



African Population and
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ADVANCING LEARNING OUTCOMES FOR TRANSFORMATIONAL CHANGE III (A LOT-CHANGE III)

The Status of Learning at Home, Challenges and
Coping Strategies During the COVID-19 Pandemic:
Experiences from Two Urban Informal Settlements

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The status of learning at home, challenges and coping strategies during the covid-19 pandemic: experiences from two urban informal settlements

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Acronyms/Abbreviations

A LOT-Change	Advancing Learning Outcomes for Transformational Change
APHRC	African Population and Health Research Center
ICT	Information Communication and Technology
IDIs	In-depth Interviews
KBC	Kenya Broadcasting Corporation
KES	Kenya Shilling
SE	Standard Error
SSA	Sub-Saharan Africa
TV	Television
MB	Megabytes
MS-Word	Microsoft Word
PDF	Portable Document Format
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations International Children's Emergency Fund

1. INTRODUCTION

At the onset of the COVID-19 pandemic, about 1.6 billion learners (94% globally) from pre-primary to higher education were affected by the partial or total closure of schools (UN, 2020). As shown in Table 1, projections from UNESCO 2020 show that 23.8 million (10.9 million in primary and secondary school) children, adolescents and youth are at risk of dropping out of school globally due to the COVID-19 pandemic. Of these, 11.2 million are girls and young women due to the increased risk of early pregnancy and marriage, sexual exploitation and abuse, and female genital mutilation (UNESCO, 2020b). According to these estimates, almost half (47%) of those at risk of not returning to school, come from South and West Asia (5.9 million) and sub-Saharan Africa (5.3 million). Based on experiences from previous emergencies such as the Ebola crisis, adolescent girls are projected to most likely face increased risks such as early and forced marriages, increased pregnancy and transactional sex due to poverty (UNESCO, 2020a).

In addition to the UNESCO projections, the Malala Fund (2020) estimated that about 10 million girls in secondary education in low and lower-middle income countries were at risk of dropping out because of the COVID-19 pandemic. The World Bank also estimated that the out-of-school population would increase by 2% with approximately 7 million primary and secondary school students globally facing the risk of dropping out (World Bank, 2020). Despite the different numbers, it is clear that the pandemic will have an adverse effect on dropout rates. Unfortunately, these numbers will only add to the 258 million children of primary and secondary school age who were already out of school prior to the pandemic (UNESCO, 2019a). In addition, there are worries that the pandemic could result in a loss of between 0.3 and 0.9 years of schooling (Azevedo, Hasan, Goldemberg, Iqbal, & Geven, 2020).

Table 1: Number of students at risk of not returning to education institutions: projection results (180 countries and territories)

Education level	# at-risk students ('000)	% increase of at-risk students	# at-risk students ('000)	% increase of at-risk students	# at-risk students ('000)	% increase of at-risk students
Pre-primary	2,440	2.84%	2,573	2.75%	5,013	2.79%
Primary	976	0.27%	1,074	0.28%	2,050	0.27%
Lower secondary	2,106	1.30%	2,326	1.32%	4,431	1.31%
Upper secondary	2,114	1.73%	2,306	1.71%	4,420	1.72%
Tertiary	3,626	3.06%	4,242	3.91%	7,868	3.47%
Total	11,261	1.32%	12,521	1.39%	23,782	1.36%

Source: UNESCO. (2020b). *How many students are at risk of not returning to school?*

In an attempt to continue teaching and learning remotely, education systems adopted various strategies such as online lessons, broadcasting of educational content through television and radio, and take-home packages or paper based resources for those who did not have access to relevant technology (UN, 2020; Yorke, Rose, Bayley, Wole, & Ramchandani, 2021). However, the sudden school closures meant that most schools, parents and students were not adequately prepared for continued learning at home, with major concerns around parents' abilities to support their children due to competing work demands and low literacy levels (Yorke et al., 2021).

Estimates from UNICEF (2020) showed that inequalities in access to online (internet) and non-online learning resources such as television and radio were a key challenge, with less than half of households in low and middle income countries having access to the internet. The report went on to highlight inequalities in TV and radio ownership, with TV ownership for urban households being more than twice that of rural populations. The International Task Force on Teachers for Education 2030 also highlighted that 89% of learners in sub-Saharan Africa do not have access to a household computer compared to the worldwide average of 50% of learners, with 11% not able to access information through mobile phones due to limited network coverage in SSA. In addition to access, there is also the issue of necessary digital skills for effective utilization of remote learning resources for both teachers and households (Adedoyin & Soykan, 2020). This is worsened by the fact that only 64% and 50% of teachers in primary and secondary school respectively have received basic teacher training (which in many instances does not include basic ICT skills) compared to 85% and 86% globally (UNESCO, 2019b).

In addition to disruptions in education, the well-being of students and parents was affected. The ability of parents to support learning at home was also compromised by their engagement in competing activities and low literacy levels (Yorke et al., 2021). This was compounded by the difficulties and uncertainties of working from home or losing their livelihoods completely resulting in reduced psychosocial wellbeing (Garbe, Ogurlu, Logan, & Cook, 2020). Recent studies showed increased child abuse cases during the COVID-19 pandemic period related to increased parental stress (Brown, Doom, Lechuga-Peña, Watamura, & Koppels, 2020; Kovler et al., 2020). In one study, job losses for parents and caregivers during the pandemic were associated with increased psycho-

1. https://teachertaskforce.org/sites/default/files/2020-04/COVID19_PDF_2PAGES_EN.pdf

logical and physical child abuse (Lawson, Piel, & Simon, 2020). Unfortunately, these forms of child abuse are also associated with an increased likelihood of children exhibiting psychological issues such as aggression, hyperactivity, conduct problems, anxiety and depression in the short and long term. (Cicchetti, 2016; Muhia, 2019). The reduced face-to-face interaction with their peers, competition for resources at home, monotony and family financial losses were also cited as potential triggers for delinquency and mental health issues (Wang, Zhang, Zhao, Zhang, & Jiang, 2020). This is corroborated by evidence from previous pandemics and emergencies that resulted in psychological impacts such as irritability, fear of infection, anger, confusion, frustration, depression, insomnia, loneliness and even suicide (Barbisch, Koenig, & Shih, 2015; Brooks et al., 2020; Jeong et al., 2016; Liu et al., 2012).

It is against this backdrop that the African Population and Health Research Center (APHRC) embarked on a study to assess the status of learning at home, the challenges faced by adolescents and their parents during the pandemic and related coping strategies. The study participants included adolescents in secondary school at Form Two level and their parents, who are enrolled in an after-school support program known as the Advancing Learning Outcomes for Transformational Change (A LOT-Change). The program is being implemented in Korogocho and Viwandani – two informal settlements in Nairobi, Kenya – with intervention activities including holiday homework support, mentorship in soft skills, career awareness, service learning, digital literacy and parental counselling. The following research questions guided the study:

1. Did adolescents receive academic support from their schools/teachers during the COVID-19 school closure period?
2. What was the preferred mode of studying at home by adolescents during the COVID-19 school closure period?
3. How many households owned a television set (TV), radio, basic phone, smart phone, computer and tablet?
4. How many households had access to a source of electricity and internet?
5. What was the status of the learning environment for adolescents at home (access to basic writing material, textbooks, reading resources, paper-based and appropriate space for learning) during the school closure period?
6. Who supported adolescent's learning at home during the school closure period?
7. Were adolescents exposed to child abuse (sexual, physical, emotional, child labor, early marriage and teenage pregnancy) during the school closure period?

2. METHODOLOGY



2.1 Quantitative approach

The data were managed and analyzed using STATA 16. The analysis included computation of frequencies and percentages on the key indicators of interest stratified by learner gender and type of school lastly enrolled before school closures in March 2020. The results are presented in tables and charts.

2.2 Qualitative approach

Respondents for the qualitative study were purposively selected depending on their availability and willingness to share their experiences (Etikan, Musa, & Alkassim, 2016). Adolescents were further selected based on their gender and school category while their parents were included based on their gender and that of their children who were enrolled in the A LOT-Change program (Table 2.1). All the qualitative data were recorded and transcribed verbatim in English into MS-Word documents. A coding schema was then generated both inductively and deductively (Boyatzis, 1998; Crabtree & Miller, 1999) and fed into NVivo software to organize the findings into themes of interest. The deductive codes were based on the research questions guiding the qualitative study while the inductive codes were additional themes that emerged during the coding process. A coding report summarizing the qualitative findings thematically was then generated and the team used the coding report to draft the key findings.

3. QUANTITATIVE STUDY RESULTS

3.1 Participant characteristics (sex, age, school type)

A total of 370 adolescents in secondary school at Form Two level were included in the quantitative component of the study. An additional 64 adolescents and their parents were interviewed qualitatively to gather more insights about their lived experiences during the school closures through in-depth interviews (IDIs). The categorization of study respondents is shown in Table 2. Study participants for both components were equally distributed in Viwandani and Korogocho.

Table 2: Categorization of qualitative study respondents

Type of interview	Number of respondents		
	Korogocho	Viwandani	Total
IDIs with male parents (4 parents with boys and 4 with girls in the program)	8	8	16
IDIs with female parents (4 parents with boys and 4 with girls in the program)	8	8	16
IDIs with male adolescents (4 in private and 4 in public schools)	8	8	16
IDIs with female adolescents (4 in private and 4 in public schools)	8	8	16

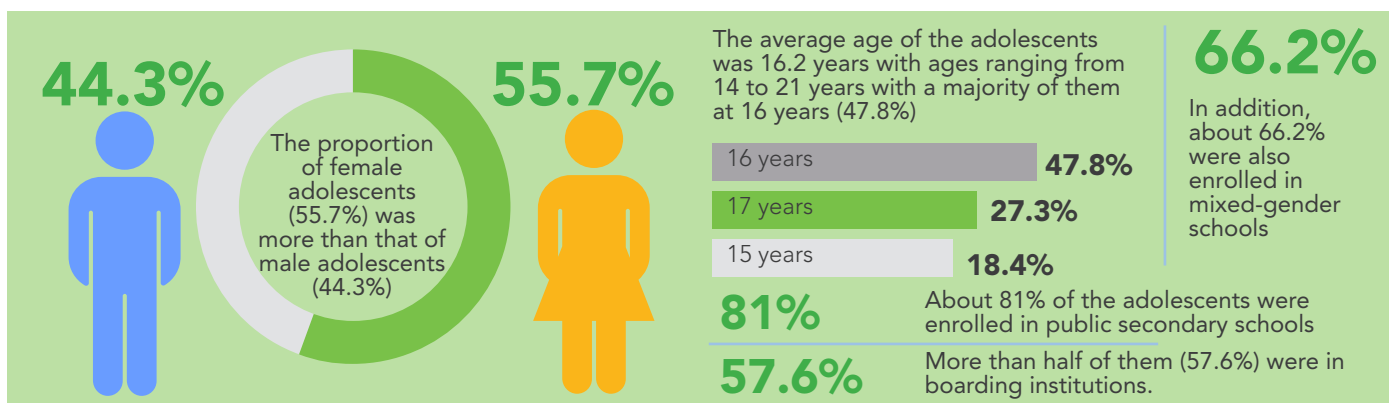


Table 3: Characteristics of quantitative study participants

Variable and category		No.	%
Gender	Male	164	44.32
	Female	206	55.68
Age	<=15	73	19.73
	16	177	47.84
	17	101	27.3
	=>18	19	5.13
	Mean (SE)	16.19	0.90
School Type	Private	68	18.38
	Public	302	81.62
School category	Day	142	38.38
	Boarding	213	57.57
	Mixed	15	4.05
School gender	Single Gender (Girls/Boys)	125	33.78
	Mixed	245	66.22

3.2 Ownership of electronic devices

This section highlights ownership of items that facilitated continued learning at home during the closure that was necessitated by the COVID-19 pandemic. The study sought to understand whether the adolescents or any other individual in the household they were residing in owned a television (TV), working basic phone, working smartphone, computer/laptop, tablet, video player, or radio. A majority of the households owned a TV (82.2%), a working basic phone (80.7%) and a working smartphone (68.4%). It is also worth noting that 23.8% and 12.7% of the adolescents individually owned a working smartphone or basic phone respectively. Only half of the households owned a radio, with 6.2% owning a computer as illustrated on Figure 1. In addition, 98.7% and 55.8% of the adolescents reported having access to some form of energy (electricity, generator, and solar,) and internet connectivity (WiFi, fibre optic cable, data bundle, etc.) in their homes respectively.

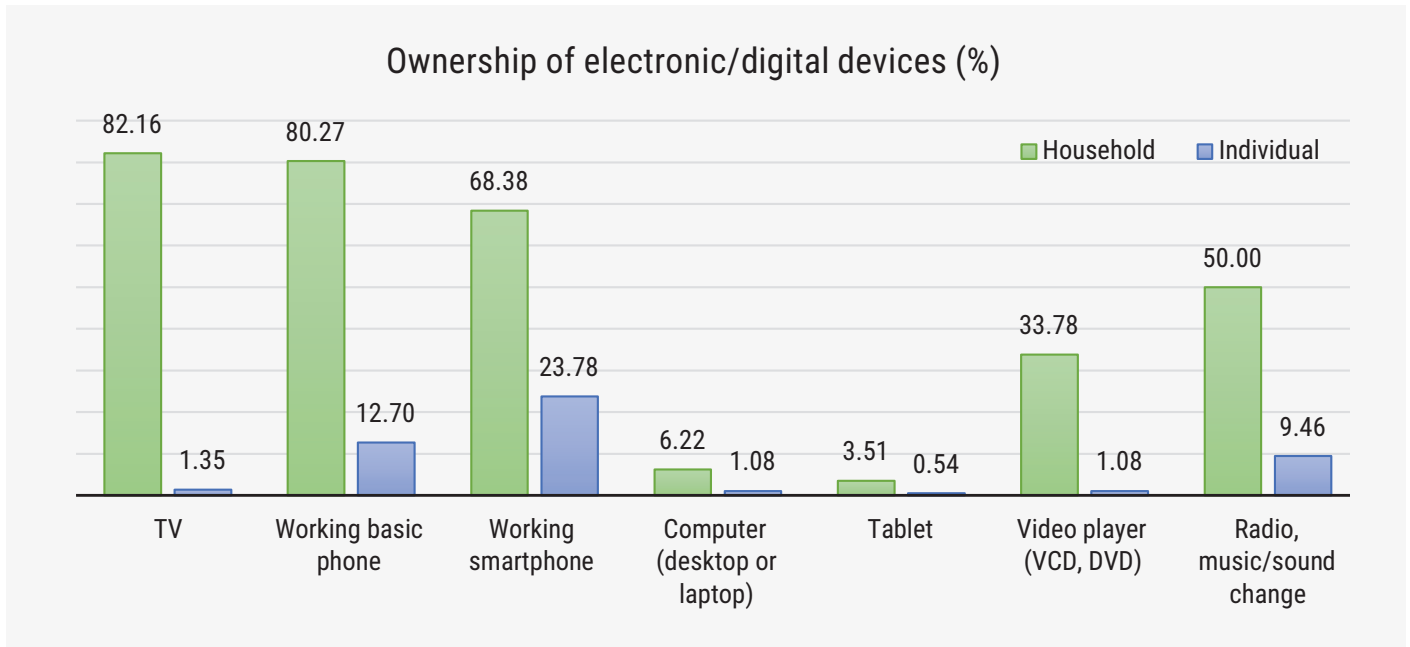


Figure 1: Household and individual ownership of electronic/digital devices

3.3 Holiday homework support during the school closures

On average, only about 62.7% of adolescents reported receiving homework immediately when schools were closed in March 2020 with the majority of these being adolescents enrolled in public schools (64.2%) compared to those in private schools (55.9%). However, the proportion of adolescents reporting continued support from their schools or teachers during the pandemic declined to 35.7% overall with those in private schools at 39.7% compared to public schools at 34.8%. Most schools were said to share holiday revision work with students at either weekly intervals or at an unspecified frequency meaning without a clear schedule, as illustrated in Figure 2.

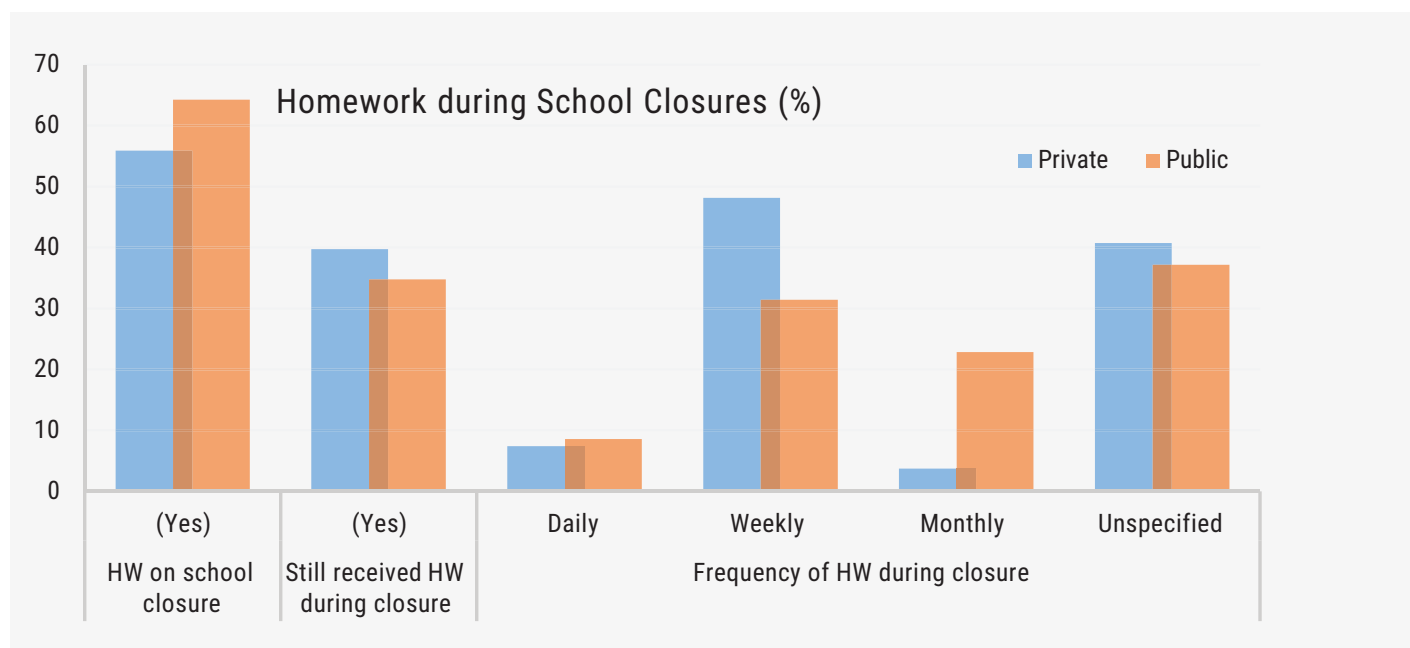


Figure 2: Holiday homework support for adolescents by schools

3.4 Access to learning materials and appropriate learning spaces

When asked about access to learning resources at home during the school closures, nearly all (98.9%) adolescents reported accessing basic writing materials like pens and notebooks. Moreover, 80.5% could access school textbooks, 70.5% accessed paper-based resources such as exam revision papers and 57% accessed reading materials like story books and magazines. Only 66.2% of the adolescents reported being able to access an appropriate space for learning at home. It should be noted that the definition of ‘appropriate’ here was left to the discretion of the respondents due to the diversity of contexts. See Figure 3.

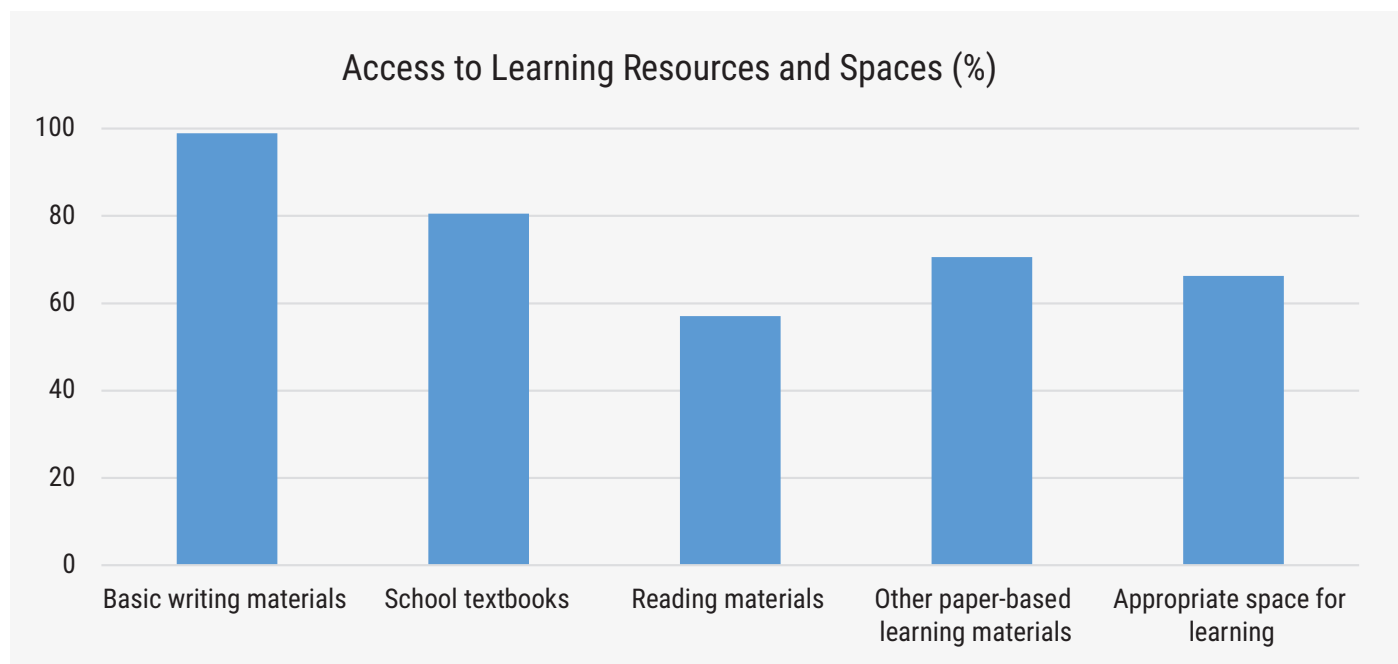


Figure 3: Access to learning resources and learning spaces

3.5 Preferred mode of study

Overall and in order of preference, the preferred modes of study by adolescents during the school closure period were: studying on their own (87%); tuning in to educational TV programs (57.3%); studying with peers (55.1%); online classes (33%); tuning in to educational radio programs (32.4%); using educational mobile phone apps (26.8%); and, remedial classes (8.1%) as highlighted on Figure 4. Educational mobile applications in this case referred to those that did not require internet to be accessed, instead students would text their questions and receive answers.

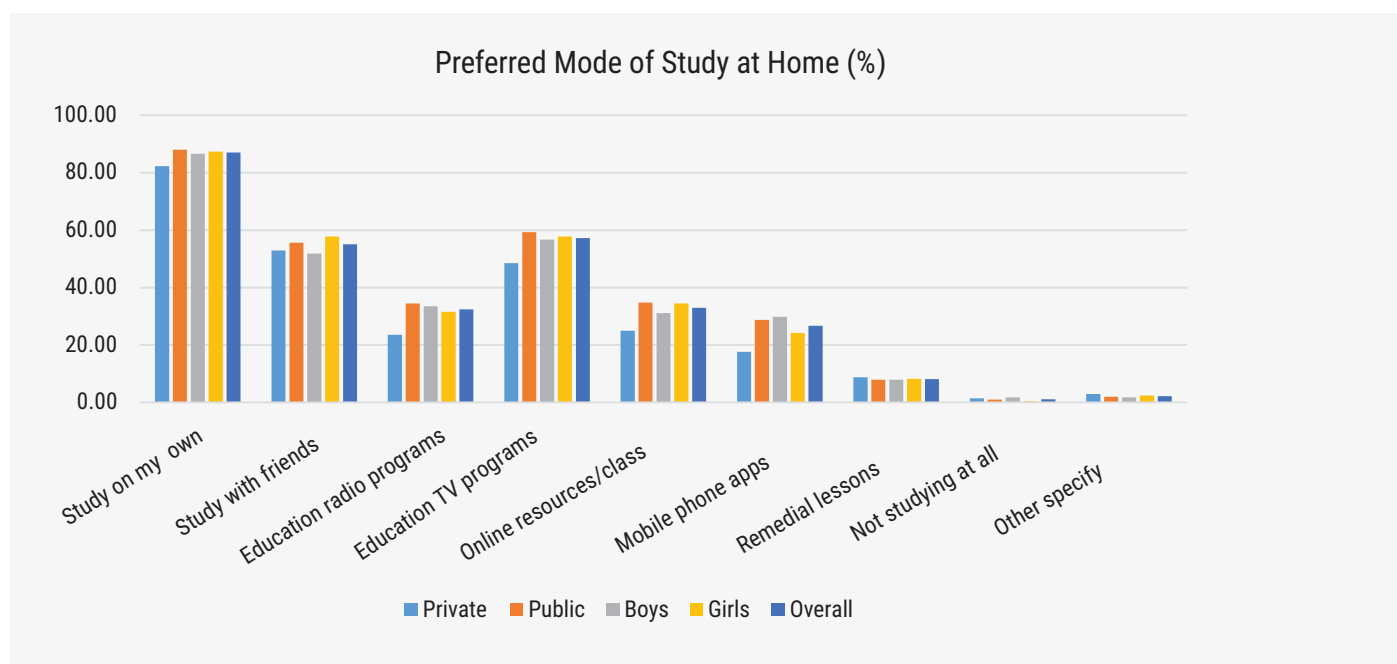


Figure 4: Preferred mode of study at home

Further analysis was done to find out if there was an association between ownership of electronic or digital devices and the preferred mode of study using the respective devices (Figure 5). Among adolescents with access to TV at home, 67% of them tuned in to educational television programs compared to 10% who did not own TVs; 51% of those with computers, smart phones and tablets accessed online resources compared to only 31% of those who did not own any of those devices; 45% of those with access to a radio at home also accessed radio education programs compared to 15% who did not own a radio; and proportionately more (31%) adolescents without access to a mobile phone at home used basic mobile phone educational learning applications (such as Shupavu) compared to 26% of those with access to a mobile phone. Those adolescents who did not own electronic or digital devices, and yet were able to access education programs and resources on radio, TV, online and mobile phone applications were able to do so through their peers and neighbors. In addition, among adolescents with access to internet, 54.4% used online resources to study as compared to 6.1% of those who did not have access to internet.

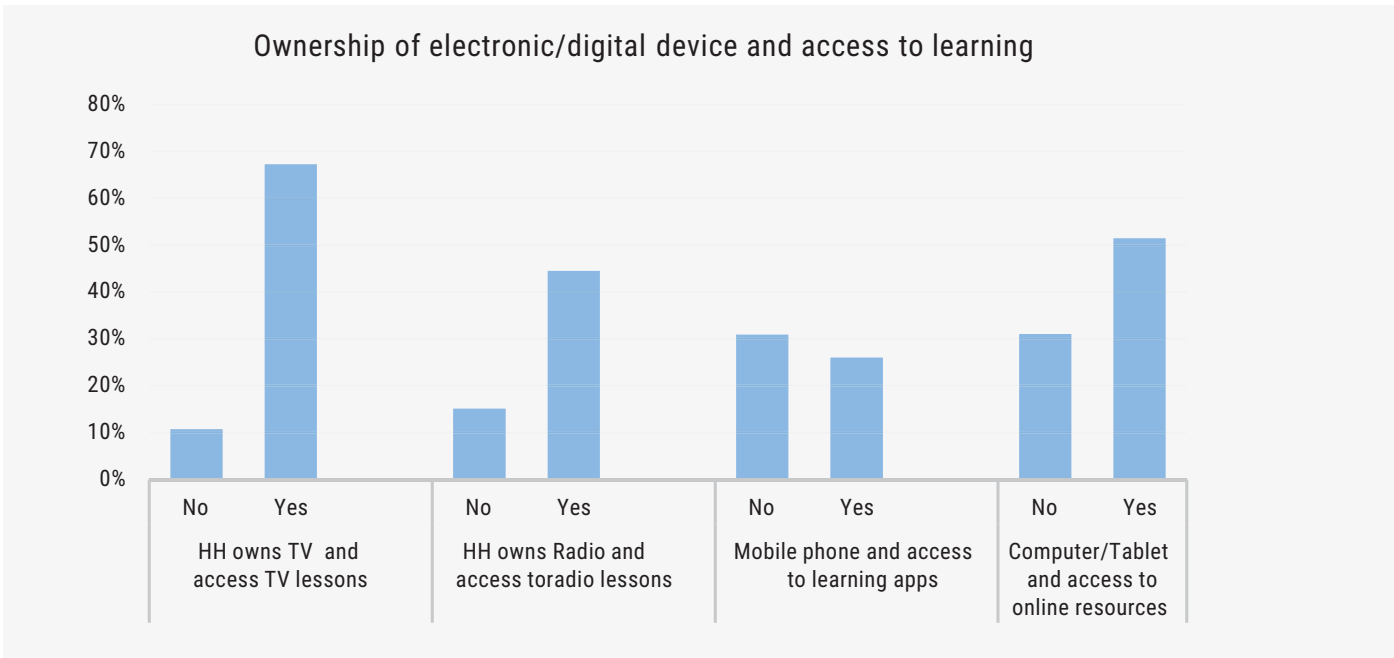


Figure 5: Ownership of electronic/digital device and access to learning

3.6 Learning support by household members

Overall and across gender and type of school, adolescents reported receiving more learning support from their mothers (85.9%), followed by fathers (53.8%) and siblings (34.3%). Slight differences were however noted across gender with more girls (86.9%) reporting support from their mothers compared to 84.8% of boys. On the other hand, more boys (60.4%) mentioned being supported by their fathers, compared to 48.5% of adolescent girls. Going by school type, more adolescents in public schools reported receiving support from their mothers (87.4%) and fathers (56.9%) compared to those in private school who reported 79.4% and 39.7% respectively. See Figure 6.

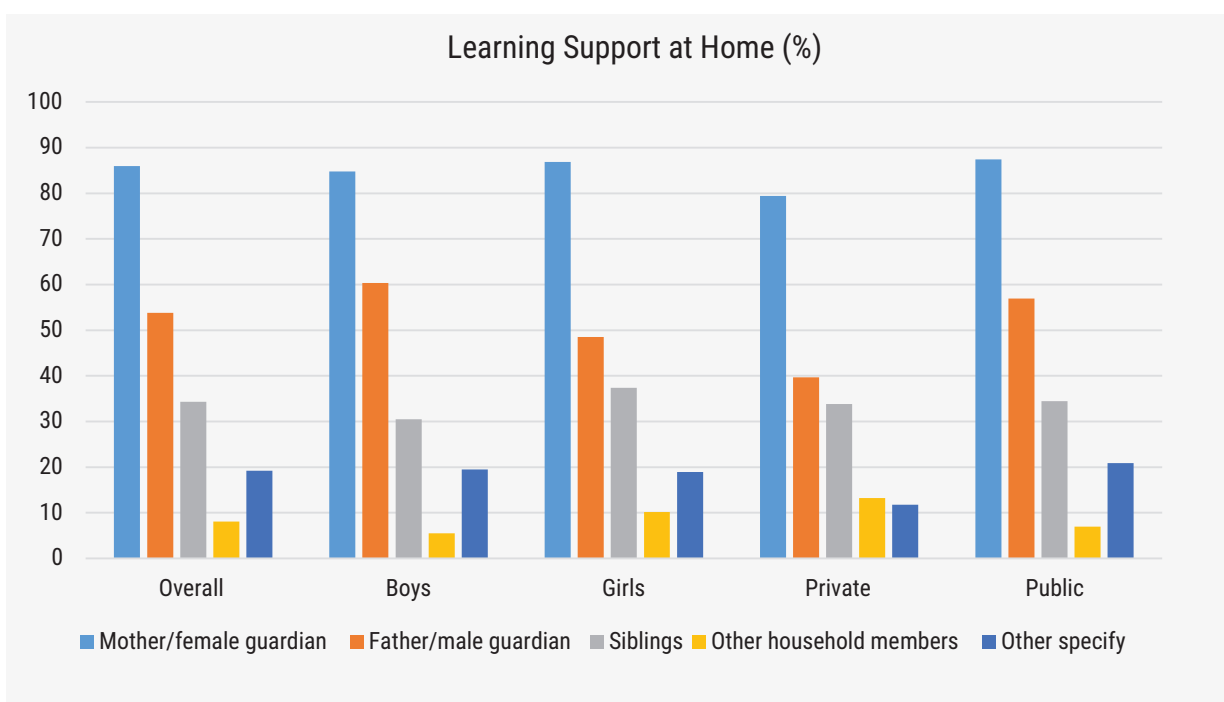


Figure 6: Learning support for adolescents from household members

3.7 Child abuse experiences at home and outside home

Adolescents were also asked to share if they had experienced any form of child abuse both inside and outside their homes during the school closure period. Given the sensitivity of the question, respondents were reassured of their confidentiality and voluntary participation by the interviewers. In addition, a detailed description was provided to the interviewers for reference when providing examples of what constituted the various forms of abuse to the respondents as shown below:

- **Physical abuse** - Hitting (with hand, stick, belt, or other object), kicking, choking, burning (with open flame, hot objects, boiling water, cigarettes).
- **Sexual abuse** - Rape (vaginal or anal penile penetration), oral sex by or to any adult, genital contact with no intrusion, fondling of a child's breasts or buttocks, indecent exposure, production, distribution or possession of child pornography, sexual exploitation i.e., use of a child in prostitution, pornography.
- **Emotional abuse** - behavior that conveys to children that they are worthless, flawed, unloved, unwanted e.g., belittling, rejecting, ridiculing, blaming, bullying, threatening violence or fearful conditions.
- **Neglect** - failure to provide basic needs such as food, shelter, clothing, and medical care.
- **Child labor** - work that is mentally, physically, socially or morally dangerous and harmful to children.
- **Early marriage** - any formal marriage or informal union where one or both of the parties are under 18 years of age.
- **Child/teen pregnancy** - pregnancy where the girl is under 18 years or a boy under 18 years impregnates a girl

Overall, about 28.1% of adolescents reported experiencing emotional abuse, 7% reported physical abuse and child labor while 5.1% reported neglect and 3.2% sexual abuse. There was only one case of marriage and pregnancy reported. When categorized by gender, slightly more boys (30.5%) reported emotional abuse compared to 26.2% of the girls. A considerable difference was also observed in reports of child labor among adolescent boys (11.6%) compared to girls (3.4%). On the other hand, more girls (4.4%) reported cases of sexual abuse as compared to boys (1.8%). Reports of physical abuse did not display much difference. See Figure 7.

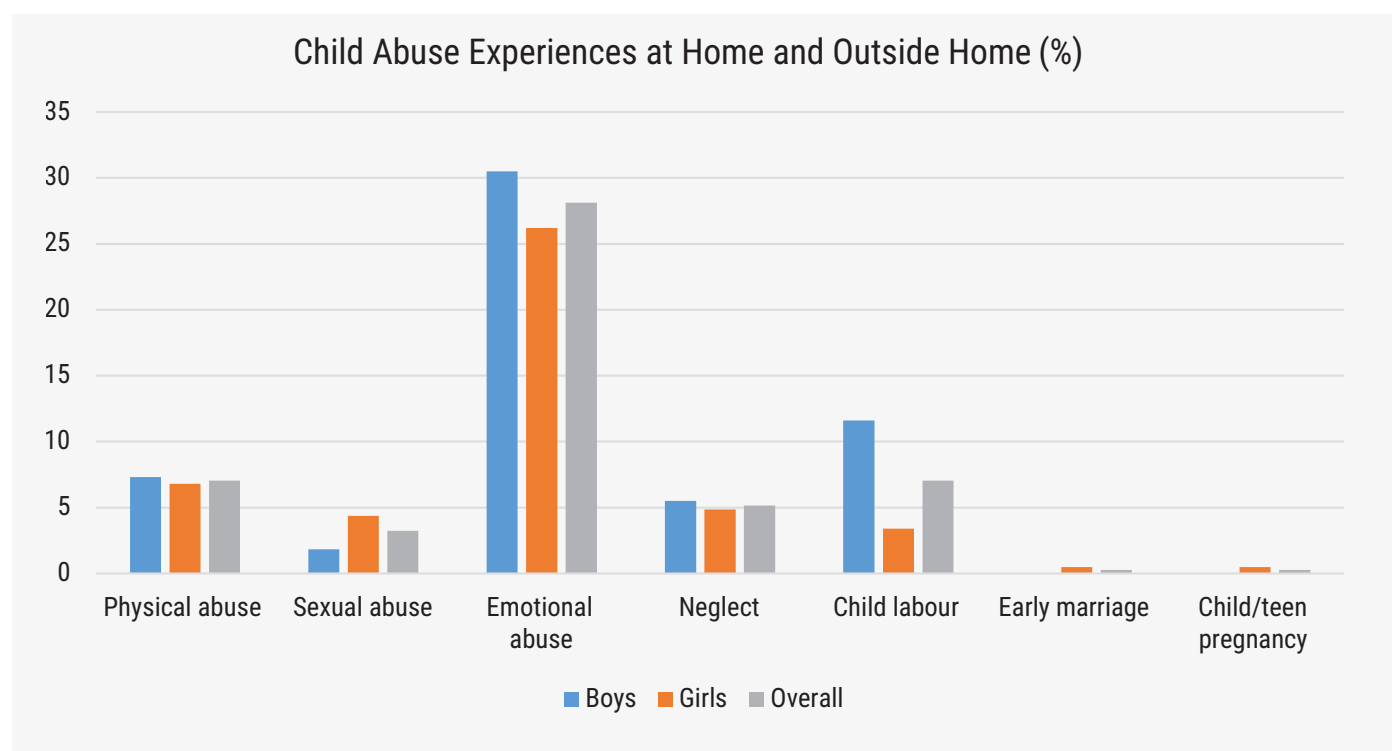


Figure 7: Child abuse experiences at home and outside home

4. QUALITATIVE STUDY RESULTS

This chapter showcases adolescent experiences in studying at home during the school closures. The narratives cover reasons behind the use of various learning strategies covered in Figure 4 and the challenges encountered in using the same. We will only focus on the five key study strategies: studying alone; tuning in to educational TV programs; studying with friends; using online resources; and tuning in to educational radio programs. The last section will highlight general challenges that adolescents faced during the pandemic.

4.1 Reasons for adolescents' preference to study on their own

The principal study strategy among adolescents was self-study reported by 87% of them. These were the key reasons they provided on their preference for this strategy:

4.1.1 Self-paced learning

The most common reason mentioned by students was their need for autonomy over their study time. This allowed them to pace their learning by revisiting items that were difficult to understand. Self-paced learning allowed more flexibility in their studies which is quite a contrast from what constitutes learning during the normal school environment where the time allocated is more structured and learning goes on even when some concepts are not well understood. Adolescent respondents explained:

When you study on your own, you are able to re-visit something in-depth because sometimes in school, you are given a lot of assignments, and you are expected to tackle those assignments even if you didn't understand the idea. So, when I'm studying on my own, and I have not understood something, I have the chance to refer again, because I also have ample time. You come and refer and then you can do your own exercises, so you end up understanding it even better.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

When I study on my own, I am able to concentrate and I am able to grasp the knowledge (better) than studying in the group...I put a limit to where I am going to study. I limit how I am studying.

(IDI, Female Adolescent, Public School, Viwandani, 20.11.15)

4.1.2 Reduced distractions

According to the adolescents, the chances of getting distracted when studying alone are minimal in comparison to learning with friends where they might be tempted to engage in other activities such as telling stories and wandering around.

...they (friends) just want you to take them somewhere, just to stroll around. Such a person doesn't want to take out their books to read. I really like it because I don't like walking around, I'm not like other teenagers who go strolling around without anything to do. So, I usually like it because when I go back to school, there is something new I shall have learned, I have experienced some things.

(IDI, Female Adolescent, Private School, Korogocho, 20.12.14)

You know, when I study alone, I am more focused and serious with what I am reading unlike when I study with a friend. A friend may have many distractions because sometimes they tell you this and that or do other things hence end up confusing you and ultimately you may forget what you had read.

(IDI, Female Adolescent, Private School, Viwandani, 20.12.15)

As a result of the minimal distractions, adolescents felt that they were able to cover more ground than when studying with peers.

When you study alone, you tend to go faster, I mean you cover the syllabus much faster than when you are with friends to discuss. Discussions take longer, thus if you study on your own you cover more.

(IDI, Male Adolescent, Public School, Viwandani, 20.12.15)

4.1.3 To avoid conflicts of interest with their peers

According to the adolescents, studying alone reduced the chances of conflict with their peers on what to study in those instances where each one of them had different interests. Studying alone meant that they could easily plan on what to study.

I think when somebody is alone there is no disturbance. Let's say if you are two or three, you can get this other one wants to study another subject, this other one is studying this other one.

(IDI, Male Adolescent, Public School, Korogocho, 20.12.14)

4.2 Challenges faced when studying alone

As much as most students preferred to study on their own during the school closures occasioned by the pandemic, they reported facing challenges to studying in the house. The biggest challenges were getting distracted by noise from their siblings, neighbors and engaging in competing household chores. For those who could, going to the library was a better option.

For me, the advantages of reading on my own come when I go to the library, you see I don't have all the textbooks at home...as in when you are at home, you can't stay for long before you are sent on errands, or you are distracted by young children who are in the estate. So, if you study from the library, the environment is cool and you are able to understand everything that you study. Again, there are textbooks in the library, and they can aid you in studying deeper.

(IDI, Female Adolescent, Public School, Viwandani, 20.12.15)

4.3 Reasons for tuning in to educational TV programs

4.3.1 Relevant lessons aired on TV

The students applauded the relevance of the educational TV programs stating that the lessons broadcast were in tandem with the syllabus, enabling them to effectively gain knowledge in their respective subject areas. Some programs were said to even go further than what they had covered in school and therefore gave the students an additional advantage.

If you look at those programs, you can find one for Form Two, maybe Form Two Chemistry which covers the topic 'Chemical Families' and that's the topic you had just started in class. So, there is a way you will benefit because you shall have studied ahead of your classmates.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

There was a day they were teaching English, and there was something our teacher had taught in class before we left school for home during this COVID-19 period, and I was asleep when the teacher was teaching. So, when they repeated that topic, that's when I remembered our teacher (in) English had once taught about something of that kind, and when I went to confirm, I found that it was the same thing that they were teaching that was in my notebook.

(IDI, Female Adolescent, Public School, Korogocho, 20.08.31)

Edu TV (a television station ran by the Ministry of Education), you find sometimes they tell you about set-books, it tells you about set-books, that is what you are told at school to study, (to) expound. Now there they expound for you, you get to understand that set-book well.

(IDI, Female Adolescent, Public School, Korogocho, 20.12.14)

You see, those lessons on TV programs like the Edu TV, they teach things that I didn't know, or topics that we had not covered because COVID-19 came when we had not completed our syllabus. The TV programs show us and they are explained. And also, they give us notes and summaries. And then they ask us questions.

(IDI, Male Adolescent, Private School, Viwandani, 20.12.15)

4.3.2 More teacher variety on TV

Having several teachers from different channels tackling similar topics was cited as a benefit by the students. According to them, the varied explanations on the same concept enhanced their understanding of a particular topic.

You gain more experience from other teachers, not just relying on one teacher...then you find one teacher is teaching then another one comes, and the cycle goes on like that. The point that this teacher didn't highlight (is) maybe highlighted by another teacher, so you gather more information.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

4.3.3 Easy to follow TV programs due to use of visuals

Television programs were also preferred relative to radio since students could easily follow what was being taught, enhancing their comprehension. This was especially important for mathematics and sciences where the method for arriving at a solution is important.

...like Mathematics, he (teacher) will solve it as you watch and as you follow steps, and as he does you can take notes then you go and read at your free time, you will comprehend it.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

Through them, you can see the teacher explaining a point. You have a notebook and if they ask a question you can write down your response then compare with what he is writing on the board. You are able to see the steps as the teacher moves step by step. (IDI, Male Adolescent, Public School, Viwandani, 20.12.13)

4.3.4 Duration of the TV programs

While there were students who felt that the duration of the TV programs was short, there were those who held the opinion that the time allocated for the programs was enough. As a result, topics were exhaustively covered and understood.

The good thing about them is its duration, because it covers a topic extensively. You end up understanding what is taught. Like in KBC (Kenya Broadcasting Corporation - national broadcasting radio station) there was Form Three Mathematics that was being aired, but you see I am in Form Two, but because they explained everything in depth, I understood. So, what I can say is that because of its duration and the way they emphasize concepts, it's good because you find that you understand many things due to the ample time you are given.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

4.3.5 Interaction with teachers

The fact that students could call-in and interact with the teachers facilitating the educational TV programs was an added advantage as it made it fun and also enhanced their learning experience. The interaction with teachers thus enabled them to access more information and develop a richer understanding of the topics being taught. The opportunity to connect with and problem solve together with teachers in real time simulated the traditional classroom teaching. This male adolescent from one of the urban informal settlements stated:

...TV (programs) are very good because you can be on one-to-one with that person, you make a phone call and the teacher picks then you give the question directly.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

4.4 Challenges encountered in tuning in to educational TV programs

4.4.1 Competition for the same resource

A key challenge for students who tuned in to educational TV programs was competition for the same resource by other household members. The situation was worsened by the presence at home of the majority of household members due to the restrictions in movement and school closures as a result of the COVID-19 pandemic.

Those challenges are very many, because most of the time you are all there in the house, so you would want to watch this channel and maybe you have switched on the TV because you want to watch Elimu TV, then studies begin. So, if it goes and reaches a certain point you find that your sister or your brother has also joined you, and they want to watch, "But I had told you that I want to watch my program that runs between 11am and 12pm, and it has not ended?"

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

This competition for the same resources was also alluded to as a key contributor to conflict among household members, leading to disruption of learning.

Your sister will just have to come and say let me watch this and while you want to watch. So, you find sometimes you disagree because of TV...When my mom comes she won't want to listen to anything, the TV is switched off. So, you just stay like that.

(IDI, Male Adolescent, Private School, Viwandani, 20.11.15)

4.4.2 Timing of relevant programs

The students also highlighted that it was difficult to know when the relevant lessons would be aired since the candidate classes were being given priority due to the approaching national examinations. Even when there was a structure, they still had to wait until the lessons relevant to their level were aired which sometimes would be late in the afternoon when they were engaged in other activities like playing. These male adolescents from both public and private schools had this to say:

Yes. He also wants to watch his own on a different channel. Then now they are just covering lessons for Form Four and Class Eight because those are the ones that are given priority. So, getting our lessons is very difficult, it is just by luck that a lesson that suits me may come up.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

There are those times that you are not in the house, and you are trying to hurry up so that you can arrive home in time. By the time you arrive home, you find that the lesson has gone half-way, or it is about to end. When you arrive, you will not be able to understand what is taught because you arrived when it is almost over.

(IDI, Male Adolescent, Private School, Viwandani, 20.12.15)

Students thus recommended that going forward all grades should be allocated enough time as they are willing to tune in to the educational programs. Otherwise, they would end up bored and idle.

For now, they need to engage more teachers on the TV channels so that they can also educate pupils. They can include programs for Form One to run for a specific time period, the Form Two and like that. Maybe that will help because right now we only have for Form Four and Class Eight, meaning the rest of the students remain idle.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

4.4.3 Power outages and the inability to pay TV monthly subscription fees

Frequent power outages and the inability to pay for the TV subscription fees were mentioned as key challenges limiting the access to channels airing educational programs. The inability to pay was mostly due to inadequate financial resources by the households. An adolescent from Viwandani explained:

Sometimes we experience blackouts, and when there is (a) blackout you can't watch. Again, they can deny you access to some channels if you are unable to pay the monthly bills, then they block the channels.

(IDI, Male Adolescent, Public School, Viwandani, 20.12.15)

4.4.4 Commercial breaks between lessons

Commercial breaks and advertisements that were aired in between the educational TV programs in some stations, were mentioned as a challenge since they interrupted the learners' concentration. The interruption was greater when the breaks were long. This male adolescent from the public school stated:

Something (has) to improve...those breaks. Those breaks pop up so frequently. So, you end up losing interest gradually because some breaks take too long.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

4.5 Reasons for preference to study with friends

According to the quantitative results, studying with friends was the third-most preferred strategy by 55.1% of the adolescents. The following are the key reasons for this preference.

4.5.1 Ability to share and learn knowledge

The ability to share and learn from each other was cited by adolescents who preferred to study with their peers as the reason behind their choice. The adolescents appreciated the dynamism of studying with friends as each brought new knowledge and experiences especially when they came from different schools. These male adolescents from private schools in both sites explained:

You know, sometimes we help each other. Like if there is something I don't understand, he explains to me. If he is knowledgeable about a topic, he will help me understand, and if I am knowledgeable, I help him understand as well.

(IDI, Male Adolescent, Private School, Korogocho, 20.12.16)

The advantage of studying with your friends is that...if it is Mathematics for example, today you have decided to study Mathematics, there are moments it is too difficult for you, your friend will show you. Like there was a time, I didn't know those...those ones that deal with [not clear], but during this period of COVID-19, we sat with him as we studied, he explained them to me and now I understand them very well

(IDI, Male Adolescent, Private School, Viwandani, 20.12.15)

In addition to sharing academic knowledge, the adolescents also used the time together to encourage and inspire each other to complete secondary school, transition to higher education and secure favorable employment that would enable them get out of the slums.

We help each other by projecting on our future and how life will come to change, how we will finish school and pass, go to college and graduate, and get good jobs and will remove our parents from the village.

(IDI, Female Adolescent, Private School, Viwandani, 20.12.15)

4.5.2 Variety of learning resources

Another reason for choosing to study with friends was the ability to collate different learning resources such as textbooks which meant that the learners had more reference materials and consequently gained more knowledge. This male adolescent from the public school expounded:

There is the issue of materials. If you are many, everyone is bringing their reading materials, so you can gain from the materials that they bring along with them, and they also gain from the reading materials that you have come with.

(IDI, Male Adolescents, Public School, Viwandani, 20.12.15)

4.5.3 Greater engagement

Further, in comparison to studying alone, studying with friends was seen as a strategy to reduce boredom and the likelihood of falling asleep while studying. Adolescents echoed how they kept each other in check to ensure that they stayed focused.

Then again, you are active. You know, when studying alone, you may find yourself falling asleep or being bothered unlike if you are studying with someone.

(IDI, Female Adolescent, Private School, Korogocho, 20.12.16)

4.6 Challenges in studying with friends

4.6.1 Unavailability of study peers

The fact that studying with friends is pegged on the availability of "others" was deemed as an impediment. Adolescents narrated their frustrations in moving study dates and sometimes resorted to studying alone whenever their friends did not show up to study. This sentiment was expressed across school type and gender. These adolescents said:

You may agree to meet up at 4 pm, and by that 4 pm you notice that some of your friends are not available. Then you postpone it to the next day, and then again they are not available that next day. So, with that you are forced to study alone sometimes.

(IDI, Male Adolescent, Public School, Viwandani, 20.12.13)

Another challenge is that sometimes they are absent. You avail yourself but they don't show up; there is no teamwork... there is no coordination.

(IDI, Female Adolescent, Private School, Korogocho, 20.12.16)

4.6.2 Negative competition among peers

Interestingly, the issue of competitiveness when studying with friends came up as a challenge. According to the adolescents, the competitiveness sometimes brought about feelings of mistrust or jealousy and they would find it hard to share knowledge with their peers, fearing that they would outperform them. One female adolescent from the public school had this to say:

Another challenge is...let's say, when you are with people who know that you know something, but you don't want to help your partner because you feel that if you give them that idea they will become better than you.

So, you see, you want to share with them, but they don't want to share, they pretend as if they don't know, yet they want your idea. So, because of that challenge, both of you are forced not to share what you know because they will imagine you will be brighter than them, and such things.

(IDI, Female Adolescent, Public School, Viwandani, 20.11.15)

However, the competition between peers did not always result in negatives outcomes. Having study friends who perform better in school was seen as a motivation to also perform better. This male adolescent explained:

Sometimes if you study with friends, they give you the motivation. Like if they got a B in Mathematics, they give you morale then you promise yourself to attain the same B grade in the next examination.

(IDI, Male Adolescent, Private School, Viwandani, 20.12.15)

4.7 Reasons behind the use of online resources to study

About 33% of students reported accessing learning content online. Further discussions with them revealed the following reasons behind their decision to do so.

4.7.1 Easy access to teachers

Teachers and students were able to connect on WhatsApp either as a group or individuals. The platforms enabled teachers to share revision work (mostly as PDFs) with students who then submitted for marking. These male adolescents from Korogocho explained:

So, you can get the teacher's number from that WhatsApp group then you chat with them on your own.

So, with that, if they have some notes that they have got from somewhere, they can send to you, you read and then they send you some assignments for you to do, and once you have finished you screen shoot and submit. It's just that way.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

...you know many teachers, mostly they like doing things on WhatsApp. So, by the time you have done it and finished, you send to them and they mark it and return to you the feedback, then they send you additional questions.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

4.7.2 Interaction with teachers

Students also indicated their preference for online platforms that enabled them to ask questions. Asking questions provided opportunities for feedback on concepts they had not understood. They compared that positive experience to radio which does not accommodate the asking of questions. This female student from a public school explained:

Through Viusasa, you are able to ask questions and get feedback from teachers, unlike radio where you have no chance to do so.

(IDI, Female Adolescent, Public School, Korogocho, 20.12.14)

4.7.3 Flexibility and ease of access to resources

Some online platforms had pre-recorded lessons which allowed students to access preferred lessons at any time. This flexibility also allowed them to revisit a topic they had not understood with ease. This female student from a public school said:

Through Viusasa you learn the subject you want to learn. You know it is not like radio, (it) is not like you say I want to study this subject and it comes, the subject that comes is what you will learn, but through Viusasa today if you have said you will learn let's say something like chemistry, you can go to chemistry and you learn.

(IDI, Female Adolescent, Public School, Korogocho, 20.12.14)

4.7.4 Access to a variety of teachers and resources

Students were impressed by the variety of teachers and resources they could access online. For instance, Zoom classes were undertaken by teachers from various schools, some of which are renowned for their performance and this enriched their learning experience. They were also able to access more learning materials than they would have otherwise been able to. These male adolescents from Korogocho observed:

One thing was that there was one lecturer who was a teacher in a big school, he was a lecturer at Lenana School. So, you find that he was even better than the teachers at our school. He was fluent, he had a lot of ideas and also he was using a variety of methods to pass messages to students, not like the ordinary ones that we see in our school. So, I can say that the teachers on Zoom, because they are teachers in some better schools than our school, they were very good.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

PDF files are very good because you find that your book can get torn, and again wear and tear, that is to say, because you use it frequently it ends up getting worn out. But these PDF files don't get worn out like that. They are accessible at any place because you can't be carrying your books in your pocket, but you can carry your phone in the pocket and go with it somewhere. Again, the PDF files...like me I am using something called PDF drives - it is a website that has over 8 million books. So, you have a variety of books to read from as there are story books and textbooks. So, it is very good in that respect.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

For some students, online platforms that were not organized by their schools worked well for them as they could freely ask questions to the online teachers if a concept was not well understood without fear of criticism, like they would have gotten from their own teachers. A male adolescent from Viwandani observed:

Like Zoom, that teacher you don't know her/him and she/he doesn't know you. So, she/he doesn't know your weak points and doesn't know your strong points, she/he just gives you any question, you do and know. Then you can ask her/him because it is somebody you don't know..., that is you don't fear her/him and they are not rude, they are just okay.

(IDI, Male Adolescent, Public School, Viwandani, 20.12.15)

4.8 Challenges faced in accessing online resources

4.8.1 Costly digital resources

Inadequate and expensive internet data bundles to enable access to the revision work was highlighted as a key issue by students. As a result, students either missed out on the content or devised innovative ways to get more value for the few bundles they could access. For instance, one male student from Korogocho narrated how he opted for a bundle option that had free access to WhatsApp. This male adolescent explained:

Getting internet bundles is a big challenge...sometimes I am lucky to get 5 MBs which come with free WhatsApp.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

In addition to inadequate data bundles which were also expensive to secure, payment for the online classes themselves was also reported to be expensive, thereby locking out many students. In one instance, students were required to pay KES 700 (\$7) per week for the online classes via Zoom which was not inclusive of the data bundles. Network issues such as video buffering also contributed to a bad experience with online classes. This male adolescent from a public school explained:

We have only one person who helps me pay for it (online classes), it's usually KES 700. So, you find that during this period of COVID-19, there isn't a lot of money. So, you are supposed to dig deeper into your pockets, particularly our parents so that they can give us that cash. You find that the blackboard that is being projected keeps hanging, and the teacher's voice disappears at times, and we are just left there without listening to anything. The teacher disappears for like 5 minutes, and the students start making noise in class. So it has so many disadvantages...we pay for bundles separately. Because we used to pay KES 100 for bundles, and the way Safaricom bundles get used up very fast!

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

In a bid to tackle the problem of access to online resources, some platforms provided free internet bundles (100 MBs daily) to students. While this was well received, it was still not enough for them to effectively learn due to the amount of content they needed to access.

Data is hard to access but they have helped us with 100 MBs in a day so if you study with that 100 MBs half a topic and you don't understand well, I know tomorrow I will be given again, so if I don't understand, I will still review the same topic.

(IDI, Female Adolescent, Public School, Korogocho, 20.12.14)

To cope with the inadequate internet bundles, students would either halt their learning until they secured data, or they would study the same topic for several days. Alternatively, they would use data from other household members and friends, or purchase data on credit.

I just approach my mother to let me use her phone because most of the time her phone doesn't lack airtime or alternatively, I buy bundles on credit (Okoo bundles).

(IDI, Male Adolescent, Private School, Korogocho, 20.12.16)

4.8.2 Parents not sensitized about online resources

With parents not appropriately sensitized on the need to adequately support their children's learning at home, the fears of inappropriate use of digital resources made them reluctant to hand out their phones. Even when they agreed to avail the devices, they were still suspicious about data bundle usage. These adolescents from both sites explained:

The main challenge is lack of internet bundles because it's not every time that I will have them. So when I run out of internet bundles I stop studying because at times when I ask my mother to purchase some for me, she thinks I am lying to her.

(IDI, Male Adolescent, Private School, Korogocho, 20.12.16)

And it was very difficult, I was telling my dad there is this issue of, I wanted to read through internet but he was 50/50. So, giving me his phone it is very challenging (chuckles)...

(IDI, Female Adolescent, Private School, Viwandani, 20.12.15)

4.8.3 Frequent disruptions by advertisements

Some of the applications used to access PDF files were reported to have pop-up advertisements such as games and breaking news that served as distractions for the students who would sometimes engage with the pop-ups.

Another challenge with studying on your own is that there are many distractions. Sometimes, like when we use these PDF files, you find an advert has popped up that is showing a game, so you end up watching the game instead of continuing with studying. So, you can get distractions.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

4.8.4 Limited interaction for some platforms

Platforms that did not allow for interaction were also not preferred by students because they could not present questions to their teachers or interact with fellow students. For some students, using such platforms was just like accessing a textbook. This male adolescent from Viwandani observed:

That app was providing notes only. It wasn't really helping, it's just like having a textbook, there are no other activities like you would find if you are being taught by the teacher. It was just for notes only.

(IDI, Male Adolescent, Public School, Viwandani, 20.12.15)

4.9 Tuning in to educational radio programs

Given that only 32.4% of adolescents reported learning through educational radio programs despite 50% of them having access to one at home, we sought to understand the reasons behind the gap in use and access.

4.9.1 Competition for the same resource

Adolescents who had access to a radio reported that it was a challenge obtaining the time to listen when other household members were also interested in listening to their own programs. This was worsened by the forced stay of other household members at home due to movement restrictions. One male adolescent from Korogocho intimated:

Maybe you are many in the house, yeah. Then, maybe you want to listen to that radio program, but other family members want to listen to their own programs. So, you can't get that ample opportunity to listen to it.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

4.9.2 Commercial breaks

Another challenge with tuning in to educational programs according to the adolescents was the commercial breaks during some of the radio programs which resulted in interruptions and subsequent loss of concentration and interest.

The challenge I have met, sometimes are breaks. You find that you are inside a lesson and you have just learned a new idea and then a break appears, then it's time for songs, and they present two or three songs, and because of that long period of time, you start losing interest.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

4.9.3 Limited interaction between facilitators and students

The limited interaction between instructors facilitating the education radio programs and the listeners (adolescents), was reported as a key challenge. The students pointed out that they could not ask questions on challenging topics through radio and even where there was a platform to share questions through text messages, they were still limited in terms of access to phones and airtime. These adolescents from Viwandani said:

You can't ask a question and get an answer, that is a challenge and even when you decide to send a question to them through the phone, you find that your parent doesn't have credit so you can't send your question. Or sometimes, you know my mother doesn't like giving me a phone all the time, sometimes she refuses or she gives me for a specific time but not for a long time.

(IDI, Female Student, Public School, Viwandani, 20.12.15)

On the radio, you can't consult. Like if you have been taught about something, for example, you can't request that the teacher repeats the point they have made, they just continue teaching. You can't consult or ask a question.

(IDI, Male Adolescent, Public School, Viwandani, 20.12.15)

Not being able to consult meant that they had to go through additional processes of consultations with household members and friends as well as refer to books. This did not work well for them especially when the solution was not found as they would have no choice but to wait until the reopening of schools. These female adolescents from Viwandani expounded:

You go to your friend and you tell them, "By the way there is this topic, I didn't understand it well." If they know, they will explain it to you but if they don't know it, you consult many people so that you can get to understand it. If they don't know then it will just force you to just wait until January.

(IDI, Female Adolescent, Public School, Viwandani, 20.12.15)

At least when they are teaching they should give a chance, even (if) it is calling in the middle of the lesson and the teacher answers the questions asked.

(IDI, Female Adolescent, Public School, Viwandani, 20.12.15)

4.9.4 Skewed focus on certain subjects

For some students, the challenge with educational radio programs was that most of them focused on common subjects and omitted optional subjects, especially those dealing with technical subjects. They however recognized the difficulty in facilitating certain subjects online because they have a heavy practical component, suggesting instead that in such cases, the focus should be on the theoretical aspects of the subject. This is how one male adolescent from Korogocho explained it:

You find that it's only these main subjects that are presented there, subjects like Mathematics, English and Kiswahili. Those are the most common ones. You find that these technical subjects are not aired, yet it's these technical subjects that are very difficult...like Drawing & Design and Metal Work...if it is too hard to include Drawing & Design on the radio programs like they do for other subjects, they can just provide the tips and key things that students should know.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

4.9.5 Radio station appeal

For some adolescents, the music played on the radio station that was hosting an education program was a key deciding factor on whether they chose to stay tuned or not. One of the male students in Viwandani narrated how he used to switch off the radio and engage in other things whenever the radio station played music that was not to his liking. The male adolescent explained:

You may find that they are playing songs that do not appeal to you...I just switch off the radio or I leave the house.

(IDI, Male Adolescent, Private School, Viwandani, 20.12.15)

4.9.6 Power outages

The issue of frequent power outages in the two informal settlements was also mentioned by a couple of students as a challenge to tuning in to educational radio programs. This resulted in learners missing out on the day's designated topics.

...you could be having the radio (on) but there is no electricity...It will force you to miss the lesson for that day. If you try reaching the electrician, you may find he is not available at that time.

(IDI, Male Adolescent, Public School, Viwandani, 20.12.13)

4.9.7 Rushed lessons

Students also noted that some facilitators rushed through the lessons with little concern about the student's level of comprehension. To address this challenge, students recommended that facilitators for the educational radio programs should not rush the topics but rather try to be as detailed as possible to facilitate better understanding. For these students, the details were more important than covering a topic.

At least, it should not be that they are teaching, if they are to make explanations, they should make it deeply, not that...like there is one I was listening to, they were teaching about body functions - the topic on the heart. They were just stating without explaining.

(IDI, Female Adolescent, Public School, Viwandani, 20.12.15)

4.10 General challenges of studying at home

4.10.1 Food insecurity at home

Compared to schools where meals are readily available at regular intervals, students reported instances of food insecurity at home when they would miss meals or eat little and that would adversely impact learning at home. According to the students, these situations would arise because their parents are in casual employment and consequently are never certain about the availability of money or food.

...the other challenge is that you don't get food at the right time...if you want to study, it's important that you have some food in your stomach. In school, there used to be meals. Like me, I am in boarding school, there are meals that are scheduled, so you know when to get food. So, sometimes you find that you had failed to take breakfast...so you even lack that energy to study.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

You find that parents will work but end up saving nothing, they use all their earnings to cater for basic needs like buying food. You also find that getting food to eat is also a challenge. Sometimes when your parent gets a casual job, the only meal you have is dinner. There are also many needs around the house. Then again, staying idle in the house is tiring.

(IDI, Female Adolescent, Private School, Korogocho, 20.12.16)

Sometimes you find that your parent doesn't have money. So, it forces you not to have too (many) desires, you just prepare what you find in the house, even if it is just porridge, you just prepare it and then you go sleep. You just persevere because God is watching.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

4.10.2 Lack of appropriate study space and environment

With the study site located in urban informal settlements, the lack of adequate space was cited as a key challenge for students when studying at home. This is because the little space available is also shared by other household members. Coupled with this was the lack of appropriate furniture such as desks and chairs for the adolescents to use, which made studying difficult.

Sometimes you find that where we usually do our studies, it's in another lady's house, and she is also a student at the university. So, when she goes to the university, she locks her house. So, we are forced to sit on the stool and my friend (is) also on another stool because we can't go to the main house to study because we usually receive guests throughout.

(IDI, Female Adolescent, Private School, Korogocho, 20.12.11)

This was even worse for students who would have preferred to study with their friends but could not due to the lack of space, as echoed by one of them.

Then again, when you are in a group you may lack adequate space to study. You know in the house you have brothers and sisters so you may experience a lot of distractions. Sometimes you may plan to study with your friends at your house but find that your family is busy doing other things around the house and you can't tell them to vacate the house.

(IDI, Female Adolescent, Private School, Korogocho, 20.12.16)

As a result, sometimes adolescents were forced to search for places which unfortunately increased their risk of experiencing incidents of insecurity, especially for girls. This was emphasized by one of the adolescent girls in Korogocho:

Because I imagine leaving the house, like we stay at Kisumu Ndogo, then he tells me that we go to Baba Dogo or towards the furthest end of Lucky Summer, so he requests me that we go there, then I ask him, "You want us to go to that far place at this time? I can't."

(IDI, Female Adolescent, Private School, Korogocho, 20.12.11)

With the close proximity of houses in the urban informal settlements which are mainly made of iron sheets and mud, some adolescents cited challenges in studying at home due to the noise emanating from other houses.

People out here, you know we live near youths, now they use large speakers that make a lot of noise...(so) you can't study.

(IDI, Male Adolescent, Private School, Viwandani, 20.11.15)

When you just start reading a book, there are disturbances, there are people who want to listen to music in the morning, there is a lady who is singing as she washes utensils.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

4.10.3 Engagement in household chores and economic activities

Students also complained of too much time spent on helping out with household chores and in their parent's businesses which would sometimes interfere with their learning time. It is important to point out that the students appreciated the need to help out at home, however, the timing and the amount of household chores were challenging. Both male and female students mentioned this issue.

Some are busy supporting their mothers in the kiosks (small shop), some are busy supporting their parents in the restaurants and they spend the whole day there. But, if they were in school they would be studying, yet when you are at home, maybe you are doing household chores. However, it is not bad to help your parents with household chores, it is good, but there should be time for everything. There is time for studies and there is time for helping in household duties. So, I feel that with regards to time, there is a lot of failure because when people are home, they are relaxed, I mean, they forget about going through their books, they tend to put them aside. So, this COVID-19 has brought a lot of problems.

(IDI, Female Adolescent, Public School, Viwandani, 20.11.15)

Managing time is difficult because there are so many chores back at home. Like you are the only one to be sent for all errands, anything that comes by, you are the one that is sent, maybe you are the one sent to fetch water.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

Furthermore, some students reported engaging in income generating activities during the pandemic.

Many people...many students are not studying, they are just hustling and enjoying life. Some are seeking for jobs, they are doing casual work.

(IDI, Male Adolescent, Public School, Viwandani, 20.12.13)

Some parents were however said to be supportive of their children's education by allowing them ample time to study rather than just engage in household chores.

There is no problem between my parents and me because they offer me their support...When I need to study she gives me ample time, she doesn't call or send me when it's my time to study.

(IDI, Male Adolescent, Private School, Korogocho, 20.12.16)

4.10.4 Environmental pollution

Although limited to individuals living near garbage disposal sites, environmental pollution emanating from the smell and smoke of burning garbage was cited as a challenge for learning at home. For instance, some students pointed out how the smoke from the nearby dumpsite affected their breathing and vision making studying from home difficult.

...like me I stay right inside on the side of Korogocho...there is a lot of pollution from Mukuru...in my room where I usually study there is a lot of smoke which can affect the eyes and chest, you feel they become painful.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

4.10.5 Lack of structured time at home

Some students felt that school had the most appropriate environment to study. They cited challenges in adapting to the study at home situation because of the structure they had been used to in school. As a result, they found themselves wasting time in other activities like sleeping, watching TV, playing and interacting with friends instead of studying.

You know, boarding is not like day school. In boarding school, you are very restricted, like break is just 10 minutes, long break is 20 minutes, lunch is 40 minutes and such like. But now here at home you spend a lot of time, you waste a lot of time on many things and then sleeping time in school is 10 pm, but here at home, maybe the house is single so, you can't get good opportunity to study, people spend a lot of time watching TV or just story telling.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

4.10.6 Inadequate learning resources

Some schools do not allow students to take textbooks home with them and this was a challenge when schools were closed due to the pandemic. Students were thus left with inadequate learning materials or forced to source them from friends.

They don't allow students to leave the school with those textbooks. I mean, that is in the rules and regulations of the school. Students are not allowed to go out of the school with the textbooks...Yeah. They have to search every student when they leave the school to ensure they leave with exercise books only, maybe with your personal textbooks because the ones that belong to the school are stamped.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

4.10.7 Inadequate household income

Many students reported the loss of family income as a result of the pandemic. To make matters worse, their parents were already working as casual laborers making the effects of the pandemic almost immediate. As a result of the reduced household income, some families experienced food insecurity while some students were forced to engage in illicit actions such as transactional sex and transporting drugs to earn money.

...parents have lost job opportunities. So, if your parent loses their job and you have been depending on them, so all of you, that's a whole family suffering. So, when your parent fails to get an income, you at home start missing meals, you are forced to get out and go look for money. If it is a lady, they go out and do some things (referring to transactional sex) in order to get money, you see. A boy may be lured to go and transport bhang in order for them to get money, you see.

(IDI, Female Adolescent, Public School, Viwandani, 20.11.15)

My father lost his job and it has been a challenge (to get) food in the house, it is just God who feeds us, because my father does not have a job and my mother is a tailor but there are no customers, so we are just there, by God's Grace we eat.

(IDI, Female Adolescent, Private School, Viwandani, 20.12.15)

Students linked the loss of livelihoods for parents with increased conflict in the household.

...for the parents there has been a lot of conflict because let's say one parent has lost the job so there are conflicts between parents and we as the children experience loss.

(IDI, Female Adolescent, Public School, Viwandani, 20.11.15)

4.10.8 Negative peer pressure

The other key challenge alluded to by adolescents was increased instances of negative peer pressure to engage in various vices. The most common vices mentioned were risky sexual behavior, drug abuse and absconding studies. According to respondents, risky sexual behaviors were mostly associated with girls while drug abuse was linked to boys. As a result, there were reports of increased teenage pregnancy in the community during the pandemic.

...for the girls there have been challenges where when they go out, most girls are getting pregnant and for the boys have had influence from say their friends and have started abusing drugs.

(IDI, Female Adolescent, Public School, Viwandani, 20.11.15)

Peer pressure. There has been a lot of peer pressure on the adolescents, maybe someone is doing something and you want to follow in their footsteps for example my friend smokes bhang and I don't, so my friend tries to give me pressure about it so you find that most of the people are going astray because of that. Most people fell into peer pressure during this pandemic period because of wanting to be like someone else.

(IDI, Female Adolescent, Public School, Viwandani, 20.11.15)

4.10.9 Disinterest in learning due to uncertainties

The uncertainties around the school re-opening date brought about by the pandemic resulted in students losing the motivation they initially had to study at home. At the start of the closures, interest in learning was high with the hope that they would soon return to school, but as the dates constantly shifted, students lost the drive to study.

It has been good because from the start one would study, there were times it was challenging because you study and you hear the curfew has been prolonged for another 60 days, you study and you wonder will I study and is school next year.

(IDI, Male Adolescent, Public School, Viwandani, 20.12.15)

But when COVID-19 came, children returned home from school, they only learned at home for one month. In the second month, they stopped doing revisions, and the difference was that he lost hope, the boy started living a life that looked like there he wasn't even a student. So, children relaxed, to the extent that even if you told them to go the library, he would ask me, "Now why am I even going there?" This was because the children were confused, they didn't know if they will resume from Form Two or they will move to the next level.

(IDI, Female Parent to a Boy, Korogocho, 20.08.31)

4.10.10 Reduced pocket money

One unexpected finding was the complaint by students about reduced pocket money that they would usually get to cater for their daily expenses when in school. For some, the savings would be used to cater for other personal needs like buying clothes.

Like now, there's no money so I have to hustle to get money...The money I used to be given to buy break...I could keep it and get myself something like a shirt...Now you can't be given because you're just in the house.

(IDI, Male Adolescent, Private School Korogocho, 20.12.16)

4.11 Factors enhancing parent-child relationships during the school closures

4.11.1 More time to get to know each other better

Both adolescents and parents echoed how they had gotten to know each other better as a result of spending more time together during the school closures. For adolescents, they were glad to better understand their parent's temperament thus avoiding frequent conflicts. Parents on the other hand discovered both good and bad attributes about their children during this period.

Now I can say our relationship has become better than the way it was before because now she can monitor me well. Again, she is able to invalidate as lies those bad stories about me that she used to hear from her friends, and she knows that I have good character...That I am relating with bad boys when I am in school, such stories.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

I: Now, during this period of COVID-19, how has your relationship with parents been?

R: It has been very good...Now, you know I have stayed for a long time with my mother and now I understand what she likes and what she doesn't like. So, I know well that if I do this, my mother will be pleased, but if I do this, she will get angry. So, nowadays I have known to balance, I know that there are certain things that I would do, and my mum would get agitated, and if I do others she will be pleased.

(IDI, Female Adolescent, Public School, Viwandani, 20.12.15)

The school closure period also provided a wakeup call for some parents who after facing challenges in parenting discovered that they were lacking in some skills and would have to improve their parenting abilities. As a result, parents also appreciated the work that teachers do in taking care of the adolescents.

I would say there is a very big difference because before Corona we were not (staying) with children at home, the children were in school. We only used to stay with the children over the holidays. Before Corona there are behaviors that I did not know about my children. So, I thank Corona that now I know them too well, this project helped me because I learned through counseling and I realized that I was very much backward.

(IDI, Male Parent to a Girl, Viwandani, 20.12.18).

What I have realized is that the teachers do a lot of work, we parents on our own we are not able, for this short time we have stayed with our children, I have seen the teachers do a lot of work...more than the parents do. You can give instructions to the children...tell the child at this time read your books, but when you come the child is out playing, I don't know if they assume and ignore the instruction or what it is, if you think of caning the child it is not good because you people will report us.

(IDI, Male Parent to a Girl, Korogocho, 20.12.14)

4.11.2 Improved bonds between parents and their children

With increased time together resulting from school closures and restricted movement due to the COVID-19 pandemic, both parents and their children reported improved relationships. For instance, the enhanced parent-child communication resulted in the improved ability to share issues affecting them and to work towards mutually beneficial resolutions.

...we have become very good friends with my mother. We weren't this close because each one of us was busy. So, this (time) has created a bond between me and my mother because we weren't getting a chance to talk much like we do now. But now we have time and if I see something is not going right, I tell her, "Eh mum, you have not told me the right thing here..." But before, because I used to be very busy, each one of us is busy, you may find that you don't have a very good relationship with her.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

4.12 Challenges affecting parent-child relationships during the school closures

4.12.1 Increased parent-child conflict

There were reports of increased conflicts between parents and their children during the school closures. These were mainly reported by the adolescents who highlighted the most common reasons for these as being household chores, trust issues especially on phone use, excessive TV watching, and stress from challenges brought about by the pandemic. Some respondents even went ahead to suggest that the conflicts would end once schools reopened.

You know, for my parent, maybe you are busy. You know sometimes you can wake up in the morning without moods, and she forces you to do house chores, so you also get annoyed and you may end up talking badly to her. So, that may also lead to some quarrel. Such things.

(IDI, Male Adolescent, Public School, Korogocho, 20.08.31)

Sometimes she doesn't like it when I am always on the phone because she can't prove that I am actually studying. Sometimes she may think I am chatting with friends so I have to prove to her that I am actually studying. Sometimes when I ask her for money to buy internet bundles for studying, she claims I will use the bundles to chat. So I am forced to lie to her... for example there is a time she gave me money to buy cooking oil and I used the money to purchase airtime for internet bundles because I had hidden some oil, she was really angry.

(IDI, Male Adolescent, Private School, Korogocho, 20.12.16)

In situations of conflict with their parents, most adolescents resorted to negative coping strategies like running away from home, talking back or being rude to their parents. However, there were those who handled the situation differently by apologizing for their mistakes and working on the issues that caused the mistake such as completing the assigned chores or approaching the situation in a calm manner and having candid discussions with their parents.

Sometimes she can ask me to do something and I forget ...and then you know now that we are at home we disagree on trivial things. So what I know is that when you disagree with a parent you shouldn't argue with him/her but instead be quiet. Then when s/he has calmed down you can now approach him/her and ask for forgiveness and promise never to repeat the mistake... Yes, that works well because it's wrong to argue with your parent because s/he may get angry and beat you up or throw you out of the house. So when the parent is angry you just wait for him/her to calm down then ask for forgiveness humbly.

(IDI, Female Adolescent, Private School, Korogocho, 20.12.16)

4.13 Differences in parenting before and during the pandemic

Financial struggles were a key challenge for parents during the pandemic. Parents lamented how they could not meet the increased costs of living for their families as well as provide resources for continued learning at home. This was mainly occasioned by the loss of their livelihoods, which in most cases was casual or temporary. Some parents mentioned how they would earn as little as KES 100 (~\$1) during the pandemic due to lack of jobs.

...my family enjoyed life a little bit, then I lost my job. Sustenance of the family needs is very important, because children have to eat, they want you to pay house rent where they can sleep, they want you to pay for the electricity bill to facilitate their studies, yet I would miss to pay such bills. So, you would find that you haven't got adequate food, you have rent arrears, you have unpaid electricity bills ... financial crisis was our biggest problem.

(IDI, Male Parent to a Girl, Korogocho, 20.12.15)

The other one is that the children are at home and they are not able to study, the papers the teachers are sending require money to print from the cyber, one book (costs) KES 850 and if you print that maybe the children will sleep hungry, the money that comes along is for buying food for the children, so the child is forced to use their books to study because it is hard to print the ones that are sent by the teacher.

(IDI, Female Parent to a Girl, Viwandani, 20.12.12)

Travel restrictions added to the challenge since families could not move to their rural homes where life was said to be more affordable.

In terms of employment, we were both forced to stay at home - my wife and me. We used to go for casual work, then we spent almost a whole month in lockdown when we could not even take the child to the rural home, you can't travel. So, we were compelled to stay here. We used all the little money that we had saved. Then we embarked on seeking for help from well-wishers.

(IDI, Male Parent to a Boy, Viwandani, 20.12.12)

4.13.1 Coping strategies for challenges faced by parents

Parents coped with their increased financial burdens in several ways. Majority of them cut down on spending so that they could get by. For instance, some missed meals, others cut down on shopping expenses, while others moved to smaller and cheaper houses.

Before COVID I was living in a spacious house where the children would have their own separate rooms but once COVID came, getting a job has been a challenge where we had to come live in a one bedroom house and in a one bedroom house where I have a family of six children so managing those even how they will sleep in a single room has been a challenge and sometimes you find that even figuring out how they will eat isn't easy because providing for the six, three stable meals in a day, isn't easy but we thank God and we try because what else can we do about it?

(IDI, Male Parent to a Girl, Viwandani, 20.12.18)

I personally felt pain because I know a person should eat food at least three times in a day, but when it has reached the level where food is only available twice a day, I felt we are really straining. But it is something we did together with my children and we agreed. So, I know how I was affected, and even them in one way they were affected but they are persevering.

(IDI, Male Parent to a Girl, Korogocho, 20.12.15)

Some parents resorted to keeping their children busy by giving them work so that they did not find time to engage in social ills in the community. This was either through household chores or asking them to help out at their workplace.

Right now I just try to keep them busy...Like my girl in the salon, I mostly go with her when I am leaving, if I have a client who wants me to plait her she helps me finish the ends and that keeps her busy.

(IDI, Female Parent to a Girl, Korogocho, 20.12.14)

Other parents decided to increase the intensity and frequency of parental involvement by following-up more on their children's whereabouts and friends, as well as advising them so that they would not engage in delinquent behavior. Parents were most worried about the increased free time in their children's hands and the consequent exposure to vices in the community. Their biggest worry was crime, drug abuse and teenage pregnancy. In this case, school was seen as a protective factor.

I have learned that the teachers have a lot of work, and they are anointed by God to handle these children because when they are in school they are good and are protected, in this short time they have been at home, many have given birth and it is not their wish, it is because of being out of school, the children have been unruly and they don't listen to the parent, they do what they want, so being in school and mostly in boarding school there is protection.

(IDI, Female Parent to a Girl, Viwandani, 20.12.12)

During this time, you have to be alert. Children have had a lot of free time and so if you give them a chance, they might get into unacceptable activities while you think they are just playing around. We therefore try to keep an eye on them and educate them on different things, what to do and what not to do while helping them realize that it's their life and they should be careful.

(IDI, Male Parent to a Girl, Korogocho, 20.12.16)

Some parents resorted to sending their children to rural areas to protect them from engaging in various social ills such as sex, early pregnancy and marriage.

Some parents leave in the morning and come back in the evening and that has made some children to start having sex early and even get married due to limited supervision by parents. So, some parents have taken the girls and boys upcountry.

(IDI, Male Parent to a Boy, Korogocho, 20.12.15)

4.14 Parenting in the digital era

Generally, parents appreciated the use of electronic and digital resources to promote remote learning at home. For them, these resources helped address the gap created by the school closures. As such, parents had no problem lending their children their phones to use for study purposes or even purchasing phones for their use when they could afford it.

The issue of digital, I haven't known much but digital has helped elsewhere, because like for me a parent, my sons take my phone and learn mathematics. His brother has a touch phone, so, they learn online. I thought it is good because even when somebody is far away she/he can be assisted in one way or another. Digital has helped.

(IDI, Male Parent to a Boy, Korogocho, 20.12.15)

Before Corona came some of us did not know that children can study through radio, being sent questions on the phone and answering them, so when Corona came in I learned that children can be sent questions on phone.

(IDI, Female Parent to a Boy, Viwandani, 20.12.12)

The benefits of using digital resources did not only accrue to students. Parents added how they also got to learn helpful new information as they interacted with and supervised their children's studies.

You get a child has taken your phone, and googled many interesting things...I have come to realize they like to know things such as, he even made me to know the tallest building in Africa, he used to just google and ask you "dad do you know which building is the tallest here in Africa?" Top 10, I don't know what and what, such things. The largest national park in the world, he was very creative.

(IDI, Male Parent to a Boy, Korogocho, 20.12.15)

4.14.1 Digital challenges and coping strategies

Parents however attested to lacking the requisite digital skills to effectively support or supervise the use of digital devices by their children. As result, they were often suspicious of their children's activities and this caused tension between them. Some parents even went to the extremes of taking away phone privileges even when no mistake had been committed or denying the child the total use of the devices altogether.

Again, what I have seen, the issue of technology. I have noticed it has brought a really bad challenge, because, you find there is a neighbor's child who has a phone, they meet and you find they watch, I don't know what it is but I have tried to say, I don't want to see somebody close to a phone or being shown a phone..."in fact you a girl you are in school and there is nobody you are supposed to call right now, call me or call your mother but not another person, even a student, I don't want to hear that there is a child who has told you to meet at a particular place".

(IDI, Male Parent to a Girl, Viwandani, 20.12.18)

Other parents took a more subtle route of supervising the use of digital devices by their children despite their own shortcomings. For instance, they would hang around and observe what their children were doing when using a phone just to ensure that they were not accessing harmful content.

I can't lie to you, I have no interest in using the phone, although I usually sit next to him to see how he uses it. Okay, I have not studied to higher levels, but I can see what he does during the time we are with him on the table, because we are living just the two of us. We are only two, we are not many, the rest are living away. So, when he is there, I just study what he does. I can be there pretending that I am not concentrating, but I am watching him. So, we are with him and I am usually keen on him, and I (am) very watchful.

(IDI, Female Parent to a Boy, Korogocho, 20.08.31)

A key challenge for parents in using or learning to use the digital resources around them was the feeling that they were not educated well enough to interact with such resources or that they did not have enough time to learn. They considered it more worthwhile to use that time to earn a living instead.

You know, there are those times I sit with him as friends, and not as father and son. That's when he discloses to me some things and I understand them. But for me to sit down and seriously learn these digital ideas, it has not been easy because I have to work to eat.

(IDI, Male Parent to a Boy, Korogocho, 20.12.14)

Matters to do with learning with the internet? The internet honestly speaking, we left school early. Let us say I left form four in 1994. You know something like that did not exist and we did not learn.

(IDI, Male Parent to a Boy, Viwandani, 20.12.13)

5. CONCLUSIONS AND RECOMMENDATIONS

With the resurgence of the COVID-19 pandemic (Pal, Bhadada, & Misra, 2021; Sabino et al., 2021), more school closures and implementation of remote learning are expected in future. As such, this study provides key insights for effective planning and decision-making around remote learning during the current pandemic as well as for future emergencies.

A key highlight was the fact that ownership of electronic and digital resources does not necessarily translate to the use of the same for learning. For instance, despite 82%, 50%, 78% of households in the study owning a TV, radio and digital device (smartphone, computer or tablet) respectively, only 57%, 32% and 33% of adolescents accessed education resources via the respective gadgets. In the same breath, the qualitative findings provide potential areas of investment by education stakeholders to make remote learning more effective. In the case of TV, strategies could include: sensitizing parents and students about available programs and the need to tune in; consistent timing of programs for proper planning by students; and reducing the number of commercial breaks within educational programs.

Parental involvement has also been shown to be key in ensuring continued learning at home. Parents play an important role in being vigilant so that their children are not exposed to social ills within the community as a result of extended school closures. They should also ensure that their children have the requisite resources and an appropriate environment to promote learning at home. Where possible, parents are also encouraged to support in completing school assignments. However, it is vital to support parents in gaining the requisite skills (especially digital) to ensure that they are able to assist their children. Furthermore, this study shows that a certain level of education is important for that involvement to be effective. We found that those parents who were able to support their children were those who could manipulate the digital gadgets. More significantly, parental support was harder for those parents who ordinarily do not get involved with what their children are doing in school. This may be a key area for the Ministry of Education (MoE) to work on since parental involvement is a key tenet in the competency based curriculum.

A multisectoral approach is also needed to solve the complex of challenges faced by both parents and their children. For instance, contributions from the Ministry of Labour and Social Protection as well as the National Treasury are important in solving the financial challenges occasioned by loss of livelihoods and the increased cost of living, both factors that undermine parental support. Additionally, the Ministry of Education and the Ministry of Information, Communication and Technology (ICT) could work together to ensure that students, parents and teachers acquire the requisite digital skills to enhance remote learning. Civil Society and program actors also have a role to play in initiating well informed interventions to complement government efforts and achieve greater intervention effectiveness.

In addition to academic challenges, education stakeholders need to be cognizant of the psychosocial wellbeing of parents and students that continues to be greatly affected by the pandemic. As shown by the findings, there were increased conflicts within the households, incidences of stress brought about by job losses, uncertainty, boredom and emotional abuse. It is therefore important to develop strategies and programs to enhance psychosocial wellbeing. Furthermore, enhancing the psychosocial wellbeing for students was shown to be associated with improved learning outcomes. For instance, the adolescents in the study alluded to how they were not able to continue studying because of the uncertainties around their return to school.

Overall, the study highlighted the need for the Kenyan government to think critically on how to successfully deliver remote learning even beyond the pandemic. Learning in-person has been and remains an important mode of lesson delivery in the classroom, but the disruption of learning occasioned by the pandemic has shown that the Ministry of Education needs to do things differently.

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