have to do 11. You don't know how you will draw your timetable, you don't know how you will manage your timetable. Let's say you study English, then you are like eh! I will not do biology, yet tomorrow we have a biology lesson. I did not study chemistry. You just find yourself forgetting other subjects... (Dialogue, adolescent girls, Viwandani, 04122019).

In addition to the high number of subjects in secondary school, students were also stressed because of the grading system. Those who had been used to position 1, or 2 found that they were now competing with other equally brilliant minds and so their positions in class were challenged. However, this was not to say that they were performing below par. Some of the students would still be having A and A- grades, but found themselves in lower positions in their classes. I bet some of the students had not learnt that in high school the grade matters more than the class position. This how the female students in Viwandani explained the stress:

It was the first exam, in primary school I used to be position, 1, 2 and 3. Then we went to high school, the first exam you are position 10 in class, in the stream you are position 280 and you have an A- or an A. Then you are like, I have an A- then I am position 200. Then next exam you are position 180 and in class you are position 20. Then you start getting stressed... (Dialogue, adolescent girls, Viwandani, 04122019).

Closely linked with the exam grading system was the onset of exams in the respective secondary schools even before the students were able to settle down in school. Those who entered into the secondary schools when exams were underway did not have time to settle, nor to prepare, which led to failure in exams and thereby heightened stress levels. This was still a phenomenon common with the female students who said, R7: yes. I did not know which exam to study for, and I went to school late. So, the week that I went, I went like today and tomorrow is exam. I didn't even know the subjects to do. I was so confused, and I failed the exams... (Dialogue, adolescent girls, Viwandani, 04122019).

» 6.2.3 How the A LOT-Change program has assisted in adjusting to secondary school and solve challenges affecting students of secondary school going age

» 6.2.3.1 Supporting fellow students and sibling with homework

From the narrative of the parents the A LOT Change program enabled the students to cope with life in secondary schools. According to the parents, A LOT Change enabled the secondary school going students to emulate the role of a "mentor" in the sense that those in secondary school were able to help their fellow secondary school students as well as their siblings alike to complete their homework. Taking the learning from the afterschool support sections and using them among their fellow students and siblings in secondary school. This enabled these other students to cope with some pressures that came from a different approach to learning they encountered in the schools. Some of the secondary students were able to use this knowledge to improve homework support among their siblings in secondary school. This improved the performance of other secondary going students, whether it was their peers in school or their siblings in the households. Mothers of boys attending an FGD in Korogocho said:

Secondary is difficult. The exams that are set, if you fail to use your brain, that exam is difficult... They are twins. He comes with his exams and the other one comes with his. They exchange and start revising. Where he has gotten wrong, if it is easy he tells him, you got this one wrong and it is so easy. It was to be done like this and that. The other one checks too and corrects his sibling. I thought to myself, if they have started doing this, God has intervened and U-Tena has helped them get somewhere (FGD, mothers with boys in the program, Korogocho, 16122019).

» 6.2.3.2 Reinforced students management of time

Many of the secondary school pupils have said that A LOT Change has assisted them in management of the time. Management of time can be traced back to when these pupils were taught how to prepare a timetable or schedule of activities when they were in primary school during A LOT Change Phase 2. Therefore, it seems to be a follow-up of the initiative of what the pupils had been exposed to in primary school which made them more responsible, accountable, better planners and time managers. These students were able to apply some of the activities that they had learnt beforehand. Time management as an outcome of how A LOT Change has enabled the students to adjust to secondary school was extrapolated by female students in Viwandani:

It helped because when we were in A LOT change program, in life skills we studied about managing your time. So, in high school you find like there are many subjects and the prep time is only 2-3hours, so it forces you to manage your time. You specify your timetable, you know how you will plan your timetable for the time that you have ... (Dialogue, adolescent girls, Viwandani, 04122019).

» 6.2.3.3 Reinforced confidence to speak up in secondary school

One of the key persisting positive change that has been consistently observed on pupils who attended the A LOT Change program was the ability to express themselves better and to speak up due to enhanced self-confidence. Enhanced self confidence among the pupils in the earlier cohort of the study was due to mentoring in life skills. Self confidence among pupils in secondary school, enabled the students to speak up, for themselves and others in school, as well appeal to those pupils who are school leaders to be realistic when dealing with fellow students. This narrative on self-confidence was mainly articulated by students from Viwandani, and particularly female students. We should note that Viwandani is where the leadership component was implemented during Phase II of A LOT Change. These female students extrapolated these in this manner:

In A LOT Change, I was a leader when I was in our primary school [Emphasis added]. So, for me I used to know how leaders behave. So, it was easier for me to use the tactics that are in leadership skills, for me to be able to convince this girl that she should not be too hard on people (referring to fellow students) because one day she might also be in a situation where she is not a leader, who will help her? So, I used to tell her that you should be calm with people because you might be in this situation even you and no one will help you because you are harsh on them. (Dialogue, adolescent girls, Viwandani, 04122019).

Moreover, self confidence in secondary school reinforced the ability to speak in front of the school fraternity. This is a true reflection that some of the skills that had been developed during life skills in primary school, was being employed in secondary school. A female student in Viwandani summarizes this when she says, "...in literacy speaking, or in languages. It was on a parade and the principal told me to give a vote of thanks to a visitor who had come in our school and I really spoke well... (Dialogue, adolescent girls, Viwandani, 04122019). Another female student reinforced the virtue of self-confidence when speaking to the peers and to the general population when she affirmed "in the leadership skills we were taught that you have to be confident, you don't have to shy away from people, they can't eat you, they are just people, you have to speak to them with confidence (Dialogue, adolescent girls, Viwandani, 04122019).

In addition to speaking in front of the school, because of self-confidence, they were able to raise issues related to some of the ills in the school. For example, the students were able to raise the issue of bullying within the school, and bring to the attention of the school leadership. This enabled action to be taken against the senior class (Form Four) who more often perpetuated this vice called bullying. Male students in Viwandani extrapolated:

For me due to the excessive bullying, I decided to raise an issue during our annual class meetings, so because I had learnt about leadership skills and I am a class representative [Emphasis added], I applied leadership skills and critical thinking to solve the issue. So we noted down the issue passed it to the class teacher, announce it to the assembly. Thereafter the principle acted upon the form fours. They were suspended for one week... (Dialogue, adolescent boys, Viwandani, 04122019).

Espousing the tenets of self-confidence for some of the pupils necessitated that these young adolescents believe in themselves and what they were capable of doing. Despite having joined secondary school recently, the adolescents manoeuvred in their new context believing in what they did, and asked questions when they were in doubt. Male students attending dialogues in Viwandani, explained in this way:

*What helped me is that I was believing in myself. Yes I'm in a new environment, yet, I don't know anything that goes on but as we kept on being told you just keep pushing on, as long as you know where you come from, you know what you want, where you are heading to. I just went looked for a person. I was told about the routine of the school, how that goes, if you have any problem who to approach the counselling teacher, and all and then from there everything was just smooth... **(Dialogue, adolescent girls, Viwandani, 04122019).***

» 6.2.3.4 Good choice of friends

*From the narratives of the secondary school students, it was also clear that having participated in the ALOT Change program enabled them to be able to choose friends. Good choice of friends seems to have been one step in the right direction in mitigating the pressure to conform to what their peers may have been encouraging them to do. In addition, good choice of friends encouraged the young adolescents to appreciate the individual differences amongst themselves. A male student attending a dialogue in Viwandani had this to say, "In A LOT Change we were told on how to choose our friends. Like the divinities, you should not find that somebody is exactly like you. You should appreciate your friends' differences. **(Dialogue, adolescent boys, Viwandani, 04122019).***

*Moreover, some parents also agreed with the students that A LOT Change has enabled the students to know how to choose friends and avoid peer pressure. Mothers of girls in an FGD were in a consensus that, "When they get friends, the friends tend to misguide them. But because this child has gone through this training, she separates herself from the others and she comes and tells me mum. That, so and so was telling me this and that, and I tell her to leave them alone and to try to do her own things, because if she tries following them she will be lost and she listens to me. **(FGD, Mothers with girls in the Program, 19122019).***

7.0

Discussion

The A LOT-Change project, whose overall objective was to test whether the adapted A LOT-Change model works at secondary school level, to establish how it works and if the impacts among an earlier cohort are sustained. For sustainability, this study intends to establish whether there are long term effects of the earlier intervention in terms of increase, decline or no change in the observed outcomes. This is to be achieved by comparing the A LOT-Change cohort with a matched cohort of students of secondary school age in other slums with similar characteristics. The integrated holiday support program comprised multiple intervention components to achieve this goal. The intervention sessions which had both in house and practical aspects were facilitated by mentors and counsellors in a systematic manner. This baseline findings show that the proportion of fathers and mothers who lived within the households was greater among the follow-up compared to the new, otherwise referred to as the comparison cohort. This association between cohorts and whether or not father or mother is lived with the learner in the same HH was significant. One of the plausible explanation for the higher proportions of both parents staying in the households among the follow-up cohort could be due to the parental counselling sessions that instilled the need of parental support for children's education (B. Abuya et al., 2015; B. Abuya, Ngware, Hungi, Mutisya, Muhia, Wekulo, et al., 2019). The parents can only support the children effectively when they live within the households, especially during transitions when parents exercise agency to provide more social capital which aligns the parents' goals and actions to those of the adolescents enabling the adolescents to make informed choices about school and life (Kim & Schneider, 2005). The study also found that the proportion of girls stood at (52.3%), which was higher than the boys at (47.7%) with similar distribution across the cohorts. In terms of site, slightly more participants are from Viwandani (50.3%). The finding that more students attended boarding (43%) compared to either Day or Mixed-Day and Boarding was not surprising given that a higher proportion of secondary schools are boarding schools, and are not located within and around the urban informal settlements in Kenya.

In relation to **aspirations to higher education**, parents responded to two questions about their academic aspirations of their children. First, was the highest level of education that parents aspired their children to reach and secondly, was the realistic level of education that they thought their children would reach given their life situation. At least nine in every ten (90 percent) of parents indicated that they would like their children to reach university level. This was the case across all the categories of gender, site and cohort. Asked about the realistic level they think their children will reach, only about six out of every ten (60 percent) indicated university level across all categories, implying that parents still have higher aspirations for their children to make a transition to higher levels of education, similar to what reported in the earlier study when some of these learners were in primary school (B. Abuya, Ngware, Hungi, Mutisya, Muhia, Wekulo, et al., 2019). From this finding, higher aspirations for higher education was manifested among parents a year, after their children joined secondary school. On the other hand, there were significant differences by sex (p -value=0.042) and cohort (p -value=0.027) indicating that a higher proportion of parents are optimistic that a bigger proportion of boys than girls will study up to university level, indicating that from the parents perceptions, there are barriers that still need to be broken to enable girls to "break the ceiling". Parents may be required to offer more social support (Raj et al., 2019) for girls in the households to exercise agency towards aspiring to higher levels of education. Similarly a bigger proportion of learners from follow-up cohort than in the new-cohort will study up to university indicating that that the higher aspirations could be attributed to the gains from the A LOT Change Phase II.

Moreover, in terms of **self-confidence**, there were significant/notable differences of student's perceptions about their self-confidence by site (p -value=0.01) and by cohort (p -value =0.0495) but not by student's sex. This meant that students residing in Viwandani felt more self-confident compared to those from Korogocho and that the follow-up group were more confident about themselves compared to the new-cohort. The fact that learners from Viwandani felt more confident could be an indication of the carry over effects of the mentorship in life-skills and leadership, while the fact that the follow-up cohort showed more confidence, than the comparison cohort indicates the sustained effects of the A LOT Change intervention (B. Abuya, Ngware, Hungi, Mutisya, Muhia,

Wekulo, et al., 2019).

The baseline findings show that in regard to the **perception of the schooling environment by the learners**, a majority of students, (about nine in every ten), 90 percent respect their teachers across all sub-categories although slightly lower in Korogocho. Only about half of the learners indicated that teachers understand their responsibilities. On the other hand, only about a tenth indicated that it is possible to do anything in school and escape punishment while less than tenth (majority being girls) indicated that teachers tried to have sex with students. The perception of the school environment is important as it is one of the drivers of quality learning. In particular the finding that a higher proportion respect the teachers, and over 50 percent indicate that teachers know their responsibilities, could lead to more efficacy among teachers to exercise their teaching responsibilities. What makes teachers not be able to impact learning to students is when teachers get overwhelmed due to the overcrowding in schools, consequently leading to less academic support to students (Mercer, Nellis, Martínez, & Kirk, 2011). For this reason, students enrolled in the A LOT-Change project not only appreciated but also attributed the positive academic changes to the support by mentors.

In addition, the study found that in relation to **substance use**, the results of this study indicated that among the follow-up cohort, there wasn't anyone who was smoking bhang and or chewing Miraa as at the time of study, measures by current use. Similarly, there were no reports of current use of bhang among girls and among learners from Viwandani. Also, there were no reports of current alcohol consumption among students in Viwandani. This finding indicates that in the follow-up cohort, the intervention may have drastically reduced substance use and alcohol consumption through the life-skills sessions offered when the students were in primary school. This resonates with the evidence of other after-school support programs in reducing substance use, but also other ills that accrue to adolescents like crime, teenage sex, and pregnancies (Goldschmidt & Huang, 2007; Philliber, Kaye, Herrling, & West, 2002). The fact that students from Viwandani show no signs of alcohol consumption, could be an indication of sustained leadership training, and particularly on self-regulatory efficacy—the ability to resist negative peer pressure. This implies that the adolescent girls and boys from Viwandani could have put in place strategies to sidestep the numerous challenges, like negative peer pressure to keep off the substance abuse (B. Abuya, Ngware, Hungi, Mutisya, Muhia, Wekulo, et al., 2019).

In addition, in relation to **sexual activity and pubertal issues**, the study notes that about one in every twenty (4.7%) of learners had engaged in sexual activity as at the time of the study. The proportion of boys (6.7%) who had engaged in sexual activity was more than twice that of the girls (2.9%) indicating significant association between sexual activity and gender of the learner (p -value=0.010). Similarly, the proportion of learners who had had sexual activity in the new cohort (6.2%) was more than twice that of the follow-up group (2.7%) indicating that the cohort had significant association with the sexual activity (p -value=0.020, and that follow-up cohort was doing better at abstaining from sexual activity than the new cohort. The fact that girls and the follow up cohort had lower proportions of sexual activity could be attributed to the sustained effect of empowerment felt by adolescents (girls and those in the new cohort) to make better and informed decisions as well as exercising agency (Raj et al., 2019). This may have led to the entry into early sexual activity to be minimized within the urban informal settlements. For instance, girls cited being more assertive in resisting advances by boys and men to engage in risky sexual behavior. An adolescent girl stated, "...we know how to deal with those men who tell you they will give you a future and then they let you go...we should not look at the things like money, but we should look at my future." (Dialogue, Adolescent girls, Viwandani, 04122019). We note that the ability to express oneself without fear was cited as a key difference between adolescents who are enrolled in the A LOT-Change project and those not enrolled. This was attributed to life skills sessions on self-confidence and self-esteem where the adolescents are mentored on believing in their abilities and qualities. However, in terms of the sub-categories, a higher proportion of those who believed they would become more popular were girls, students residing in Viwandani and those belonging to the new-cohort. This belief in

the idea that one becomes popular could expose the boys and girls to a higher risk of early sexual intercourse. This was a surprising finding given that the intervention attempted to demystify such beliefs, they remained common among the participants.

Delving into the academic performance measured by students' scores in **numeracy and literacy**, the study found that the follow-up cohort had a head start, significantly scoring better in both numeracy and literacy in the descriptive analysis. In numeracy, the follow-up cohort scored on average 17.70 points (0.177 standard deviations) as compared to the new cohort. However, when other factors are controlled for, the differences become smaller and not significant, but the follow-up cohort remains ahead. This implies that the earlier intervention had some accrued benefits to the learners who had been in the program earlier. When the results were disaggregated by gender, findings show that girls' performance was relatively similar in numeracy assessment irrespective of the cohort, while among the boys, the follow-up scored on average 28.01 points more than the new cohort; the difference was statistically significant. This finding mirrors the outcome of the intervention on boys within the follow-up at the point of transition to secondary school, where the intervention was found to have more impact among boys than girls especially for numeracy (B. Abuya, Ngware, Hungi, Mutisya, Muhia, Wekulo, et al., 2019). Overall, the follow-up cohort scored on average 0.26 standard deviations in literacy more when compared to the new cohort. At the point of transition to secondary school, the gains in literacy achievement among the pupils in the follow up cohort irrespective of whether they were in the different arms of the intervention in Phase II, were significantly (at 5% significance level) higher when compared to the corresponding gain recorded among girls from the GEC pilot study control group (B. Abuya, Ngware, Hungi, Mutisya, Muhia, Wekulo, et al., 2019). It would appear that the respective gains in literacy has been sustained a year into their secondary education. In regard to literacy achievement, Viwandani, and girls seemed to drive the overall differences in achievement between the two cohorts.

The improvements in literacy and numeracy and the sustained gains were explained by the parents of the students in the program, whose motivation to educate their children and aspiration for higher education was revamped. They have now taken deliberate effort to ensure that their children continue with their education with minimal disruptions. The parents said: "...from class six he started to perform better in class and when he sat for his end of primary school examination, he surpassed the marks that I had expected he would get...So, I too took initiative to help him proceed with his education...I hope that when he joins form two and continues with his education, he will become better." (FGD, fathers with boys, Korogocho).

Results indicated that adolescent boys, adolescents residing in Viwandani and the follow-up cohort had significantly better scores in self-efficacy meaning that they believed in their capacity to achieve various tasks despite the challenges faced. Research evidence indicates that there exists gender differences in academic self-efficacy. A meta-analysis by Huang (2013) found that there were significant gender and age differences in self-efficacy in academics. For instance, females displayed higher self-efficacy in languages than males, while males exhibited higher mathematics, computer, and social sciences self-efficacy than females. In addition, in mathematics self-efficacy, the significant gender differences emerged in late adolescence. The association between academics and self-efficacy will be followed up at endline.

The findings also showed that when compared to the new cohort, the follow-up cohort who were enrolled in the second phase of the A LOT-Change program were better placed to resist peer pressure, believed in their capacity to achieve various tasks despite the challenges faced; speak up for their rights and have supportive relationships with adults around them. The results indicate that the follow-up cohort may have benefitted more from the session conducted during the Phase II implementation. This is consistent with previous studies that indicate that after-school support programs such as the A LOT-Change program promote young people's social and emotional learning (SEL) skills, meaning that they offer young people opportunities for self-expression, exploring their talents, and forming relationships with supportive adults (Hurd & Deutsch, 2017).

One of findings that seemed to run through the qualitative narratives was related to **reduction of conflict** among the parents and the students. According to some parents, this was related to the lack of open and honest communication between family members. Therefore, parents should ensure that they honestly engage their children on all matters—one of them being letting their children in on the household financial status, so that they do not end up feeling that their parents do not want to provide for them yet, it is funds that could be lacking. The A LOT Change parents were happy to note that their children’s discipline had greatly improved since their children were enrolled in the project. Key areas of improvement included respect and obedience to their parents, thereby resulting into minimal conflicts between parents and their children. This finding mirrors some research studies that show that major causes of parent-adolescent conflict are everyday family life issues such as disobedience, school work and household chores (Montemayor, 1982). Therefore, the gains made by the A LOT-Change project in improving adolescent’s general discipline - such as obedience and respect to their parents -their involvement in household chores and interest in their studies are indicative of consequent improved parent-child relations. Overall, some of the positive changes in academics, resilience to resist peer pressure, self-confidence, time management, future aspirations, parent-child communication, parental involvement and positive parenting strategies - persisted one year later after the adolescents joined secondary school, a possible sign of the sustainability of the intervention.





8.0

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Baseline Report: 2021