Somali Girls' Education Promotion Project – Transition

11 May 2018

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Version 2

By

FORCIER

For

care

Purpose of the Baseline Evaluation Report

The Baseline Evaluation Report should be written with several objectives in mind.

- To set a baseline for the measurement of a project's outcomes (Learning, Transition, Sustainability), the project's Intermediate Outcomes, and the project's Outputs
- To suggest targets for Outcomes and Intermediate Outcomes for the Midline and Endline evaluations, and for Outputs at annual frequency
- To provide a nuanced, evidence-based picture of the context in which the project operates
- To describe the profile of the project's girl beneficiaries and boy beneficiaries (where applicable)
- To review the project's calculation of beneficiary numbers
- To identify and assess the barriers to education that girls face, especially with regards to their learning, progression through formal and informal education, and transition across stages of education
- To assess the validity of the project's theory of change, including testing its assumptions and how interventions are designed to overcome barriers and lead to outcomes
- To investigate the linkages between Outputs, Intermediate Outcomes and Outcomes
- To understand the project's approach to gender equality and how this has been integrated into the project design
- To assess the gender gap in learning and transition (where boys' data has been collected)
- To provide the GEC Fund Manager, DFID, and external stakeholders quality analysis and data for aggregation and re-analysis at portfolio level

The ultimate uses of the evidence and analysis in the Baseline Evaluation Report will be:

- To reflect on and assess the validity and relevance of the project's Theory of Change
- To evidence why changes may need to be made to the project's activities in response to the analysis
- To review the project's Logframe Indicators and change them where appropriate

Role of the External Evaluator and the implementing Project in the Baseline Evaluation Report

The Baseline Evaluation Report must be the work of the project's External Evaluator. The implementing project should provide the External Evaluator with background documentation and contextual information as needed. The project has a direct but limited role in completing some sections. The template explicitly refers to areas where a project contribution or response will be required.

- Green boxes/areas are to be completed by the Project
- Orange boxes include analysis guidance from the Fund Manager and do not need to be completed; they can be deleted in the final reports
- Red boxes are to be completed by the External Evaluator
- All other areas or where not otherwise stated are to be completed by the External Evaluator

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List of Acronyms

ABE – Alternative Basic Education

AMISOM – African Union Mission in Somalia

ASLP – Alternative Secondary Learning Programme

BEF – Boys' Empowerment Forums

CAPI – Computer-assisted personal interviewing

CEC – Community Education Committees

CEM – coarsened exact matching

DEO – District Education Officers

ECE – early childhood education

EGMA – Early Grade Math Assessments

EGRA – Early Grade Reading Assessments

EMIS – Education Management Information System

FGD – Focus Group Discussion

FGS – Federal Government of Somalia

FRS – Federal Republic of Somalia

GBV – gender-based violence

GEC – Girls' Education Challenge

GEF – Girl's Empowerment Forums

GPI – gender parity index

IQR – interquartile range

IQS – Integrated Quranic Schools

MEHE – Ministry of Education and Higher Education

MELF – Monitoring, Evaluation, and Learning Framework

MoE – Ministry of Education

NFE – non-formal education

NGO – non-governmental organization

ODK – Open Data Kit

OOS – Out-of-school girls

PCGs – primary care givers

PTA – Parent Teacher Associations

QAS – quality assurance and standards

REO – Regional Education Officers

SeGMA – Secondary Grade Math Assessments

SeGRA – Secondary Grade Reading Assessments

SMAM – Singulate Mean Age at Marriage

SOMGEP – Somali Girls' Education Promotion Project

SOMGEP-T – Somali Girls' Education Promotion Project – Transition

ToC – Theory of Change

TVET – Technical Vocational Education and Training

UNFPA – United Nations Population Funds

UNICEF – United Nations Children's Fund

UNITAF – Unified Task Force

UNOSOM I –

UNOSOM II – United Nations Operation in Somalia II

VSLA – Village Savings and Loan Activities

WB – World Bank

YLI – Youth Leadership Index

Executive Summary

Background

Despite ongoing efforts, learning outcomes in Somalia and Somaliland remain among the lowest in the region, particularly for girls. Unlike boys, girls contend with gender and social norms that tend to undermine their ability to stay in school, study and advance from grade to grade. Girls in Somalia and Somaliland grow up in a social setting in which women have traditionally been expected to care for children in the home and assume responsibility for household tasks, and where correspondingly little value or emphasis has been placed on education for women. It is in this context that CARE International launched SOMGEP and, following its successful completion, continued its programming through Somali Girls' Education Promotion Project – Transition (SOMGEP-T). The project, which began on May 1 2017 and is expected to close on October 31 2021, builds on evidence from SOMGEP and seeks to further address barriers and challenges Somali girls face related to attendance and learning outcomes. At proposal stage, the project was expected to reach a total of 27,146 marginalised girls; calculations based on up to date enrolment data indicate that the project is estimated to reach 27,722 in-school girls across 148 primary schools and 53 secondary schools in Somaliland, Puntland, and Galmudug, as well as 5,140 out-of-school girls in the same locations.

SOMGEP-T aims to bring about sustainable improvements to the learning and transition outcomes of marginalised Somali girls. To address barriers and the causes of marginalisation, the SOMGEP-T Theory of Change (ToC) focuses on four key outputs: (1) Improved access to post-primary options, (2) Supportive school practices and conditions for marginalised girls, (3) Positive shifts on gender and social norms at community and individual girl level, and (4) Enhanced MoEs' capacity to deliver quality and relevant formal and informal education. Outputs are expected to contribute to the achievement of the project's four intermediate outcomes of attendance, retention, improved quality of teaching, and life skills development, which will in turn contribute to the long-term goals of improving learning outcomes, boosting transition rates, and ensuring the sustainability of changes brought about by the project.

The SOMGEP-T evaluation uses a mixed-methods, quasi-experimental design, involving a longitudinal panel of girls with a non-randomly assigned comparison group. The baseline sample comprises 76 schools, with 38 intervention schools and 38 comparison schools. The primary findings from the evaluation are summarised below.

Learning Outcome findings

Aggregate learning assessment scores for in-school girls are: literacy = 24.9; numeracy = 40.2; and financial literacy = 15.5.[1] These do not vary significantly by intervention versus comparison girls. Scores for out-of-school girls are significantly lower: literacy = 8.4; numeracy = 13.1; and financial literacy = 9.4.[2] Girls with disabilities and girls from pastoralist households are particularly disadvantaged and tend to have significantly lower learning outcomes than their peers. In terms of barriers that girls face, poorly-

[1] These scores are unweighted averages, including both intervention and comparison schools, and excluding five outlier schools that belonged to the comparison group (more on this limitation in Section 2 and Section 4).
[2] These scores are unweighted averages, including both intervention and comparison schools, and excluding five outlier schools that belonged to the comparison group (more on this limitation in Section 2 and Section 4).

resourced schools, along with poor principal and teacher performance are all statistically significant predictors of lower learning outcomes. Gender inequality in schools also predicts lower learning outcomes, along with having a disengaged caretaker who has never visited the girl's school.

Transition Outcome findings

The baseline transition rate for cohort girls is 50.8% for girls at intervention schools, which is nearly identical for girls at comparison schools (at 50.5%). The transition rate for benchmark girls is 48.8%, which is also similar to the transition rate for cohort girls. Across both in-school and out-of-school girls, the consistent predictors of lower transition rates are anxiety and depression (as reported by the caregiver), as well as high chore burden. In addition, most of the significant barriers to transition for in-school girls relate to fear and potentially to their psychosocial health, including whether or not girls are fearful of their teacher and whether or not girls feel safe at school and on their way to school. For in-school girls, being instructed in a language other than their mother tongue is also a significant predictor of failing to advance to the next grade. For out-of-school girls, high chore burden, a pastoralist lifestyle, marriage, motherhood, and poverty are the most consistent predictors of girls dropping out of school or remaining out of school.

Sustainability Outcome findings

Across all surveyed schools, 17% percent of teachers say that their school has received financial support from their CEC in the past year, 19.5% say that their school has received in-kind support, and only 13.4% describe the community's support of the school as sufficient. Almost a quarter, 23.1%, of all teachers said that they received either financial or in-kind support. In the qualitative data, Regional Education Officers described the inability of CECs to meet school funding gaps, warned of a general dearth of key school resources including basic learning materials, and suggested that many teachers had not received their salaries for extended periods of time.

Marginalisation Analysis and Gender Analysis (including GBV)

Girls belonging to pastoralist households are consistently the most marginalized. They tend to have lower learning outcomes, drop out of school, and remain out of school. Pastoralist girls are also potentially subject to negative stereotypes related to their itinerant lifestyle and the fact that they may have not previously been enrolled in school (and thus will not be as comfortable in the classroom as other girls their age). There are consistent gaps between girls' and boys' learning outcomes, with boys having higher average scores than girls in both literacy and numeracy. Despite differences in average scores, boys and girls demonstrate the same fundamental skill gaps. In terms of attendance, there are no significant differences between boys and girls.

In the qualitative data, there was no concrete evidence of gender-based school-related violence. A few respondents in qualitative interviews did allude to violence or conflict in relation to children who attend school, but the information provided was not clear enough to draw any concrete conclusions. In the quantitative data, 1.8% of caregivers reported children facing problems of sexual or gender-based violence on their way to school.

Intermediate Outcomes findings

<u>Attendance</u>

The school attendance rate for cohort girls established through a headcount (during a single day of data collection) was 83.3% of total girls enrolled, which is already quite high at the baseline. These headcount rates are also positively correlated with caregivers' assessments of girls' attendance, which suggest an attendance rate of 90.3%. School records were only available for approximately 28% of in-school cohort girls, and the school records that were available consistently over-estimate attendance vis-à-vis the other available sources (92.4%).

School Management and Governance

A minority of schools in the sample have active, engaged CECs (43.2% in intervention schools; 32.4% in comparison schools). In general, treatment schools are more likely to have an established CEC, and CECs in treatment schools are more active, on average, than their counterparts in comparison schools. Differences in CEC engagement are especially pronounced in the case of school monitoring activities, where treatment school CECs are about twice as likely to have engaged in school monitoring visits than comparison school CECs.

Teaching Quality

Teacher absenteeism and the use of corporal punishment remain significant problems, with just under half (46.1 percent) of teachers indicating that they use corporal punishment in the classroom, a share that is confirmed by reports from students. The use of participatory and student-centred teaching methods are widespread but relatively superficial. For instance, over two-thirds of observed teachers encouraged participation by calling on students who were not participating. But more effort- and planning-intensive types of participatory methods, such as planning group work or student-centred games, are less commonly used.

Community-based Attitudes

Qualitative evidence suggests that there is an ongoing debate among parents, caretakers, and teachers in Somalia and Somaliland, centring on two competing narratives: on the one hand, many adults are adopting an international/Western discourse of the universal importance of education and gender equality; on the other hand, many people voice more traditional, patriarchal views that girls' education is unimportant because they should primarily be raised to become good wives and mothers, whereas boys need to be educated because they will grow up to do more 'important' things than girls.

In contrast to the conflicting adult perspectives, boys and girls interviewed for this study all shared egalitarian perspectives with regard to the importance of education and shared views suggesting that (in their opinion) girls could grow up to make equal contributions to society and pursue all of the same careers and opportunities as boys.

Economic Empowerment

By all measures, baseline levels of economic empowerment are exceedingly low. A majority of sampled caregivers report being illiterate (55.8%) and having no formal education (77.7%). Only 10.8 percent of caregivers report that they have savings, and 9.6 percent of caregivers report participating in VSLAs.

Life Skills and Self-esteem

Baseline levels of girls' life skills are primarily established through the Youth Leadership Index score, which is 54.7 for in-school girls (a score that is just above the middle of the possible scoring range of 52.5). Higher YLI scores are correlated with better learning outcomes as well as higher levels of self-esteem. Qualitative and quantitative evidence suggests that there is a strong link between girls' levels of

confidence and self-esteem and their willingness to participate in the classroom, which in turn tends to affect their learning outcomes.

1. Background to project

1.1 Project overview

The Somali Girls' Education Promotion Project – Transition (SOMGEP-T) aims to address the barriers that Somali girls face in regularly attending school and acquiring literacy, numeracy, English and financial literacy skills and to create the conditions for successful transition of in-school girls into new education levels and of out of school girls into school, alternative education or life skills training. The presence of sustainable mechanisms and social norm change to maintain and expand gains will also be assessed as a third outcome (sustainability). SOMGEP-T began on May 1 2017, and will close on October 31 2021, with full implementation scheduled to begin following the completion of baseline data collection. The project will cover 148 primary schools, 53 secondary schools, and the respective catchment areas. SOMGEP-T will be implemented rural and remote areas of Somaliland, Puntland, and Galmudug.

SOMGEP-T is expected to reach a total of 27,146 marginalised girls, of whom 16,863 were enrolled in school at the Somali Girls' Education Promotion Project's (SOMGEP) endline; 1,583 were out of school and living in villages targeted by SOMGEP; and 7,834 new entrants, who will benefit at no extra cost. Only the girls who benefitted from the initial SOMGEP intervention will be tracked by SOMGEP-T, therefore determining the effects of the GEC investment in the target areas through time. Beneficiary numbers will be revised post baseline and will be disaggregated to indicate the number of disabled individuals reached. Out of the total beneficiaries, 21,717 are expected to increase their learning outcomes, while all of the beneficiaries are expected to experience some type of transition (out-of-school into education; grade to grade; lower primary to upper primary; upper primary into secondary).

1.2 Project context

Following the ousting of President Siad Barre's military regime in 1991, Somalia's central government collapsed, and the country descended into a civil war as numerous actors—including clan warlords, pirates, radical groups, and others—vied for power. Despite the efforts of the Somali people and outside forces from three separate international peacekeeping missions (UNISOM I, UNITAF, and UNISOM II)[3] and one regional peacekeeping mission which remains active today (the African Union Mission in Somalia, or AMISOM), the civil war persisted for more than two decades. The establishment of a transitional government in 2004 marked the first major step toward peace. In 2012, Somalia held its first presidential election since 1967 and swore in its first formal parliament in more than 20 years. In the same year, the National Constitutional Assembly adopted The Provisional Constitution of the Federal Republic of Somalia (FRS), officially establishing the Federal Government of Somalia (FGS). The

[3] The United Nations Operation in Somalia I (UNOSOM I), the Unified Task Force (UNITAF), and the United Nations Operation in Somalia II (UNOSOM II). UNOSOM I and II, authorized by Resolutions 751 and 814, respectively, were UN-led peacekeeping missions. UNITAF was a Coalition of the Willing, led by the United States but joined by more than 15 other governments and their forces.

electoral process of 2016 marked the first successful transition of power in Somalia since the creation of the FGS.

Somaliland unilaterally declared its independence in 1991 and has since functioned as a de-facto state. Puntland declared its autonomy in 1998.[4] Progress has recently been made toward establishing a federal system through the creation of Federal Member States. Today, Puntland has a separate government and is a member of the FRS. Galmudug has also recently established itself as a member state of the FRS, and its governance structures are currently under development.

The people of Somaliland, Puntland, and Galmudug are involved in various economic activities, but livestock is the lifeblood of the regions' economy. The livestock sector constitutes up to 60 percent of the Somaliland government's revenue base and 20 percent of the country's GDP. Furthermore, half of Somaliland's population are agropastoralists who produce crop (sorghum and maize) and engage in livestock rearing. Puntland similarly has large livestock sector but also has the capacity to develop its leather tanning and production sector. Galmudug has the potential for a strong livestock exportation and also owns untapped natural resources, such as meerschaum, fluorspar, and uranium.[5]

These zones have experienced widespread drought in the last decades with devastating impact on communities and their livelihoods. Drought has had the highest estimates of damages in Puntland ($934 million), followed by Somaliland ($874 million) and Galmudug ($395 million). The damage inflicted by the drought varied across sectors. For example, the productive sector, including irrigated and rain-fed crops, livestock, and fisheries, accounts for 65 percent of damages and losses in Somaliland, 62.7 percent in Puntland and 60.1 percent in Galmudug (United Nations et al., 2018). Somalia has historically received low and inconsistent rainfall. During September 2016 to June 2017, for example, 30 out of 42 districts in central and southern Somalia and 26 out of 32 districts in Puntland and Somaliland received significantly below-average rainfall than the previous year (United Nations et al., 2018).

Despite these successes, the effects of the civil war are still evident today, and Somalia's stability continues to be threatened by violence, poor governance, uneven development, and humanitarian crises. Within the education sector, the post-war years have been marked by slow growth. With the complete collapse of the tax administration system, domestic revenue (taxes plus fees) represents just 2.8 percent of GDP, making it difficult for the government to provide services.[6] In 2016, education and health accounted for only 2.5% of the budget, and although US $4.7 million was approved for education, only US $1.8 million was executed.[7] In the central and southern regions alone, more than 75% of the public schools that existed prior to the civil war were destroyed or closed,[8] and across the entire country, an estimated 90% of schools were destroyed.[9] In contrast with this situation, in Puntland, education

[4] BBC (2016) Puntland Profile.
[5] UNICEF. (2017). UNICEF Somalia Situation Report. Retrieved from reliefweb: https://reliefweb.int/sites/reliefweb.int/files/resources/UNICEF%20Somalia%20Humanitarian%20Situation%20Report%20%231%20-%20February%202017_0.pdf.
[6] World Bank Group (2017). Somalia Economic Update – Mobilizing Domestic Revenue to Rebuild Somalia.
[7] Ibid.
[8] UNICEF (2017). UNICEF Somalia Quarterly Education Bulletin - July 2017.
[9] Barakat, Connolly, Hardman, Lewis, Lineker, Menkhaus, Rzeszut and Shanks, 2014. Beyond Fragility – a conflict and education analysis of the Somali context.

comprised 7% of the budget in 2014.[10] In Somaliland, the national budget allocation for education is similar.[11]

The education sector has been hard hit by drought, famine, and economic hardship have led some children to drop out of school. While figures from the government may be understated, UNICEF estimates that Puntland makes up the highest proportion of out-of-school children (10.2 percent of enrolled children), followed by south central (8.3 percent) and then Somaliland (3.3 percent).[12] Displacement has affected the country's educational infrastructure with some schools being abandoned and others becoming overpopulated where internally displaced people have settled in the host communities (United Nations et al., 2018). Currently, thousands of people are internally displaced including 870,000 in South and Central Somalia, 130,000 in Puntland, and 40,000-80,000 people in Somaliland.[13] Moreover, lack of water, sanitation and hygiene (WASH) services has affected the lives of millions of people in all three zones. There is an estimated of 1.1 million people in urgent need of WASH assistance in Somaliland and Puntland and 1 million people in Galmudug.[14]

Somaliland and Puntland are both currently operating under relative stability, allowing the two states to establish functional school systems, building upon schools established by the communities and largely supported by the Somali diaspora. However, despite the many gains observed during the past decade, border areas remain under dispute, often leading to violent conflict and consequently, temporary school closures. The security situation has also been affected by the recent movements of Al-Shabaab and IS in Puntland. In Galmudug, conflicts in 2015 and 2016 resulted in displacement and prolonged school closure. As a whole, Somalia ranks among the worst performing countries in the region across key education indicators, with the third lowest adult literacy rate among ten neighbouring countries, and primary and secondary gross enrolment rates that are lower than in any other country in the region.[15] An estimated fifty percent of children enrolled in primary school are overage and more than two-thirds of secondary school children are overage,[16] largely due to issues of availability, affordability, and accessibility. Somaliland, Puntland, and the Federal Government of Somalia recently launched education strategic plans to address these issues in their regions.

In the absence of adequate public education options, various stakeholders, including NGOs, private institutions, religious groups, and others, have attempted to fill the gap. These groups have made progress in rebuilding infrastructure and providing much needed financial assistance but have also introduced a new set of challenges to the education system. The institutions established by these groups

[10] UNICEF Somalia (2015). Education in Somalia. Accessed at: https://www.unicef.org/somalia/education_56.htm
[11] Republic of Somaliland, Ministry of Education and Higher Studies, Education Sector Strategic Plan 2017-2021
[12] United Nations, World Bank, European Union, Government of Somalia, & GFDRR. (2018). Somalia Drought Impact and Needs Assessment(Vol. 2): Sector Report. Washington, D.C: UNOCHA. Retrieved from reliefweb: https://reliefweb.int/sites/reliefweb.int/files/resources/122991-v2-Revised-GSURR-Somalia-DINA-Report-Volume-II-180111-Digital.pdf.
[13] Drumtra, J. (2014). Internal Displacement in Somalia. Washington DC.: Brookings Institution. Retrieved from Brookings Institution: https://www.brookings.edu/wp-content/uploads/2016/06/Brookings-IDP-Study-Somalia-December-2014.pdf.
[14] UNICEF. (2017). UNICEF Somalia Situation Report. Retrieved from reliefweb: https://reliefweb.int/sites/reliefweb.int/files/resources/UNICEF%20Somalia%20Humanitarian%20Situation%20Report%20%231%20-%20February%202017_0.pdf
[15] UNFPA (2016). Educational Characteristics of the Somali People.
[16] Ibid.

often have their own curricula and examinations, operate on fee systems, and do not have uniform criteria for determining fee exemption.

Within the current public education system, the quality, availability, and outcomes of education vary drastically by area. However, the public education systems in all areas follow the same general structure. Each has its own Ministry of Education and Higher Education (MEHE), with offices at the regional and district level for planning and coordination purposes. In Somalia/Somaliland, early childhood education (ECE) is offered to children aged 3-5 through formal pre-primary schools or Quranic schools. Children in Somalia/ Somaliland then enter their primary education, which they attend from the age of 6 to the age of 13 through formal primary schools, Integrated Quranic Schools (IQS), and in the case of older students who have not previously attended school or dropped out in early primary, through Alternative Basic Education (ABE). Late enrolment is common: SOMGEP's baseline (2014) found that only 31% of the girls and 47% of the boys are enrolled at age 6,[17] largely due to the practice of prioritizing Quranic education for young children. There are indications that Quranic school attendance supports students to learn to decode in Arabic and build foundational literacy skills; these skills later facilitate the acquisition of reading skills in Somali upon entering formal education.[18] Following completion of their primary education, students enter their secondary education, intended for children aged 14-17, or Technical Vocational Education and Training (TVET), which can last for the same duration of time as secondary education or longer. After completing secondary school, students can continue on to the university level, which is intended for children aged 18-21, or can choose to continue TVET. Pre-service teacher training is also an option for secondary school graduates.

As a result of the civil war and the lack of coordination across the education sector, inequities in education are present across genders, groups, and regions. In 2014, UNFPA published the results of its Population Estimation Survey, the first extensive household survey to be carried out in Somalia since 1975, when the government last published census results.[19] The survey finds that urban areas have the best adult literacy rates, the highest level of education completed for the out-of-school population, and the highest school enrolment of persons currently in school. In fact, enrolment in urban areas is approximately double that of enrolment in rural areas, and triple that of nomadic populations. The survey also finds that there is a positive relationship between wealth status and school enrolment.

Across education indicators, males have fared better than females. Enrolment rates are slightly higher for males than females, and there is an 8 percentage point gap in adult literacy in favour of males. The gender parity index (GPI) rating worsens in higher levels of education, dropping from 0.986 at the primary level to 0.916 at the secondary level to 0.688 at the tertiary level. Social gender norms around the roles of women in society are responsible for creating barriers to girls' enrolment, retention, and school performance. Whereas men are expected to pursue employment outside the home, women have traditionally been expected to care for the children and assume responsibility for household tasks. Data

[17] CARE (2014) Somali Girls' Education Promotion Project – Baseline Study Report
[18] SOMGEP's evaluation studies have consistently noted an accelerated acquisition of reading skills, including reading comprehension, in early primary. Quranic schools in Somalia prioritize actual decoding and reading of Arabic, as opposed to simple memorization of the Holy Quran; it is therefore hypothesized that the early experience in decoding Arabic may have a positive effect on decoding the Latin alphabet used for Somali.
[19] UNFPA (2016). Population Composition and Demographic Characteristics of the Somali People. Because the survey uses 1986 pre-war geographic regions for the analysis, it includes household data from Somaliland, Puntland, and the states that comprise the FGS, and as such, is currently the most up-to-date, comprehensive estimation of the population composition and demographic characteristics of the Somali people.

from SOMGEP's midline and endline assessments provide evidence that these norms are changing as an increasing number of women are now taking new roles in society, largely as a result of migration and conflict dramatically raising the proportion of female heads of household, but a variety of factors still limit girls' interest in school and colour adults' perceptions of the importance of their education. Early marriage leads to drop-out or prevents girls from ever attending school. In addition to seasonal migration, which affects both girls and boys, girls face a number of unique challenges that lead to absenteeism. Girls are often recruited by their mothers to assist in household tasks, which causes them to miss school or enroll late. They also tend to withdraw from school during their menstrual periods, which can be particularly painful for girls who have undergone Type III female genital mutilation (FGM). Historic low rates of access to education for women, traditional gender norms which limit women's mobility and ability to work outside the home, particularly for those who are mothers, make the low recruitment of female teachers a particular problem; as a result girls lack role models, and the proper support and counselling services at school that might encourage them to continue their education, particularly upon reaching adolescence.

The composition and characteristics of the Somali population underscore the importance of these findings. Although there has been a decrease in nomadic populations, currently approximately 42 percent of the Somali population lives in urban areas, 26 percent in nomadic settlements, 23 percent in rural settlements, and nine percent in IDP camps. Among the general population, the majority of households in all areas are headed by men, with the largest proportions of male-headed households found in nomadic and rural communities (92.9% and 81.3%, respectively) and the lowest in urban areas and IDP camps (77.6% and 75.6%, respectively). An analysis of the patterns observed in SOMGEP's evaluation studies suggests, however, that the number of female-headed households is consistently increasing and exceeding that of male-headed HHs in the rural and remote areas where the project operates, potentially as a result of migration, displacement and conflict. 40% of the households surveyed for SOMGEP's midline were female-headed, compared to 43% at the endline.

The Singulate Mean Age at Marriage (SMAM)[20] is 24.7 years for males and 23.1 years for females. Males and females from rural areas are the most likely to marry young, whereas those from urban areas are the most likely to delay marriage. Among females, those who have completed tertiary education have the highest SMAM. Of the 58% of individuals in the population who are currently married, 72.2% have not completed any level of education. The prevalence of child marriage in Somalia is estimated as 45%[21]. Cultural perceptions often limit the recognition of child marriage as an issue; qualitative data suggests that many communities traditionally acknowledge individuals age 15 and above as adults, not children.

Households living in rural areas are heavily affected by the effects of climate change. The prolonged drought experienced since 2015 resulted in massive loss of livestock and large levels of displacement. The loss of livelihoods is exacerbating malnutrition, with 1.4 million children estimated to be currently affected.[22] As a result of the drought, 948,500 people[23] are estimated to have been displaced since late 2016, with large numbers moving into cities, placing additional pressure on an already fragile education system. As of January 2018, 866,000 people are affected directly by the emergency situation and poor

[20] Singulate Mean Age at Marriage refers to the average number of years of single life before age 50 of the population born in the same year.
[21] UNFPA (2012) Marrying Too Young: End Child Marriage.
[22] According to UNICEF's May 2017 Humanitarian Response Bulletin.
[23] Famine Early Warning Systems Network - http://www.fews.net/east-africa/somalia/food-security-outlook/october-2017.

harvests are expected later this year.[24] The vulnerability to the negative effects of climate change (such as threats to livestock livelihoods and therefore household income) and the use of migration as a coping mechanism are likely to continue to affect the economic and the social landscape of the country and will be a key underlying factor shaping the education outcomes of the children and adolescents targeted by this program.

It is important to note that while Somalia and Somaliland do face major challenges related to education, a number of factors are leading to rapid shifts. For example, the Somali diaspora, estimated at 1.5 million people or about 15% of the total population, are playing a role in the country that is disproportionate to their numbers.[25] Diaspora not only support education, but also are the main source of private capital and investment. Foreign investment from diaspora serves as an important source of funding for both the education sector and the private sector, and communities across the project's locations have become dependent on remittances in order to access basic privatized services. For example, it is estimated that total private transfers from Somali diaspora are the third largest contributor to Puntland's GDP.[26] Diaspora and others operating in the private sector (businesses, NGOs, faith-based groups) now play a significant role in providing education across the project's three zones. Another important factor is mobile penetration. Currently, smartphones account for less than 25% of connections in Somalia, but smartphone adoption is expected to double by 2020 to reach 45%.[27] Lastly, the roles of women are changing—evidence from SOMGEP suggests that there are more women leading households, and an estimated 60% of the owners of small businesses are women. Given the historically low levels of education, women are unequipped for these new roles, but these shifts will have important implications for future development programming in the region.

SOMGEP-T has purposefully targeted the poorest and most excluded locations in Somaliland, Puntland, and Galmudug. The project will target the most marginalized portions of the population in these areas, which depend on pastoralism and have suffered from the repeated occurrence of long droughts. SOMGEP-T's implementation area includes large proportions of villages that are facing widespread emergency (IPC phase 4) and high risk of famine as a result of the droughts. Additionally, ninety-nine percent of the girls sampled in SOMGEP's baseline were marginalized, and the project's endline indicated that there were even further declines in indicators related to household conditions and the ability to invest in education, and that that there was a sharp increase in displacement due to the drought.

1.3 Learning from GEC 1

SOMGEP-T builds on the work of the initial SOMGEP, which CARE and its partners implemented from 2013 to 2017. CARE and its partners have applied valuable lessons from this initial iteration in developing the programming, processes, and tools for SOMGEP-T. From a programming perspective, evaluation findings indicating poor performance in numeracy and limited English skills informed the design of a package of specific interventions (numeracy boost, coaching for teachers, e-learning platform, ASLP) to address barriers to learning. The transition issues observed through longitudinal tracking informed the design of an alternative learning program for those who drop out in upper primary or during the transition to secondary education. Emerging evidence from the SOMGEP evaluations on the specific challenges

[24] Famine Early Warning Systems Network (http://www.fews.net/east-africa/somalia)
[25] Barakat, Connolly, Hardman, Lewis, Lineker, Menkhaus, Rzeszut and Shanks, 2014. Beyond Fragility – a conflict and education analysis of the Somali context.
[26] Ibid.
[27] GSMA (2018). GSMA Mobile Economy.

faced by marginalised adolescents was used to refine approaches to ensure effectiveness in addressing their needs, particularly considering patterns of seasonal absenteeism, shifting norms and the need to synchronise programming for girls and boys.

In regard to the evaluation design, the mixed methods approach used during SOMGEP enabled CARE to gather nuanced information on changes occurring in learning processes, factors influencing teachers, students, households and communities, and on education outcomes in a context in which reliable data is difficult to generate. However, the mixed methods approach also resulted in a wealth of data and a level of complexity which made data collection and analysis difficult for external evaluators. To address these difficulties for SOMGEP-T, CARE has invested in developing a long-term relationship with the external evaluation company based on principles of mutual learning and accountability to the complex analysis framework outlined in the final Monitoring, Evaluation, and Learning Framework (MELF) document. CARE has committed to working closely with the external evaluation company during the data collection and analysis stages to ensure lines of communication are open and feedback is consistently delivered. This will include the following: CARE's global research team and the M&E manager for the project, based in country, will engage the external evaluation company on a process of detailed planning of activities previous to the deployment of each round of data collection; will conduct shadow checking of electronic data batches as these are uploaded by the data collection company in order to provide feedback on quality and prevent gaps; and during analysis stage, will require the weekly submission of write-ups in order to provide feedback and ensure adherence to the analysis framework.

Second, contextual factors, such as recurrence of conflict and displacement of entire villages due to the drought, blocked access to certain areas at SOMGEP's midline and endline. In recognition of the difficulties associated with collecting data from populations displaced by drought, conflict, or other factors, the new MEL Framework includes proposed strategies for collecting data from affected groups. Third, the findings from the SOMGEP evaluations challenged assumptions made about project context. As a result, major changes have been made to the programming to reflect the information gathered through SOMGEP evaluations.

1.4 Project Theory of Change and assumptions

Theory of Change Overview

The long-term goal of SOMGEP-T is to bring about sustainable improvements to the learning and transition outcomes of marginalised Somali girls. Marginalised girls who are targeted under SOMGEP-T are expected to exhibit statistically significant improvements in learning outcomes (literacy, numeracy, and financial literacy) and transition outcomes (transition rate) as compared to a comparison group. To achieve its long-term outcomes and create a more supportive environment for girls, the project will focus on addressing the underlying causes of marginalisation through influencing stakeholder attitudes and promoting change at the household, school, community and policy/governance levels.

SOMGEP-T defines marginalised girls as those who face the intersection of multiple barriers to access education and once enrolled, to remain in school after Grade 3.[28] SOMGEP's studies have identified that the barriers marginalised girls face include extreme poverty, pastoralism, displacement, being over age for their grade, a high degree of exposure to violence/ conflict, orphan status, disability, belonging to a

[28] CARE SOMGEP-T MELF Final

minority clan, and having an illiterate mother (who is often experiencing financial hardship as a female head of household).

More generally, barriers to girls' education in Somalia and Somaliland can be categorized as demand-side barriers and supply-side barriers. Demand-side barriers include traditional gender and social norms (early marriage, chores, girls' low agency, gender-based violence (GBV)), poverty and high vulnerability to the negative effects of climate change, high absenteeism (seasonal migration, chores), perceptions of disconnect between education and the local market, and armed conflict. Supply-side barriers include limited provision of secondary education and poor infrastructure, limited number of qualified teachers, low teacher capacity to teach higher numeracy skills and English as a second language, lack of catch-up opportunities/ remedial education for pastoralist children, and limited capacity of school leadership and education officials to address absenteeism, dropout and poor learning outcomes.

In addressing the barriers to girls' education in Somalia and Somaliland, SOMGEP-T will focus on four key domains of change, or direct outputs: (1) improving access to post-primary options; (2) fostering supportive school practices and conditions for marginalised girls. (3) promoting positive shifts on gender and social norms; (4) enhancing the capacity of MoEs to deliver quality education. According to SOMGEP-T's ToC, if CARE International and its partners focus on these domains of change, then the number of girls who access, receive, and complete a quality primary and secondary education will increase.

Expected Outcomes

Long-term outcomes:

(1) Learning: The number of marginalised girls supported by GEC with improved learning outcomes (literacy, numeracy, financial literacy).

(2) Transition: The number of marginalised girls who have transitioned through key stages of education, training, or employment.

(3) Sustainability: The changes brought about through the project which increase learning and transition through education cycles are sustainable at the community, school, and system levels.

Intermediate Outcomes:

(1) Attendance

(2) Retention

(3) Improved quality of teaching

(4) Life skills development

Outputs and Key Activities

Through its key activities, SOMGEP-T will deliver four key outputs to improve the learning and transition outcomes of marginalised Somali girls and empower them to engage in the local economy and decision-making processes in the future. SOMGEP-T's outputs and activities are outlined below.

Output 1: Improved access to post-primary options

Girls will be supported to transition into either formal secondary schools through grants (bursaries)[29] for poor families, provision of an ASLP developed in partnership with the Ministries of Education (MoEs) and communities, and development and strengthening of community education committees (CECs).

Key Activities:

- Work with MoE to develop and implement ASLP
- Develop girls' life skills in upper primary through ASLP, including leadership skills, financial literacy and business selection and management of income generation activities
- Develop CECs to improve retention and transition
- Provide partial grants to girls from poor families
- Equip two boarding schools for girls with furniture / learning materials and promote girls' enrolment

Output 2: Supportive school practices and conditions for marginalised girls

The project will boost numeracy outcomes and English skills among primary and secondary students, providing remedial support to struggling students as well as those with high absenteeism rates, particularly pastoralist girls, and supporting the school leadership to track attendance, learning, retention and transitions, therefore increasing the chances of marginalised girls building foundational skills, completing primary school and succeeding in secondary education.

Key Activities:

- Train teachers on improved delivery of literacy and English language, supported by digital content in all 148 primary and 55 secondary schools
- Train teachers on improved delivery of numeracy in all 148 primary and 55 secondary schools
- Train teachers to provide structured remedial support to students at primary and secondary level
- Train and coach teachers to deliver the ASLP curriculum
- Construct additional classrooms in remote primary schools; build water facilities in new secondary schools; and provide solar chargers for mobile devices/ tablets and sanitary pads to schools
- Incorporate life skills and financial literacy training into Girl's Empowerment Forums (GEFs) and Boys' Empowerment Forums (BEFs)
- Provide career guidance in schools

Output 3: Positive shifts on gender and social norms at community and individual girl level

Through promoting positive shifts on gender and social norms, the project will create an environment where girls and boys are equally supported to attend school, their skills are valued, there are higher expectations for their achievement, and where girls and boys are safe from harmful practices. It is expected that these activities will not only encourage parents to send their girls to school but will also encourage girls to stay in school by creating a safe environment for them and emphasizing the importance of education in relation to other social pressures that typically cause girls to drop out, such as marriage.

Key Activities:

- Engage community-level stakeholders including religious leaders, women's groups, men and boys

[29] School fees are paid directly to schools; in addition, girls receiving grants also receive uniforms and basic support items from the projects

- Expand and strengthen GEFs and create BEFs to develop leadership and mentorship skills
- Provide adult literacy and financial literacy classes for mothers
- Support the financial empowerment of mothers through savings groups (VSLA), business selection, and business coaching and mentoring

Output 4: Enhanced MoEs' capacity to deliver quality and relevant formal and informal education

MoEs' staff, local education officers will be supported to develop robust governance and support structures, taking an active role in improving girls' retention and transition rates, overseeing the implementation of quality standards and data management systems, and identifying and addressing barriers to learning using a gendered lens. MoEs are uniquely positioned to send a strong, positive message about the importance of girls' education to the FGS and the governments of Somaliland and Puntland.

Key Activities:

- Strengthen Gender Departments capacity to improve girls' education outcomes through trainings, development of action planning and provision of incentives to retain the gender focal points especially in rural areas
- Support quality assurance and standards (QAS) functions at all MoE levels
- Provide support to Regional Education Officers (REOs) and District Education Officers (DEOs) to mainstream improved teaching practices and address retention/ transition issues
- Work closely with MoE on non-formal education (NFE) for mothers and entrepreneurships skills for girls
- Development of project IEC materials in conjunction with MoE for use at stakeholder advocacy and promotion events

Assumptions

The success of SOMGEP-T is predicated on a number of assumptions which will affect the ability of project staff to carry out, monitor, evaluate, and effect change through project activities. The project's major assumptions include:

- Schools remain open during most of the year; absence of major disruptions (widespread conflict, famine, political disturbances, economic shocks)
- Most schools adhere strongly to the intervention procedures and protocols, ensuring fidelity of implementation
- Project partners adhering to implementation guidelines/protocols
- MoE efficiency
- ALP acceptance
- High retention of out of school girls
- Complementary emergency support in case of severe drought
- Timely deployment of ASLP
- Facilitators for ASLP/ teachers are available
- ASLP curriculum includes skills considered as relevant in the local job market/ businesses
- Local authorities and religious leaders are supportive
- No major disruptions to government functionality post-elections, allowing for timely implementation
- Absence of major economic shocks
- Absence of major disasters and widespread conflict
- Parents are supportive of girls' participation in GEFs and BEF's

Table 1: Project design and intervention

The table below links each intervention to specific intermediate outcomes and provides a comprehensive explanation of how these will in turn contribute to achieving SOMGEP-T's long-term outcomes of learning, transition, and sustainability.

Intervention types	What is the intervention?	What Intermediate Outcome will the intervention will contribute to and how?	How will the intervention contribute to achieving the learning, transition and sustainability outcomes?
Improving access to post-primary options	Work with MoE to develop and implement ASLP	Attendance, retention, and life skills development. ASLP offers out of school girls and students who are unable to/ do not wish to attend formal secondary school with an alternative option, thereby encouraging them to remain in school. The programme will focus in part on developing life skills that will be relevant to the job market.	By offering an alternative pathway for girls who may have otherwise dropped out, transition rates will improve. Girls will have increased exposure to higher learning, which will boost learning outcomes. ASLP's particular focus on developing life skills will ensure this intervention produces sustainable outcomes, or outcomes that are relevant to the individual and community.[30]
	Develop girls' life skills in upper primary through ASLP, including leadership skills, financial literacy and business selection and management of income generation activities; participation in Girls' Empowerment Fora	Life skills development. Girls will learn relevant life skills that will not only boost their learning outcomes and attendance, but will also enable them to contribute to the local economy once they leave school.	The project's learning outcomes are focused on literacy, numeracy, and financial literacy. This intervention is designed to boost these specific learning outcomes, as well as increasing the likelihood of transition into ASLP or secondary education. Additionally, the focus on leadership skills and other skills relevant to the job market contributes to the

[30] The project is working closely with the MoEs to develop the ASLP model and policies related to non-formal education, thus building the foundation for the future replication of the model through government and partner-led efforts. The ASLP is directly aligned with key objectives of the ESSPs to increase enrolment and provide alternative learning opportunities for marginalized groups of girls, particularly those who dropped out after early primary.

Intervention types	What is the intervention?	What Intermediate Outcome will the intervention will contribute to and how?	How will the intervention contribute to achieving the learning, transition and sustainability outcomes?
			sustainability of SOMGEP-T.
	Develop CECs to improve retention and transition	Attendance and retention. The enhanced capacity of CECs will enable them to develop context-appropriate strategies for improving retention and transition, which will in turn have a positive effect on attendance rates.	A focus on retention and transition is expected to have a direct impact on transition rates and learning outcomes, as girls will have better access to higher education levels. The focus on the community level will ensure buy-in and contribute to the project's sustainability at the community level.
	Provide partial grants to girls from poor families	Attendance and retention. Poverty is one of the leading reasons parents are unable to send their children, and girls in particular, to school. Providing partial grants to girls from poor families will alleviate some of the financial burden impoverished families face in sending their children to school.	Increased attendance and retention is expected to improve transition rates and learning outcomes, as girls who are in school and are properly equipped are more likely to succeed. Girls from poor families who may not have otherwise had access to education will be better equipped to participate in decision-making and economic activities.
	Equip and enrol girls in 2 boarding schools	Attendance and retention. Many families are unable to afford the fees associated with sending their children to school, including fees associated with school enrolment, textbooks, uniforms, and other supplies. By equipping and enrolling girls in boarding schools, the burden families face will be alleviated, and girls will have the equipment	Increased attendance and retention is expected to improve transition rates and learning outcomes, as girls who are in school and are properly equipped are more likely to succeed. Girls from poor families who may not have otherwise had access to education will be better equipped to participate in decision-making and economic activities.

Intervention types	What is the intervention?	What Intermediate Outcome will the intervention will contribute to and how?	How will the intervention contribute to achieving the learning, transition and sustainability outcomes?
		they need to remain in school and succeed.	
Supportive school practices and conditions for marginalised girls	Train teachers on improved delivery of literacy and English language, supported by digital content in all 148 primary and 55 secondary schools	Improved quality of teaching. Qualified teachers are in low supply in all project areas. Teacher trainings will develop the skills of teachers, thereby improving their teaching quality; increased student performance and motivation is likely to have a positive effect on attendance.	Improved teaching quality contributes to enhance learning and transition outcomes, as children are equipped with the literacy skills in Somali and basic English skills necessary to progress to higher levels of education. Interventions focused on improving teaching quality are expected to boost transition rates and learning outcomes in a sustainable way, by equipping children with the skills they need to succeed not only in school, but outside school as well.
	Train teachers on improved delivery of numeracy in all 148 primary and 55 secondary schools	Improved quality of teaching, addressing specific gaps. Qualified teachers are in low supply in all project areas. Teacher trainings will develop the skills of teachers, thereby improving their teaching quality.	Poor teaching quality contributes to poor learning and transition outcomes, as children are not equipped with the basic numeracy skills, necessary to progress to higher levels of education and to develop financial literacy. Interventions focused on improving teaching quality are expected to boost transition rates and learning outcomes in a sustainable way, by equipping children with the skills they need to succeed not only in school, but outside school as well.
	Train teachers to provide structured remedial	Improved quality of teaching. Qualified	Poor teaching quality contributes to poor

Intervention types	What is the intervention?	What Intermediate Outcome will the intervention will contribute to and how?	How will the intervention contribute to achieving the learning, transition and sustainability outcomes?
	support to students at primary and secondary level	teachers are in low supply in all project areas. Teacher trainings will develop the skills of teachers, thereby improving their teaching quality.	learning and transition outcomes, as children are not equipped with the literacy, numeracy, and English skills necessary to progress to higher levels of education. In relation to this intervention in particular, students are more likely to drop out if they do not have proper support. Interventions focused on improving teaching quality are expected to boost transition rates and learning outcomes in a sustainable way, by equipping children with the skills they need to succeed not only in school, but outside school as well.
	Train and coach teachers to deliver the ASLP curriculum	Improved quality of teaching and life skills development. Qualified teachers are in low supply in all project areas. Teacher trainings will develop the skills of teachers, thereby improving their teaching quality. Additionally, the ASLP curriculum offers life skills development.	Offering an alternative pathway will increase transition rates and boost learning outcomes by keeping girls in school. Ensuring the proper delivery of the ASLP curriculum, which includes a focus on life skills development, will make the intervention relevant to students and the community and contribute to its sustainability.
	Construct additional classrooms in remote primary schools; build water facilities in new secondary schools; and provide solar chargers for mobile	Attendance and retention. Lack of infrastructure is a major issue facing all areas of the FRS, Somaliland, and Puntland, but marginalised communities in	Boosts to attendance and retention are expected to contribute to improvements in transition and learning outcomes. Infrastructure development will benefit not just the current

Intervention types	What is the intervention?	What Intermediate Outcome will the intervention will contribute to and how?	How will the intervention contribute to achieving the learning, transition and sustainability outcomes?
	devices/tablets and sanitary pads to schools	particular. Lack of proper facilities makes it difficult for students to attend and learn well in school, particularly when schools face an increase in enrolment. Additionally, girls who do not have access to sanitary pads are more likely to stay home, or drop out of school entirely. Therefore, this intervention is expected to boost attendance and retention.	cohort of students with which SOMGEP-T is engaged, but will also benefit future students.
	Incorporate life skills and financial literacy training into GEFs and BEFs	Life skills development. This intervention is focused on providing relevant life skills training through community-based forums, enhancing attendance and learning (through increased participation in class and enhanced financial literacy skills).	Financial literacy training is one of the specific learning outcomes SOMGEP-T is expecting to influence. Financial literacy and life skills training will increase the likelihood of girls succeeding in higher levels of education, and will also equip them to contribute to the local economy through income-generating activities. These skills are expected to increase the relevance of education for students and families. Life skills – specifically leadership skills – are expected to boost students' voice and self-confidence, enhancing classroom participation among girls.
	Provide career guidance in schools	Life skills development. Providing career guidance will help develop an appropriate support system for girls and will encourage them	Encouraging girls to think about their futures and how to achieve their aspirations will impress on them the importance of knowledge and

Intervention types	What is the intervention?	What Intermediate Outcome will the intervention will contribute to and how?	How will the intervention contribute to achieving the learning, transition and sustainability outcomes?
		to seek out ways in which to achieve their future career goals.	education. It will also give them a clear pathway to achieving their goals.
Positive shifts on gender and social norms at community and individual girl level	Engage community-level stakeholders including religious leaders, women's groups, men and boys	Attendance and retention. Gender and social norms are a major barrier to girls' education. Gender norms such as those that keep girls at home helping their mothers with chores negatively affect attendance and retention rates. Through engaging with community-level stakeholders, the project will contribute to community-level understanding of the importance of girls' education.	Boosts to attendance and retention are expected to contribute to improvements in transition and learning outcomes. Shifts in gender and social norms are expected to have a long-term, sustainable impact on the communities in which SOMGEP-T will operate.
	Expand and strengthen GEFs and create BEFs to develop leadership and mentorship skills	Life skills development, attendance and retention. In addition to providing life skills development, GEFs and BEFs will be engaged in participatory tracking of graduates during project implementation, which will help them assess their own progress in increasing transition rates.	Girls who receive leadership and mentorship skills through life skills development will be better equipped to participate in class, breaking traditional norms that restrict girls' voice; to engage in the local economy; and to contribute to their communities in the future. Additionally, the capacity of GEFs and BEFs to track attendance and retention rates will contribute to improvements in learning and transition outcomes, and will encourage community-based organizations to think about how their actions have a direct effect on

Intervention types	What is the intervention?	What Intermediate Outcome will the intervention will contribute to and how?	How will the intervention contribute to achieving the learning, transition and sustainability outcomes?
			important student outcomes.
	Provide adult literacy and financial literacy classes for mothers	Attendance and retention. Evidence from SOMGEP indicates that literate mothers are supportive of their daughters spending time with their schoolwork at home, and are also more likely to appreciate the importance of girls receiving an education. Mothers who place a higher value on education are expected to understand the importance of enrolling their girls in school and encouraging them to remain in school.	Boosts to attendance and retention are expected to contribute to improvements in transition and learning outcomes. Shifts in gender and social norms are expected to have a long-term, sustainable impact on the communities in which SOMGEP-T will operate.
	Support the financial empowerment of mothers through savings groups (VSLA), business selection, and business coaching and mentoring	Attendance and retention. Female heads of household are often struggling to meet the financial and opportunity costs of education, affecting girls' attendance. Mothers who participate in VSLA are able to access funds to build small businesses and support their children's education, and are also more likely to appreciate the importance of girls receiving an education. Mothers who place a higher value on education are expected to understand the importance of enrolling their girls in school and encouraging them to remain in school.	Boosts to attendance and retention, linked to increased financial capacity of vulnerable households, are expected to contribute to improvements in transition and learning outcomes. Shifts in gender and social norms are expected to have a long-term, sustainable impact on the communities in which SOMGEP-T will operate.

Intervention types	What is the intervention?	What Intermediate Outcome will the intervention will contribute to and how?	How will the intervention contribute to achieving the learning, transition and sustainability outcomes?
Enhanced MoEs' capacity to deliver quality and relevant formal and informal education	Strengthen Gender Departments' capacity to improve girls' education outcomes through trainings, development of action planning and provision of incentives to retain the gender focal points especially in rural areas	Improved school governance, quality of teaching, retention, attendance, and life skills development. Enhancing the capacity of MoEs to develop plans, administer trainings, and provide incentives will contribute to all four intermediate outcomes by sending a strong, positive message about the importance of girls' education from the government, and by giving the government clear and actionable ways to contribute to positive changes in girls' education outcomes.	Enhancing the capacity of MoEs to take action on girls' education will have long-term effects on the communities in which SOMGEP-T operates. It will encourage positive shifts in gender and social norms, and will give MoEs actionable ways to contribute to improving learning and transition outcomes.
	Support quality assurance and standards (QAS) functions at all MoE levels	Quality of teaching, attendance, retention, and life skills development. Enhancing the ability of MoEs to monitor and evaluate their actions will enable them to understand the current educational situation and develop effective plans for addressing any gaps that exist.	Enhancing the capacity of MoEs to take action on girls' education will have long-term effects on the communities in which SOMGEP-T operates. It will encourage positive shifts in gender and social norms, and will give MoEs actionable ways to contribute to improving learning and transition outcomes.
	Provide support to Regional Education Officers (REOs) and District Education Officers (DEOs) to mainstream improved teaching practices and address retention/ transition	Improved quality of teaching, attendance, retention. This intervention is focused specifically on increasing the capacity of officers who have more direct oversight over the education system in their areas to address issues related to attendance and retention and	Enhancing the capacity of MoEs to take action on girls' education will have long-term effects on the communities in which SOMGEP-T operates. It will encourage positive shifts in gender and social norms, and will give MoEs actionable ways to contribute to improving

Intervention types	What is the intervention?	What Intermediate Outcome will the intervention will contribute to and how?	How will the intervention contribute to achieving the learning, transition and sustainability outcomes?
		mainstream improved teaching practices.	learning and transition outcomes.
	Work closely with MoE on NFE for mothers and entrepreneurships skills for girls	Life skills development, attendance and retention. Encouraging and equipping MoEs to engage with mothers and girls will have a positive influence on social and gender norms, which will increase attendance and retention rates, and will contribute directly to the life skills development of girls.	Enhancing the capacity of MoEs to take action on girls' education will have long-term effects on the communities in which SOMGEP-T operates. It will encourage positive shifts in gender and social norms, and will give MoEs actionable ways to contribute to improving learning and transition outcomes.
	Development of project IEC materials in conjunction with MoE for use at stakeholder advocacy and promotion events	Life skills development, attendance, and retention. IEC materials are specific knowledge products that will be shares with Parent Teacher Associations (PTA) forums, GEFs, and BEFs. These forums contribute directly to life skills development, attendance, and retention.	Enhancing the capacity of MoEs to take action on girls' education will have long-term effects on the communities in which SOMGEP-T operates. It will encourage positive shifts in gender and social norms, and will give MoEs actionable ways to contribute to improving learning and transition outcomes.

1.5 Target beneficiary groups and beneficiary numbers

SOMGEP-T is presently estimated to have a total reach of 32,862 girls, 27,722 of them in school (25,810 at primary level and 1,912 at secondary level) and 5,140 who are presently out of school.

School Condition		
	Current	Total life of project
ISG primary	16689	25810
ISG secondary	1912	1912
Total out of school	5140	5140
Total reach, girls		*32,862*

ISB primary	19887	30053
Grade breakdown (primary level only)		
	Current	Total life of project
Girls Grade 1	4560	13682
Girls Grade 2	2557	2557
Girls Grade 3	1979	1979
Girls Grade 4	1772	1772
Girls Grade 5	1782	1782
Girls Grade 6	1684	1684
Girls Grade 7	1405	1405
Girls Grade 8	949	949
Age		
	Current	Total life of project
Girls age 6-9	7117	16235
Girls age 10-12	5653	5653
Girls age 13-15	5111	5111
Girls age 16-19	5863	5863

Reach numbers were adjusted to reflect the enrolment data collected in 145 schools in September 2017 (at the beginning of the school year), and therefore differ from the total presented at the proposal stage, which was based on estimates calculated from previous enrolment data. Enrolment data for 148 schools was extrapolated from existing figures. The number of out-of-school girls is estimated considering the proportion of out-of-school girls observed at the present baseline study, which is much higher than at SOMGEP's endline.

A projection of additional reach based on new intakes in Grade 1 is also presented. This estimate, as well as the estimate of reach among out-of-school girls, is conservative and does not assume a large increase in enrolment in September 2018/ 2019, given the current assumptions that the ongoing drought will worsen in 2018. It is expected, for instance, that the project will only be able to effectively benefit 40% of the out-of-school girls. The new enrolment in Grade 1 is considered as equal to the current new enrolment in SY 2017-18, thus avoiding (i) double-counting of exposure of out-of-school girls and (ii) an over-estimation of reach among first graders, given the risk of dropout due to family displacement.

Age distribution is estimated based on (a) age distribution observed among out-of-school girls and (b) age range commonly observed in each grade during previous evaluation rounds of SOMGEP.

Evaluator's note

The estimates above are derived on the basis of recent data collection involving the logging of enrolment data in 145 out of the 148 schools that will be targeted by the project. While school records are known to be unreliable (subject to both error and to falsification), they provide the most readily available and

potentially precise source of enrolment data available. Thus, the current estimates provided by CARE are as accurate as possible under the circumstances. The projections from current figures to figures for the total life of the project appear conservative, but the basis for the estimates is not clear. The method for estimating the number of out-of-school girls is likely to be highly accurate as it draws on significant prior data collection. The estimates of out-of-school girls who will be served by the program have been further subject to conservative downward adjustment, estimating that only approximately 40% of out-of-school girls in project sites will ultimately benefit.

2. Baseline Evaluation Approach and Methodology

This section presents the approach to the evaluation, beginning with an overview of the key evaluation questions that are the focus of the baseline research design. The key outcomes and intermediate outcomes are reviewed, with an emphasis on operationalization of indicators and measurement. The evaluation methodology is summarized, including a listing of all data types collected and their achieved sample sizes. Finally, the data collection process is described in detail, along with the main limitations of this study.

For more detail, please refer to the CARE International MEL Framework, as well as the Evaluator's Inception Report.

2.1 Key evaluation questions & role of the baseline

The following evaluation questions (which are standard across all GEC projects) are used:

- Was the GEC successfully designed and implemented? Was the GEC good Value for Money?
- What impact did the GEC Funding have on the transition of marginalised girls through education stages and their learning?
- What works to facilitate transition of marginalised girls through education stages and increase their learning?
- How sustainable were the activities funded by the GEC and was the program successful in leveraging additional interest and investment?

These four sets of questions are at the centre of determining whether or not the SOMGEP-T intervention was efficient, effective, and achieved its desired outcomes. These questions also ensure that adequate learning will take place in terms of "what works" in improving transition outcomes, and that the outcomes achieved will be sustainable (including being financially sustainable by virtue of having attracted future interest and investment).

In addition to the questions listed above, SOMGEP-T evaluations will seek to respond specific questions derived from the project's ToC. These questions will provide relevant evidence to inform education programming in the context of Somalia/ Somaliland:[31]

- To what extent did the intervention result in additional gains in learning (literacy and numeracy) among the intervention group, in relation to the comparison group?
- To what extent did the intervention result in additional gains in transition to upper primary/ post-primary education among the intervention group, in relation to a benchmark sample?
- Is there a significant difference between the acquisition of literacy/ numeracy/ English skills among ASLP participants and marginalised girls enrolled in formal secondary school?
- Are the intermediate outcomes identified by the project contributing to the accelerated acquisition of literacy/ numeracy skills and improved transition rates? Are there intermediate outcomes that

[31] These questions are excerpted directly from CARE International's MEL Framework, and can be found on pages 11-12 therein.

do not seem to be influencing outcomes at all? Do the findings support the ToC or challenge its assumptions?

- What are the key factors influencing the acquisition of literacy, numeracy and English language skills?
- What are the specific literacy/ numeracy/ English competencies that marginalised girls are lagging behind on?
- Is there a difference in the rate of acquisition of literacy / numeracy subtasks that girls are able to practice in their daily lives, vis-à-vis the acquisition rate of subtasks that are not used on a regular basis by the girls targeted by the project?
- To what extent are extremely marginalised sub-groups, such as pastoralist girls and disabled girls, able to attain basic competencies in literacy, numeracy and English? Are there other sub-groups who are demonstrating a pattern of lagging behind in performance? What are the potential reasons for this pattern?
- Is there a relationship between the acquisition of leadership skills and learning outcomes? If yes, how?
- To what extent the participation of mothers in VSL may influence the acquisition of numeracy and financial literacy skills by girls?
- What are the key factors influencing transitions to more advanced levels of education?
- To what extent are extremely marginalised sub-groups, such as pastoralist girls and disabled girls, able to transition into upper primary/ post-primary education? Are there other groups who are lagging behind in transition rates? What are the potential reasons for this pattern?
- To what extent is the acquisition of leadership skills influencing transition outcomes?
- Did the intervention contribute to a shift in traditional gender norms and power relationships at the household and community levels? If yes, what types of changes have occurred? How are these changes affecting adolescent girls and boys?
- How did the intervention affect boys' learning and retention?
- What are the key changes identified by the girls themselves in terms of their capacity to engage in non-traditional roles at the household, school and community? To what extent are those claims supported by quantitative evidence?
- Is there a difference in the learning outcomes for students targeted in areas heavily affected by drought, compared to those that were less affected? Likewise, is there any difference for transition?

These project-specific questions are appropriate because they centre on important cause-effect relationships that are at the core of assessing project impact. These questions also focus on testing key hypotheses and assumptions implied by the SOMGEP-T ToC. Finally, questions about the effects of drought and the effects of pastoralism on learning, transition, and attendance outcomes are critical in terms of contextualizing the GEC intervention and key outcomes within the specific barriers and challenges that girls and their families face in Somalia and Somaliland.

2.2 Outcomes and Intermediate Outcomes

For reference, the project's Outcomes and Intermediate Outcomes are briefly summarised below, with emphasis on operationalization of quantitative measures. All outcomes will also be measured qualitatively

and quantitative and qualitative data sources will be triangulated to form the broadest and most contextualized picture possible for each outcome.

Expected Outcomes

Long-term outcomes:

(1) Learning: The number of marginalised girls supported by GEC with improved learning outcomes measured as percentage-point increases in scores for literacy, numeracy, and financial literacy assessments vis-à-vis the baseline sample.

(2) Transition: The number of marginalised girls who have transitioned through key stages of education, training, or employment, measured as the percentage-point increase in the proportion of girls who transition successfully vis-à-vis the benchmark sample established at the baseline.

(3) Sustainability: The changes brought about through the project which increase learning and transition through education cycles are sustainable at the community, school, and system levels. This is primarily measured qualitatively through levels of CEC support given to schools and communities, as well as the level of support that CECs have from communities. For more detail, please see the section on sustainability below.

Intermediate Outcomes:

(5) Attendance: measured as an increase in weighted average attendance based on multiple data sources, including a headcount, school records, and caretaker reporting.

(6) School governance: measured as an increase in the proportion of CECs that are actively tracking retention.

(7) Improved quality of teaching: increase in frequency of teachers using formative learning techniques as measured through the teacher survey and classroom observation.

(8) Life skills development: increase in mean YLI score of girls.

The table below presents these Outcomes and Intermediate Outcomes with emphasis on how this outcome will be measured in terms of the operational details of the subpopulation from which data will be collected, as well as the tool and mode, and the rationale for the proposed data collection approach.

Table 2: Outcomes for measurement

Outcome	**Level at which measurement will take place,** ***e.g. household, school, study club etc***	**Tool and mode of data collection,** ***e.g. HH survey, school based survey, focus group discussions etc***	**Rationale**, ***i.e. why is this the most appropriate approach for this outcome***	**Frequency of data collection,** ***i.e. per evaluation point, annually, per term***
Literacy	Household/ school (girls will be assessed at household at baseline and subsequently re-contacted at school/ ASLP at midline/ endline	SeGRA	Will allow the project to determine the longitudinal progress on reading fluency and reading comprehension across grades, and in relation to the comparison group	Baseline, midline, endline
Numeracy	Household/ school (girls will be assessed at household at baseline and subsequently re-contacted at school/ ASLP at midline/ endline	SeGMA	Will allow the project to determine the longitudinal progress on average numeracy scores and specific skills across grades, and in relation to the comparison group	Baseline, midline, endline
Financial literacy	Household/ school (girls will be assessed at household at baseline and subsequently re-contacted at school/ ASLP at midline/ endline	Financial Intelligence Assessment	Identifies attitudes and practices towards the use of money and savings, as well as the application of numeracy skills to solve financial problems. Uses a modular approach to identify progress against different competencies.	Baseline, midline, endline
Transition	Household	HH survey (cross-referenced with school-level records for validation)	Allows for identification of different types of transition and validation of household responses	Baseline, midline, endline

Intermediate outcome 1: attendance	School/ household	School / ASLP records triangulated with spot-checks (headcounts), caregiver information on attendance and qualitative data from girls/ teachers/ caregivers	Allows for validation of the information obtained at school/ ASLP level and identification of reasons behind absenteeism patterns	Baseline, midline, endline (evaluation); termly head counts and verification of records (monitoring system)
Intermediate outcome 2: school governance	School/ CEC	CEC monitoring tool triangulated with qualitative data from CEC members/ teachers (monitoring level) School survey triangulated with FGDs with CEC members and teachers and household survey data on school governance (evaluation level)	Allows for the assessment of the percentage of CECs tracking retention and for the identification of the types of actions taken by CECs to improve the retention of girls from marginalised sub-groups, as well as for validation of findings across different respondent groups. Dual tracking (monitoring + evaluation) will allow for timely support to under-performing CECs.	Termly (monitoring level) Baseline, midline, endline (evaluation level)
Intermediate outcome 3: Teaching quality	School	Teacher survey and classroom observations (evidence of use of formative assessments) triangulated with qualitative data from students and teachers (evaluation level). Structured observations at school (monitoring level)	Allows for the identification of use of formative assessments and validation of results	Termly (monitoring) Baseline, midline, endline (evaluation)

Intermediate outcome 4: Life skills	Household	YLI[32] triangulated with qualitative data from girl-led tools (video-voice, photo-voice) highlighting their perceptions of skills acquisition and how these skills are used by them (evaluation level) Qualitative data from GEF participants on the use of leadership skills, obtained through FGDs (monitoring level)	Allows for assessment of self-perceptions of leadership as well as the use of leadership competencies	Baseline, midline, endline (evaluation level) Termly (monitoring level)

CECs are at the centre of the sustainability of SOMGEP-T programming. For the purpose of the baseline study, sustainability is primarily operationalized as the type and level of CEC support for schools, as well as the level of community support for the CEC. Multiple quantitative and qualitative data sources are used to triangulate and establish levels of CEC support for schools and levels of community support for CECs.

The sustainability scorecard serves to evaluate sustainability at the school, community, and system levels. In the baseline study, the primary evidence speaks mainly to sustainability at the school and community levels, although qualitative data from interviews with MoE officials provide a basis for assessing sustainability at the system level.

The sources of data used to evaluate sustainability are presented by sustainability level in the table below.

Table 3: Sustainability outcome for measurement

Sustainability Level	**Where will measurement take place?**	**What source of measurement/verification will you use?**	**Rationale – clarify how you will use your qualitative analysis to support your chosen indicators.**	**Frequency of data collection**
School	Household, School	Household Survey, Teacher	Establish baseline percent of CECs providing financial or in-kind support to schools.	Baseline, midline, endline

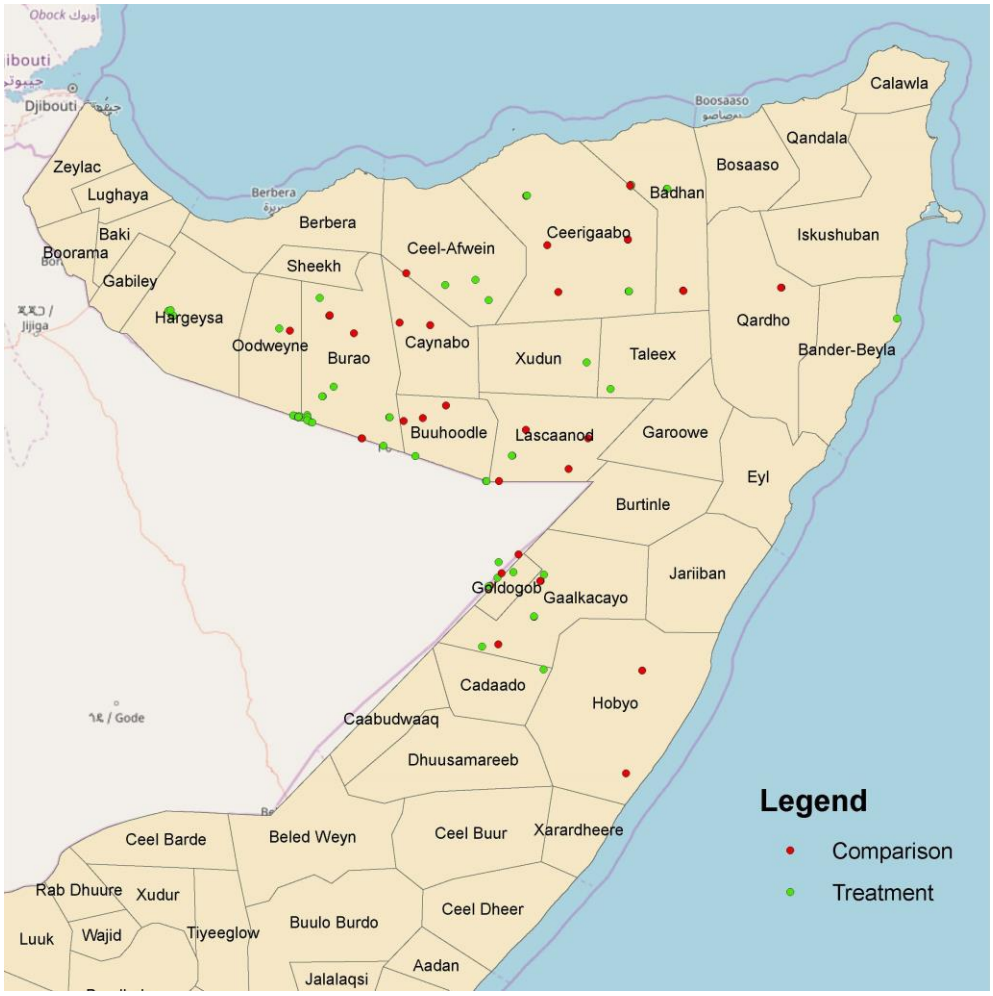
[32] The Youth Leadership Index is a tool developed by CARE in partnership with the University of Minnesota and tested in several countries in Asia, Africa and Latin America through an iterative process in 2009-2011 (http://www.care.org/sites/default/files/documents/CARE-YLI-Toolkit-FINAL-WEB.pdf). It was administered to GEF participants under SOMGEP (two data points to date, May 2016 and endline).

		Survey, School Survey FGDs		
Community	Household	Household Survey, FGDs	Establish level of community support for CEC.	Baseline, midline, endline
System	MoEs	Minutes of meetings; interviews with MoE officials	Qualitative analysis will provide information on themes/ areas of support in girls' education and types of support provided, as well as the challenges faced.	Baseline, midline, endline; quarterly monitoring visits
System	MoEs	Budget tracker; policy reviews	Policy/ budget analysis will allow for verification of inclusion of ASLP in the non-formal education frameworks, as well as the allocation (or not) of resources for its implementation	Endline

2.3 Evaluation methodology

The evaluation uses a mixed-methods, quasi-experimental design, involving a longitudinal panel with a non-randomly assigned comparison group. The rationale for a quasi-experimental design is clearly stated in CARE's MEL Framework: "In the context of Somaliland/ Somalia, the use of a randomized controlled trial is not possible due to the risk of uneven allocation of randomly assigned intervention/control sites across rival clans. This can result in potential violent backlash against staff and beneficiaries of the intervention, as well as misrepresentation of donor/ NGO efforts as favouring one group over another."[33] The distribution of the achieved sample by intervention and comparison sites is visualised on the map below.

[33] CARE International, Monitoring, Evaluation and Learning Framework (MEL), July 31, 2017, pg. 13.



In the construction of the sample, schools served as a primary sampling unit, with intervention and comparison schools being matched on key characteristics in order to compensate for non-random assignment (more on this below). The sample is balanced between intervention and comparison schools, with 38 of each in the sample. Within the area of each sampled school, households were selected randomly and screened. Households qualified for inclusion in the sample if they contained at least one girl belonging to the primary beneficiary population of girls (see definitions below). Respondents were then selected randomly from among eligible respondent types within each qualified household.

The primary target beneficiaries (i.e. cohort girls) are:

- In school girls in grades 3-6, aged 10-19 years
- Out of school girls aged 10-19 years
- In school girls aged 10-19 years but not belonging to cohort grades (3-6)

Indirect beneficiary groups include:

- In school and out-of-school boys (10-19 years of age)

- Mothers/caretakers
- Teachers
- Community members
- Government officials

The target cohort of girls will be evaluated jointly. The cohorts for learning and transition are the same in order to economise on resources in terms of project and evaluation design. An additional benchmark sample of girls aged 20-22 has been surveyed for the purpose of assessing transition outcomes for older cohort girls. The relevant transition comparisons are summarised in the table below, for reference.

Baseline	Midline (2018-19)	Grade in (2019-20)	Endline (2020-21)
3	4	5	6
4	5	6	7
5	6	7	8
6	7	8	S1
Benchmark Grades			
7	N/A	N/A	N/A
8	N/A	N/A	N/A
S1	N/A	N/A	N/A

The random household sampling strategy ensured that a representative sample of cohort girls was achieved. Subgroup quotas were not used in the recruitment of cohort girls in order to ensure that the distribution of subgroup characteristics in the sample is as representative as possible of the overarching population of targeted girls. The sample is powered to enable estimation of longitudinal differences in the aggregate cohort sample. Identification of statistically significant differences for key subpopulations may not be possible.

The quantitative datasets and qualitative findings allow for the explicit evaluation and triangulation of most assumptions of connections between intermediate outcomes and outcomes. These evaluations are presented in sub-sections in the body of this report, titled *Testing the Theory of Change*, where key correlations between intermediate outcomes and outcomes are tested using the available quantitative data and further triangulated with the available qualitative data.

In the baseline evaluation, quantitative data will be used to establish baseline values on key intermediate outcome and outcome-level indicators for the purpose of benchmarking, target-setting, and establishing a firm basis for longitudinal comparison, allowing for eventual difference-in-differences comparisons among baseline, midline, and endline data. Quantitative data will also allow for the correlational investigation of key population subgroups and barriers, and how different types of marginalisation and different barriers affect key outcomes of interest. This correlational analysis will inform programming by allowing the project to better target its interventions to ensure that the project meets the needs of the most disadvantaged

beneficiaries. Finally, quantitative data will allow for the explicit testing of important assumptions in the project ToC (as noted above).

The primary approach to utilizing qualitative data involved the exploratory coding of emergent themes, such that insights were discovered from the bottom-up (through respondents' emphases) rather than from the top-down (through fitting evidence to the project logframe).[34] Insights were identified that can speak to future program/intervention priorities, potentially unforeseen causes or consequences of interest, as well as previously unidentified gaps in programming.

As a second layer of analysis, qualitative data has also been examined for narrative evidence that can make sense of the historical processes and lived experiences behind quantitative findings, including prevalent social and gender norms (which were not necessarily expressed in quantitative surveys as a result of social desirability bias, but surface in qualitative narratives). Counter-narratives or minority narratives (that potentially contradict or qualify quantitative findings) were also given voice. Qualitative data were also queried selectively to make sense of quantitative outliers.

Incorporation of GESI minimum standards:

CARE International performed an extensive gender analysis of the context surrounding SOMGEP-T and developed a list of key project interventions intended to address girls' practical and strategic needs. This list is extensive and consistent with GESI minimum standards. The list is excerpted from the CARE International Gender Analysis and provided for reference in the table below:[35]

Practical Needs- *Short-term, immediate, practical assistance for girls according to perceived need to assist their learning progress*
Working with girls in upper primary and secondary school to develop their agency and leadership skills, including self-confidence, voice, vision and decision-making, enhancing participation in class
Create options for girls to attend relevant, quality post-primary education close to home, using alternative education to address the limited supply of secondary education services
Training teachers on improved methods to deliver mathematics and language content, using gender-equitable practices and positive classroom management techniques
Work with parents to address financial barriers, while using economic empowerment as a platform for dialogue on gender and social norms (strategic need below)
Strategic needs – Interventions that will challenge existing gender roles with the goal of achieving gender equality. They seek to transform girls' status and role in the home, community and school
Continue to engage in a broad social movement towards changes in gender norms and power relationships affecting girls (and also boys), using the Village Savings and Loans activities and literacy

[34] Noting that a top-down approach was used in some circumstances, but prioritizing emerging themes.
[35] The table is excepted from the document: CARE International UK, *5274 CARE SOMGEP-T Gender Analysis – Submitted 10.7.17*.

courses for mothers as platforms for dialogues on gender and girls' education; and working with religious leaders, GEFs, Boys' Empowerment Forums (BEFs), Community Education Committees (CECs) and authorities to promote different roles for boys and girls.
Continue engaging MoE at all levels in policy reviews and support to strategic planning, policy and budget allocation from a gender equity lens.
Engagement of MoE at various levels (School, district, regional and state) to adopt measures to track and improve retention and transition in order to ensure sustainability of an increased transition rate.
Engagement of MoE to develop ownership of key interventions such as the alternative learning programme and mainstream in local education systems as a measure to increase access to post primary education for children in rural areas without access to secondary education.

The evaluation involves the collection of data that will be relevant to each of these interventions and that will eventually allow the assessment of progress along each of those dimensions. The data collected through the evaluation allows for disaggregation by a broad set of groupings and potential barriers, enabling the identification of subpopulations of girls who are at the greatest risk or disadvantage relative to their peers and relative to boys. Learning assessments allow the comparison of girls' and boys' learning in order to assess gender gaps and also to assess differences (and similarities) in levels of skill acquisition between girls and boys, as well as among out-of-school girls and among a diverse set of subgroups of potentially marginal girls.

The project and its evaluation design place a strong emphasis on the investigation of contextual factors that potentially affect gender relations and produce disparities, such as itinerant pastoralist lifestyle, drought-related displacement, traditional gender norms, and labour-related migration of boys (and sometimes older girls). Each of these key factors are considered extensively in terms of their relationships to key intermediate outcomes and outcomes.

2.4 Baseline data collection process

This section outlines the data collection process, beginning with sample design and selection of schools as sampling points, and other aspects of preparing for data collection. The process of data collection is described, including quality assurance measures used. Finally, the post-fieldwork data cleaning and verification processes are described.

Pre data collection

All quantitative research instruments were provided by the FM and adapted collaboratively by CARE, RI, and the Evaluator. The YLI was developed and provided by CARE.

As this is a baseline where the respondents are chosen randomly to take part in a longitudinal panel study, the following considerations related to tracking respondents were salient:

- Using the correct (i.e. matching and unique) Unique ID for all of the girl's surveys and assessments – Enumerators had tracking sheets for the new girls, where a unique identifier code will be pre-assigned. It was of the utmost importance that the enumerators used the right code for all the assessments and surveys with the girls. The team leader also made use of the same

Unique IDs when collecting the information for those cohort girls who are enrolled at the school. The girl's section of the school visit questionnaire was also tied to the same Unique ID codes.

- Leaving enough information to be able to find the respondents at midline and endline – Given the longitudinal nature of the SOMGEP-T project, it is fundamental to have full and accurate contact information for the cohort girls and their families to be able to find them again at midline and endline.

To address the above issues, the Evaluator created a tracking form for the enumerators, to be used for each girl. Please see the Evaluator's Inception Report for an example of the form. This form records the full name of the girl, caregiver, and head of household, along with all geographic and tracking information that is collected in the household survey. In addition, to facilitate tracking and re-contact of girls in the midline and endline studies, the tracking form provides space for the collection of multiple phone numbers for the purpose of re-contacting households, as well as a description of key landmarks and directions that would be sufficient to allow the household to be located again in the future.

Piloting

Piloting of the learning assessments took place in September 2017, with 310 randomly selected students in grades G5, G7, G8, Form 1 and Form 3. Based on the results of the pilot, CARE and RI jointly revised the assessments. Particular care was taken to prevent ceiling effects. The household survey was piloted by the Evaluator in November 2017 prior to the start of data collection. Revisions were made to clarify question wording and remove opportunities for enumerator error during the process of respondent selection as well as the subsequent administration of follow-on surveys to the household survey (e.g. the Benchmark or YLI surveys).

Enumerator recruitment

Enumerators were recruited on the basis of prior experience working on baseline, midline, and endline studies of the previous SOMGEP project. Due-diligence vetting was still applied to all enumerators, even those who had significant prior experience. Enumerators with little to no prior experience in GEC data collection were subject to competitive vetting and were exclusively recruited from among the Evaluator's salaried researchers who had a high level of performance on all previous projects executed for the Evaluator, and who had clearly demonstrated the attention to detail necessary to engage successfully in SOMGEP-T data collection.

All enumerators participated in five days of training, involving an orientation to the SOMGEP-T study and evaluation purpose and approach including a review of key ethical standards (more on this below), and a systematic review of each of the data collection tools including their individual purpose and the key aspects of their proper administration. The final two days of the five-day training also included a full day of practice with the key quantitative tools and a half day of piloting, accompanied by a half day of debrief and final guidance prior to the start of fieldwork. All enumerators were provided with copies of all questionnaires. All team leaders had prior experience with fieldwork supervision and with the administration of qualitative questionnaires, and receive a full day of training on qualitative interviewing.

During data collection

Fieldwork began on November 4th, 2017 and concluded December 23th, 2017. All data (qualitative and quantitative) was collected from each school cluster during the same timeframe. For the sake of

efficiency, some qualitative and quantitative data collection was carried out simultaneously, with qualitative data collected by qualified team leaders, while quantitative data was collected by enumerators.

Ethical standards

Tools were reviewed by Forcier and modified in keeping with ethical principles, including do-no-harm, gender sensitiveness, benefit versus cost of obtaining data (i.e. “nice to know” versus “need to know”, considering the time burden for participants), respect for the local culture and nuances related to specific sub-groups (i.e. ensuring that questions take into consideration sensitivities and risks for disabled girls, orphans, pastoralists and girls at high risk of dropout).

Researchers received specific training on research ethics, including informed consent, confidentiality, working with children / child protection principles, gender sensitiveness and do-no-harm principles.[36] Informed consent was obtained from adults and children. Specific guidelines were provided to ensure that illiterate participants in remote areas were able to understand the purpose of the SOMGEP-T project and data collection activities as well as the uses of data, and the concept of data confidentiality and protection of privacy. Respondents, independent of their age, gender or status, were be treated as partners in the project; questions were be asked in a manner that demonstrated respect for respondents’ dignity, and participants were be clearly informed of their right to refuse responses and to withdraw from the process at any time.

The Evaluator takes the security of its staff as a paramount concern. The Evaluator is aware of the potential risks for researchers when conducting interviews with female respondents in a gender-segregated society, particularly with adolescents of marriageable age. Communities were sensitised about the research process beforehand. The Evaluator engaged with elders in each community, and in all cases obtained prior authorisation to access selected research areas. In case of unrest or violent clashes, data collection was to be postponed to avoid potential harm to researchers.

Datasets was securely stored and accessible only to the Quality Assurance Officer, and the team of Forcier analysts who were responsible for analysis and coding of the primary data. The leading analyst for the project ensured that all datasets shared externally were fully anonymised, removing respondent names, contact details and location markers.

Selection of schools (primary sampling units)

For the formation of the sample, CARE International provided a list of 38 comparison schools, along with a larger frame of targeted intervention schools to be selected into the sample. The goal of sampling was to create pairwise sets of intervention and comparison schools that maximized comparability among pairs by minimizing differences between paired schools on key variables that might influence outcomes of interest. Variables considered, in order of importance, were:

1. Location
2. Urbanicity

[36] Researchers were trained on the reporting process described in the GECT Handbook Appendix B, as well as child protection guidelines provided by CARE. The guidelines provided by CARE provide for field staff to report cases to supervisors and trigger a coaching process in the case of corporal punishment, and for follow up with CECs in cases of abuse.

3. Size of the school
4. Receiving other NGO support
5. CEC or not

In order to efficiently identify matches on multiple variables, Forcier used coarsened exact matching (CEM) in Stata to create natural strata consisting of exact matches on categorical variables, and grouped near-matches on continuous variables (i.e. size of school). A more detailed description of CEM, along with replication code for creation of strata, is provided below.[37] Ultimately, not all potentially relevant variables could be used to generate strata, as this would have resulted in a potentially large number of un-matched intervention schools. The CEM algorithm was optimized to maximize the level of differentiation in strata, while minimizing the number of unmatched schools. The optimal combination of variables ultimately included: 1) zone, 2) school size, 3) whether or not the school had received NGO support, and 4) whether or not the school had a CEC. Ultimately, all urban schools were dropped out of the sample as ineligible, and so urbanicity was not a matching criterion, despite originally being a prioritized criterion. The total number of resultant CEM-matched strata was 18.

Within each stratum of matched schools, intervention schools were drawn randomly to match the number of comparison schools in that stratum. The result was 32 natural pairings across 18 strata. For comparison schools that remained unmatched on the basis of CEM matching, a second round of matching was used, removing the CEC criterion. This was necessary due to the fact that a number of comparison schools were missing information on this variable. This round of matching resulted in two additional pairings. Ultimately, a small number of schools remained unmatched, largely due to missing information on the NGO variable. Four pairings were formed manually, based on perfectly matching zone, then finding nearest-matches in terms of school size.

The resultant sample is perfectly balanced (between intervention and comparison) in terms of zone, and is nearly balanced in terms of school size and known involvement of other NGOs (39% of intervention schools with NGO involvement, vis-à-vis 29% of comparison schools). The sample is poorly matched in terms of having a CEC (where this is known), with significant differences in proportions between intervention and comparison groups along this dimension. Ultimately, the schools are as well-matched as possible given the available schools in the frame, and the available information about their relevant characteristics. Based on known disparities in the sample, it would be advisable for all comparative analysis of intervention versus comparison schools to account for the fact that intervention schools are more likely to have CECs.

The following table summarizes the features of the initial sample in terms of the key variables matched across intervention and comparison schools:

Variable	Category	Comparison Frequencies	Intervention Frequencies	Total

[37] From Stata documentation for the user-written command: “Cem implements the Coarsened Exact Matching method described in Iacus, King, and Porro (2008). The main inputs for cem are the variables to use and the cutpoints that define the coarsening. Users can either specify cutpoints for a variable or allow cem to automatically coarsen the data based on a binning algorithm, chosen by the user.” The data in question were coarsened using the default binning algorithm. For the purpose of replication, the coarsening code used was: cem zone_setting totalenrolment ngo cec, tr(treatment)

The variable zone_setting is a variable representing every unique combination of zone (region) and setting (urbanicity) of units. Ultimately, urbanicity was not a relevant variable because 100% of eligible sampling points were rural.

Location	Galmudug	3	3	6	
	Puntland	13	13	26	
	Somaliland	22	22	44	
NGO support	Yes	11	15	26	
	No	12	16	28	
	Missing	15	7	22	
CEC	Yes	24	35	59*	
	No	2	2	4*	
	Missing	12	1		13*
		Comp. mean	**Treat. mean**		**Total mean**
School size	Enrollment	158	202	180	

*Differences in proportions between intervention and comparison groups are significant at p=0.003 in a Pearson chi-squared test.

Household and respondent selection

For the baseline, all respondents were selected through randomly selected households. Households that were eligible had at least one girl who is 10-19 years old and either out of school or in grades 3-6. In each village, the aim was to collect 23 surveys and learning assessments as well as YLI surveys with the cohort girls.

Random household selection was carried out in the following fashion:

The team leader identified a starting point for the enumerators within the community in which the school was based. The enumerators started with their backs against the starting point and proceeded to the right. Every third household on the right was selected. When a household was not eligible, refused, or was not available (nobody at home), the next third household was selected as a substitute. In the case that a household was selected, a head of household or caretaker was available, and the household was deemed eligible, a list of all eligible respondents was then made in order to facilitate random selection of respondents. In the case that any of the randomly selected respondents were not available at the time of the first visit to the household, researchers revisited the household at least twice in different times of the day before substituting the household.

Heads of household and caretakers were selected into interviews purposively, with the researcher asking to speak first with the head of the household and speaking with an individual who identified as such or who could answer on behalf of the head of household. Caretakers were selected in the same fashion, with the researcher asking to speak with the person who identified as the primary caretaker of the selected cohort girl (more on this selection process below).

All other respondents were selected randomly from among all eligible respondents within a household using the following procedure:

For each category or sub-population of targeted respondents, a digital Kish-style listing was used, facilitated by Open Data Kit (ODK), CAPI software: first, enumerating all eligible respondents in the household; second, establishing whether each eligible respondent was available during the duration of

data collection in that community (usually a three-day period), and third, randomly selecting from among available respondents (with the randomization being accomplished through random-number generation function programmed into ODK). The ODK software was programmed to randomly select respondents and then to present the selected respondents to the researcher. The sampling criterion defining each sub-population of eligible respondents are summarised here:

In-school girls (HH survey, learning assessment, YLI)

- 10-19 years of age
- Grade 3-6
- 23 per village, including out-of-school girls
- No more than 2 per household, and only if there are less than 30 girls in the village meeting criteria.

Out-of-school girls (HH survey, learning assessment, YLI)

- 10-19 years of age
- Out of school
- 23 per village, including in-school girls

Boys (learning assessment)

- 10-19 years of age
- Grade 3-6 or out of school
- 7 per village
- Should come from the same HH as the girls

Benchmark girls (benchmark survey)

- 20-22 years of age
- Do as many as possible
- 200 total
- Either from the same HH or from adjacent HHs

Non-cohort girls (learning assessment)

- 10-19 years of age
- Grade 7, Grade 8, Form 1
- 100 per grade
- No more than 2 per household

Fieldwork quality assurance

A minimum of 20% of completed interviews were validated through a combination of accompaniments and re-contacts according to the following rules:

- Each enumerator was to be accompanied by a Team Supervisor for one full interview, from start to finish, within the interviewer's first three clusters of households.
- At least 20% of respondents were re-contacted either over the phone or in-person by Team Supervisors, or the Research Officer.

Validation of interviews done by phone involved verification that the interview was conducted, verification of correct selection of household member, and verification of a standard set of items responses which are most likely not to change during the field work period, such as gender, age, household asset, such as

television, mobile phone, and several other items. In addition to the above-mentioned checks, in-person re-contacts will also verify correct execution of random route procedures.

Back office quality assurance/control

In areas where daily data uploads were possible, fieldwork progress was monitored daily, through the upload of data from enumerators at the end of each working day. Full data uploads allowed the near real-time dashboarding of critical information on sample performance/management and data quality through the Evaluator's data flow, which pulls .sav formatted data from Ona and runs it though an automated (Stata-based) quality control script, producing tables and graphs that summarize key indicators of progress and quality, with automatic flagging of problematic interviews or enumerators. Patterns observed in learning assessments, in particular, were checked for incorrect administration or bias – for instance, where results from different sub-tasks were contradictory. The Research Officer and Quality Assurance Officer reviewed each of these indicators and any flags on a daily basis. All flags were investigated and corrective actions (including feedback to enumerators or re-fielding of interviews) were taken the following day, if deemed necessary. The Evaluator's standard dashboard indicators include daily completion rates by date and enumerator, key demographics by enumerator, and interview duration by enumerator (with automatic flags programmed for interviews or enumerators whose values deviate significantly from the overall sample mean or proportion). These were checked daily for each dataset. The Evaluator also created questionnaire-specific dashboard items addressing potential issues of digit preference (for numeric questions), as well as visualizations of key response distributions and enumerator-level averages patterns for learning assessment scores and attendance records.

GPS coordinates were checked twice weekly through mapping points on shapefiles in order to cross-check sampling performance and to examine geographic patterns of interviews to check for evidence of curb-stoning.

In areas where daily data uploads were not possible, fieldwork supervisors spoke with each enumerator daily (in person or over the phone), and verified key demographics and indicators of sampling performance that were then transmitted by SMS to the data quality assurance officer, who analysed the SMS data coming back from the field, flagged problems, and provided feedback to supervisors and enumerators.

Post data collection

The following table summarises the achieved sample in terms of key subpopulations and quantitative tools:

Tool	Population	Planned	Achieved	Achieved without outlier schools
Household survey	Total Cohort Girls	1680	1741	1626
	Total Benchmark Girls	200	218	202
	Total YLI	1680	1087	1000
	Total HH Surveys	**1680**	**1741**	**1626**
Assessments (at households)	Total Cohort Girl Assessments	1680	1741	1626
	Total Boys Assessments	502	510	478
	Total Benchmark Assessments	200	177	166

	Total Transition Girl Assessments	-	175	161
	Total Assessments Completed	**-**	**2603**	**2431**
School-based data collection	Schools Visited	76	76	71
	Total School Surveys	76	76	71
	Total Classroom Observations	152	152	142
	Total Headcounts	-	506	471
	Total Teacher Surveys	-	436	411

There is a significant discrepancy between the number of YLI surveys originally planned and the number performed. This discrepancy emerged as a result of a modification suggested by CARE International immediately prior to the start of fieldwork, requesting that the YLI only be administered to in-school girls.

In addition to the quantitative data collected, 65 focus group discussions (FGDs) and 20 key informant interviews (KIIs) were also conducted. The respondent types are summarized in the following table.

Method/Tools	Source/Respondents
KIIs with religious leaders	Religious Leaders at national, district and village levels, linked to the areas where the project is operating
FGD with CEC Members	CEC Members in each school
KII with MoE officials	MoE officials
Focus Group Discussions (FGDs) with teachers	FGD with teachers
FGD with mothers	FGD with mothers whose daughters were interviewed/ assessed
FGD with girls	FGD with girls
FGD with boys	FGD with boys

Data cleaning and verification

The first round of data cleaning took place as part of quality assurance of fieldwork, and was thus ongoing. This data cleaning involved the near real-time identification and rectification of discrepancies in the data, with the creation of Stata cleaning syntax that accumulated during the course of fieldwork and that was finalized following the conclusion of fieldwork, when a final check of all datasets was performed in order to remove all duplicates, correct miscoded location information or other obvious instances of enumerator error, and to ensure that all Unique IDs and other linkage-related codes were indeed unique and enabled the merging of datasets necessary for analysis.

Data was further verified by the analysis team prior to the start of analysis. The analysis team verified and cross-checked all aspects of sampling performance as well as assessment scoring and a set of internal

consistency checks (e.g. whether the cohort girl's age reported during respondent selection matched the girl's age as reported later in the survey by the caretaker), and checks for outliers and digit preference in assessment scores and other continuous variables.

Finally, some additional data cleaning was necessary as additional discrepancies were found during the course of analysis – especially as the merging of datasets revealed additional discrepancies (e.g. between girls' enrolment as reported by their primary caretaker and girls' enrolment as reported by girls as part of the learning assessment).

Data storage and analysis

Data was stored securely on a limited-access, password-protected partition of the Evaluator's cloud-based data management system. Access to non-anonymised data was limited to staff directly involved in the analysis of SOMGEP-T data. Data will be fully anonymised before sharing with the FM. All paper tracking sheets, fieldwork notes, and surveys filled on paper are stored securely on location in the Evaluator's in-country office.

All quantitative data was analysed using Stata 15, and a full record of all analysis has been kept using Stata syntax stored in .do files. All tables and graphs in the report are fully replicable on the basis of the Stata code written by the Evaluator and can be furnished as necessary to support replication and checking of the analysis herein.

All qualitative data was transcribed and translated. The primary approach to analysing qualitative data involved the creation of an exploratory coding scheme in Excel. Reading across the data, themes were allowed to emerge based on respondents' stated concerns, sentiments, explanations and insights. These emergent themes were coded broadly, independent of the quantitative findings. Coding was gradually refined, in consultation with CARE, until potentially generalizable insights were extracted that presented narrative or process-based evidence underlying hypothesized causal relationships. Emergent themes were also identified that speak to future program/intervention priorities, potentially unforeseen causes or consequences of interest, as well as previously unidentified gaps in programming.

As a second layer of analysis, qualitative data has also been examined for narrative evidence that can make sense of the historical processes and lived experiences behind quantitative findings, including prevalent social and gender norms (which may not be expressed in quantitative surveys as a result of social desirability bias, but surface in qualitative narratives). Counter-narratives or minority narratives (that potentially contradict or qualify quantitative findings) have also been given voice. Qualitative data was also queried selectively to make sense of quantitative outliers.

2.5 Challenges in baseline data collection and limitations of the evaluation design

Methodological challenges

This section lays out the primary methodological challenges posed by the study in terms of its overall design and the way that design considerations intersect with the specific context of SOMGEP-T implementation in Somalia. These limitations include central issues of non-random assignment of intervention versus comparison schools as well as problems of panel-attrition, cross-contamination, and

analysis-specific problems including difficulties linking learner and teacher data and challenges estimating attendance due to potential inaccuracies of school record-keeping.

Non-random assignment

Non-random assignment to intervention versus comparison sites presents a primary limitation to our ability to make valid causal inferences on the basis of the data collected. The sample design has paired intervention and comparison schools such that they are as balanced as possible in terms of several potentially relevant characteristics. However, as the summary of the sample design makes clear, intervention and comparison schools are not perfectly balanced in terms of the characteristics used to construct the sample (especially having or not having a CEC, which was a SOMGEP intervention), and it is almost certain that intervention and comparison schools are also imbalanced in terms of other potentially important, but unobserved, factors that may bias analysis. The main implication of this limitation is that, when making inferences on the basis of these data, we cannot be absolutely certain that observed results are a product of program interventions and not at least partly a product of unobserved, systematic, differences between the intervention and comparison groups. We will attempt to mitigate this problem in our analysis using statistical controls in regressions to adjust findings for the influence of observable factors that are significantly different between intervention and comparison groups. However, we can never be certain that we have accounted for all potential confounders, and thus we can never claim that our estimates are completely unbiased.

Panel attrition through out-migration:

It is assumed that the targeted areas are currently experiencing a high level of population displacement due to the prolonged drought of 2016-17. The design of the sample takes into account the presence of a large proportion of displaced households, which may return to their locations of origin during the life of the project. If the proportion of displaced households exceeds the anticipated attrition rate embedded in the sample size calculation, the project's ability to assess impact will be compromised.

High levels of out-migration pose a threat to the longitudinal panel design of the sample. It is known that school-age girls have a tendency to migrate or emigrate, temporarily or permanently leaving their households and their communities. This migration threatens to remove a significant number of girls from the sample between the start of the study and its end. It also threatens to make some portion of the sample of girls inaccessible during the time of fieldwork if they have migrated temporarily, e.g. on a seasonal basis, particularly in the case of prolonged dry seasons. If levels of seasonal migration and permanent out-migration are high enough, levels of attrition from the panel may lead to a significant reduction in sample size and thus a reduction in the power of comparisons that can be made using the panel sample of girls. Replacements can be made to the longitudinal sample (from one wave to the next), but cross-sectional comparisons among heterogeneous populations of girls are less valid than comparisons of the same girls over time.

Possible contamination of comparison schools:

It is also possible that due to the high level of migration in the areas of the intervention girls from intervention schools will end up joining one of the comparison schools before they receive the intervention. The household survey data would indicate if such migration has occurred. This can then be accounted for in the regression models.

Matching teachers and learners:

We are experimenting with a strategy of embedding names of teachers (by school) in the girls' section of the household survey in order to provide a linkage-point for merging teacher data (especially measure of teacher quality) with data from learners. If this strategy succeeds, it will allow analysis of learning and attendance outcomes, controlling for proxies of teaching quality that are contained in the data resulting from the teacher survey and classroom observations. A weakness of this strategy is that it relies on having reliable data on teacher names (by school) prior to the start of fieldwork, such that response options can be populated with this information. This strategy also relies on students to be able to accurately provide the name of their primary teacher or teachers, and some error may be introduced if students e.g. only know the surname of their teacher and there are multiple teachers at a given school who have the same surname.

Estimating attendance – inaccuracy of school record-keeping:

The weakest link in the strategy of triangulating school attendance is the data that will come directly from school records. In principle, school records present the most comprehensive and valid means of measuring school attendance. However, it is known that these records are often inaccurate, sometimes to a severe degree. The most accurate estimate of attendance will be on the basis of the headcount performed during fieldwork, however, this headcount is only an instantaneous measure of attendance (on the day at which the headcount is taken) and is thus not necessarily representative of the overall attendance trend at a given school. The household survey will also allow for estimates of attendance on the basis of attendance levels reported by caretakers, however these estimates are on an individual basis, and are measured based on a coding of qualitative (e.g. asking if a given girl attended "most" days) and quantitative (number of days missed during the past month) estimates of attendance, rather than quantitative estimates of exact frequency (which would be unreasonable to request of caretakers). These estimates based on the household survey will be more representative, but much less precise than the other measures.

The primary limitation to the design of the SOMGEP-T evaluation is non-randomised assignment of schools to intervention and comparison groups. As described above, an attempt was made to mitigate this limitation by matching intervention and comparison schools in terms of a set of characteristics deemed most relevant to explaining potential inter-school differences. This matching was moderately successful, in terms of matching on known characteristics, but there is a broad set of unknown characteristics that are also potentially salient that remain unmatched. In particular, it was discovered (following the conclusion of fieldwork) that 5 comparison schools were significantly different from the intervention schools in terms of the skill levels of their instructors and the language of instruction. These differences were reflected in divergent learning outcomes (and will be subject to further discussion in Section 4 below). While these differences were identified, allowing for the removal of these outlier schools (and the bias that they introduced) from the analysis below, there is still the potential for other, unidentified differences among schools to bias analysis in ways that cannot be easily anticipated.

Notwithstanding these concerns, the analysis of population characteristics, learning outcomes, and attendance below will demonstrate that the intervention and comparison groups are relatively well-paired in terms of their baseline values, once the 5 outlier comparison schools are excluded from the analysis. In particular, the learning trajectories and transition rates of girls across grades are comparatively even between intervention and comparison, which is a paramount concern. It should be borne in mind that the difference-in-difference analysis that will be performed as part of midline and endilne reporting will effectively adjust for differences in baseline levels on key outcome variables, provided that the assumption of parallel paths (of intervention vis-à-vis comparison) holds true.

Challenges in the field

Sampling adjustments:

Nine schools (4 intervention and 5 comparison schools) from the original sample were replaced during the course of fieldwork. Schools were replaced in the following cases:

- There were fewer than 15 girls enrolled in target grades and there were insufficient households in the village to compensate with out-of-school girls;
- A school had not been open all year;
- There were security issues.

Replacement schools were stratified according to the same matching characteristics that governed the selection of the original sample, and replacement schools were selected such that they shared as many characteristics as possible with the school that was being replaced. Whenever multiple possible replacements existed in a given stratum, the replacement school would be selected randomly. In some cases, replacement schools were selected with certainty because there was exactly one school in the stratum matched to the characteristics of the school being replaced. As the original sample frame provided by CARE did not include any possible replacements for comparison schools, Care provided these where necessary. These were also selected with certainty.

KII respondents were replaced when they repeatedly did not answer their phone or they refused to respond to the survey. Replacement respondents for the KIIs were selected randomly, stratified by matching characteristics to the initially selected respondent. The list provided by CARE did not include replacements for Galmudug and contained one incorrect contact number.

Fieldwork disruptions and other general challenges:

- All schools in Somaliland were closed from November 7 until November 15 due to the presidential election. The Somaliland teams continued to conduct the household surveys, learning assessments, benchmark surveys, and YLI surveys. At the end of their fieldwork, the teams returned to these villages and finished the remainder of the surveys.
- As the school exams were starting at December 20, some of the schools were closing earlier than expected. In order to address this, Forcier staff called the head teachers to ask them to keep the schools open, especially as some of these are schools that were visited before the election, where all but the school surveys had been completed.
- There were several villages too small for the random walk. If that was the case, the first procedure was exploring nearby villages in the school catchment area. The next step was visiting and selecting every household for an interview (as opposed to using a skip interval). As a last measure for achieving the required sample size for each school-cluster, the remaining girls at a given school would be randomly selected and traced back to their household.
- Lack of internet access during fieldwork sometimes slowed the upload of data. Occasionally, this resulted in teams returning to villages to recollect data in order to ensure that the data had been obtained (guarding against possible data loss due to faulty or incomplete data uploads).
- Some principals were under the impression they might receive money and that they would receive more money if they reported that more children were enrolled at their school. This

incentive to misrepresent the real number of students at schools made it difficult for teams to track down correct enrolment information.

- There were multiple cases of caregivers affirming that their children were enrolled in grades 3-6; however, enumerators to later found that the children were not enrolled at all, or were in a different grade-range. In order to prevent delays in fieldwork as a result of discrepant reporting about girls' enrolment status, the teams took pictures of the enrolment records for each one of the eligible grades and cross-checked the girl's name against those before continuing with the survey.
- The KIIs of REOs/DEOs and religious leaders were provided after fieldwork started. When sampled respondents were not located near the sampled villages or in villages where fieldwork was already completed, the interview was conducted over the phone.

3. Key Characteristics of Baseline samples

3.1 Project beneficiaries

SOMGEP-T defines marginalized girls as those who face demand-side challenges to improvement in learning and transition outcomes, including extreme poverty, pastoralism, displacement, being over age for their grade, a high degree of exposure to violence/conflict, orphan status, disability, belonging to a minority clan, and having an illiterate mother. Marginalized girls may also face limited provision of secondary education, poor infrastructure, limited access to qualified teachers, lack of remedial education for pastoralist children, and limited capacity by school officials to address absenteeism, dropout, and poor learning outcomes. The analysis to follow provides sample breakdowns by regions, grade, age, and disability, and subsequently provides a breakdown of girls' characteristics and barriers associated with educational marginalisation.

3.2 Representativeness of the learning and transition samples across regions, age groups, grades, disability status and sex of the beneficiaries

The tables in this section provide key demographic information of the evaluation sample across the intervention and comparison groups. It should be noted that due to five outlier schools in the comparison sample, two comparison groups are presented in this section: the first includes observations from five cluster areas in which there were English-speaking teachers with students who scored disproportionately well on the English literacy exam, and the second comparison group does not include observations from these areas. The analysis going forward will refer to the latter comparison group not including outliers unless otherwise specified.

Table 4 presents the evaluation sample broken down by gender and region for cohort girls, and Table 5 presents the same for non-cohort girls and boys against which cohort girls are compared. A total of 1,626 cohort girls aged 10-19 are either in grades 3-6 or out of school. There are 872 cohort girls in the treatment areas and 754 in the comparison areas excluding the girls who are from outlier schools. There were 637 non-cohort girls and 478 non-cohort boys who were given the learning assessment. The non-cohort girls include the transition girls who are in grades 7 or above and 10-19 years of age, benchmark girls who are 19-22 years of age, and girls who took the learning assessment as part of the pilot study. These pilot study girls were included due to the relative dearth of girls in the sample who are grade seven or above.

Table 4: Evaluation sample breakdown of cohort girls

	Intervention (Baseline)	Comparison (Baseline)	Comparison (w/o outliers)
Sample breakdown (Girls)			
Total Girls	872 (100.0%)	869 (100.0%)	754 (100.0%)

Table 5: Evaluation sample breakdown of non-cohort girls and boys

	Intervention (Baseline)	Comparison (Baseline)	Comparison (w/o outliers)	Pilot
Sample breakdown (Girls)				
Total Girls	201 (100.0%)	151 (100.0%)	126 (100.0%)	

Sample breakdown (Boys)				
Total Boys	255 (100.0%)	255 (100.0%)	223 (100.0%)	

Table 6 and Table 7 show the evaluation sample by grade and enrolment status for cohort girls and non-cohort boys and girls. While there are no statistically significant differences by grade or enrolment status among girls between intervention and comparison schools, there are significant differences among boys in grades 4 and 6, in which a significantly higher proportion of boys make up the sample from comparison clusters than from intervention clusters.

While girls from grades 3 to 12 are included in the sample, the learning cohort girls were girls only from grades 3 to 6 or out of school. Among the cohort girls, there were 897 girls between the intervention and comparison group without outliers who were enrolled in grades 3 through 6 and 729 girls who are out of school, for a total of 1,626 cohort girls when excluding girls from outlier schools. The learning outcomes of girls in grades 7 through 12 will be used to benchmark the performance of cohort girls as they progress through the same grades over the course of SOMGEP-T's project cycle.

Table 6: Evaluation sample breakdown of cohort girls (by grade)

	Intervention (Baseline)	Comparison (Baseline)	Comparison (w/o outliers)
Sample breakdown (Girls)			
Grade 3	154 (17.7%)	158 (18.2%)	134 (17.8%)
Grade 4	118 (13.5%)	91 (10.5%)	77 (10.2%)
Grade 5	126 (14.4%)	134 (15.4%)	107 (14.2%)
Grade 6	107 (12.3%)	97 (11.2%)	74 (9.8%)
OOS girls	367 (42.1%)	389 (44.8%)	362 (48.0%)
Total girls	872 (100.0%)	869 (100.0%)	754 (100.0%)

Table 7: Evaluation sample breakdown of non-cohort girls and boys (by grade)

	Intervention (Baseline)	Comparison (Baseline)	Comparison (w/o outliers)	Pilot
Sample breakdown (Girls)				
Grade 5	0 (0.0%)	0 (0.0%)	0 (0.0%)	60 (19.4%)
Grade 7	42 (20.9%)	33 (21.9%)	29 (23.0%)	64 (20.6%)
Grade 8	45 (22.4%)	28 (18.5%)	22 (17.5%)	67 (21.6%)
Grade 9	11 (5.5%)	8 (5.3%)	4 (3.2%)	65 (21.0%)
Grade 10	1 (0.5%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Grade 11	1 (0.5%)	0 (0.0%)	0 (0.0%)	54 (17.4%)
Grade 12	1 (0.5%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
OOS girls	100 (49.8%)	82 (54.3%)	71 (56.3%)	0 (0.0%)
Total girls	201 (100.0%)	151 (100.0%)	126 (100.0%)	310 (100.0%)
Sample breakdown (Boys)				
Grade 3	57 (22.4%)	42 (16.5%)	35 (15.7%)	
Grade 4	31 (12.2%)	45 (17.6%)	36 (16.1%)	

Grade 5	45 (17.6%)	46 (18.0%)	41 (18.4%)	
Grade 6	34 (13.3%)	46 (18.0%)	35 (15.7%)	
OOS boys	88 (34.5%)	76 (29.8%)	76 (34.1%)	
Total boys	255 (100.0%)	255 (100.0%)	223 (100.0%)	

Table 8 and Table 9 provide the evaluation sample by age groups of cohort girls and non-cohort boys and girls. As shown below, there are no statistically significant differences in the age composition between the intervention or comparison clusters among both cohort and non-cohort members of the sample.

Table 8: Evaluation sample breakdown of cohort girls (by age)

	Intervention (Baseline)	Comparison (Baseline)	Comparison (w/o outliers)
Sample breakdown (Girls)			
Aged 9-11	241 (27.6%)	261 (30.0%)	207 (27.5%)
Aged 12-13	268 (30.7%)	234 (26.9%)	201 (26.7%)
Aged 14-15	192 (22.0%)	204 (23.5%)	184 (24.4%)
Aged 16-17	109 (12.5%)	116 (13.3%)	110 (14.6%)
Aged 18-19	62 (7.1%)	54 (6.2%)	52 (6.9%)
Total girls	872 (100.0%)	869 (100.0%)	754 (100.0%)

Table 9: Evaluation sample breakdown of non-cohort girls and boys (by age)

	Intervention (Baseline)	Comparison (Baseline)	Comparison (w/o outliers)	Pilot
Sample breakdown (Girls)				
Aged 6-8	0 (0.0%)	0 (0.0%)	8 (6.3%)	1 (0.3%)
Aged 9-11	0 (0.0%)	0 (0.0%)	0 (0.0%)	19 (6.1%)
Aged 12-13	12 (6.0%)	10 (6.6%)	0 (0.0%)	62 (20.0%)
Aged 14-15	42 (20.9%)	35 (23.2%)	29 (23.0%)	83 (26.8%)
Aged 16-17	36 (17.9%)	22 (14.6%)	16 (12.7%)	94 (30.3%)
Aged 18-19	12 (6.0%)	4 (2.6%)	4 (3.2%)	46 (14.8%)
Aged 20+	99 (49.3%)	80 (53.0%)	69 (54.8%)	5 (1.6%)
Total	201 (100.0%)	151 (100.0%)	126 (100.0%)	310 (100.0%)
Sample breakdown (Boys)				
Aged 9-11	73 (28.6%)	83 (32.5%)	69 (30.9%)	
Aged 12-13	87 (34.1%)	94 (36.9%)	83 (37.2%)	
Aged 14-15	59 (23.1%)	46 (18.0%)	39 (17.5%)	
Aged 16-17	23 (9.0%)	24 (9.4%)	24 (10.8%)	
Aged 18-19	13 (5.1%)	8 (3.1%)	8 (3.6%)	
Total boys	255 (100.0%)	255 (100.0%)	223 (100.0%)	

Table 10 presents the evaluation sample by disability and type of disability of the cohort girls. The table presents the proportion of girls who had a severe level of disability in which they said they could not perform a given task at all due to their disability, said that they had “a lot of difficulty” in doing so, or were

affected by the impairment at least monthly.[38] As shown in the table, reported physical, cognitive, and communication impairments were rare. The majority of girls (80.2%) who were reported with any disability were said to have a mental health impairment. Primary caregivers said that these girls experienced anxiety or depression daily, weekly, or monthly. No statistically significant differences are observed in the proportion of girls with any disability between intervention and comparison clusters. Nor are differences in the prevalence of disabilities observed between in-school and out-of-school girls.

Table 10: Evaluation sample breakdown (by disability)

Sample breakdown (Girls)	Intervention (Baseline)	Comparison (Baseline)	Comparison (w/o outliers)	Out-of-school Girl	In-school Girl	Household Survey and Girls School survey – Washington Group and child functioning questions
Girls with any disability	60 (6.9%)	51 (5.9%)	43 (5.7%)	50 (6.9%)	53 (5.9%)	All variables below
Data per impairment						
Vision impairment	5 (0.6%)	1 (0.1%)	1 (0.1%)	3 (0.4%)	3 (0.3%)	PGD_Ov12_1, WG_CF2, WG_CF3
Hearing impairment	6 (0.7%)	0 (0.0%)	0 (0.0%)	2 (0.3%)	4 (0.4%)	PGD_Ov12_2, WG_CF5, WG_CF6
Mobility impairment	6 (0.7%)	4 (0.5%)	4 (0.5%)	7 (1.0%)	3 (0.3%)	PGD_Ov12_3, WG_CF8, WG_CF9, WG_CF10, WG_CF11, WG_CF12, WG_CF13
Cognitive impairment	7 (0.8%)	2 (0.2%)	2 (0.3%)	6 (0.8%)	3 (0.3%)	PGD_Ov12_4, WG_CF17, WG_CF18, WG_CF19, WG_CF21
Self-care impairment	6 (0.7%)	1 (0.1%)	1 (0.1%)	5 (0.7%)	2 (0.2%)	PGD_Ov12_5, WG_CF14
Communication impairment	9 (1.0%)	4 (0.5%)	4 (0.5%)	7 (1.0%)	6 (0.7%)	PGD_Ov12_6, WG_CF15, WG_CF16, WG_CF22
Mental health impairment	45 (5.2%)	44 (5.1%)	36 (4.8%)	40 (5.5%)	41 (4.6%)	WG_CF20, WG_CF23, WG_CF24
Total girls	872 (100.0%)	869 (100.0%)	754 (100.0%)	729 (100.0%)	897 (100.0%)	

Table 11, Table 12, and Table 13 present the evaluation sample by disability as well, but present the proportions of girls who had at least experienced milder impairment, reportedly experiencing “some

[38] Questions regarding mental health were asked in terms of the frequency with which the girl experienced bouts of anxiety and depression instead of the degree to which she felt very nervous or very sad.

difficulty" with their disability or experienced anxiety or depression even yearly. The questions asked for Table 11 and Table 12 are asking for the same information about disability of the cohort girl but are targeted to different respondents. Table 11 presents the answers of primary caregivers of girls who were 12 and over, and Table 12 presents answers of cohort girls themselves who are over 12. As would be expected, the responses of the cohort girls and those of their caretakers are convergent and significantly related.

Table 11: Evaluation sample breakdown of girls 12 and over (by disability, reported by primary caregiver)

Disability indicator	Intervention	Comparison	Comparison (w/o outliers)	Source
Difficulty seeing even with glasses	17 (2.7%)	8 (1.3%)	7 (1.3%)	PGD_Ov12_1
Difficulty hearing even with hearing aid	11 (1.7%)	5 (0.8%)	5 (0.9%)	PGD_Ov12_2
Difficulty walking or climbing steps	18 (2.8%)	8 (1.3%)	8 (1.5%)	PGD_Ov12_3
Difficulty remembering things or concentrating	14 (2.2%)	5 (0.8%)	4 (0.7%)	PGD_Ov12_4
Difficulty with self-care, e.g. washing or dressing?	12 (1.9%)	4 (0.7%)	3 (0.5%)	PGD_Ov12_5
Difficulty communicating, understanding or being understood	10 (1.6%)	1 (0.2%)	1 (0.2%)	PGD_Ov12_6
Total girls	632 (100.0%)	607 (100.0%)	546 (100.0%)	

Whereas in Table 10 severe vision, hearing, and mobility impairments were shown to be rare, milder versions of these disabilities were relatively more common, as shown in Table 11 and Table 12. For example, 3.6% of girls reported that they had at least some difficulty in walking or climbing steps, 2.3% of girls reported that they had difficulty seeing even with glasses, and 2% reported difficulty hearing even with hearing aids. The differences between the primary caregiver reports and self-reports by the girl of disabilities are not significant.

Table 12: Evaluation sample breakdown of girls over 12 (by disability, self-reported)

Disability indicator	Intervention	Comparison	Comparison (w/o outliers)	Source
Difficulty seeing even with glasses	16 (3.2%)	8 (1.6%)	6 (1.4%)	CS_D1s
Difficulty hearing even with hearing aid	7 (1.4%)	12 (2.5%)	12 (2.7%)	CS_D2s
Difficulty walking or climbing steps	18 (3.6%)	16 (3.3%)	16 (3.6%)	CS_D3s
Difficulty remembering things or concentrating	9 (1.8%)	13 (2.7%)	12 (2.7%)	CS_D4s
Difficulty with self-care, e.g. washing or dressing?	5 (1.0%)	6 (1.2%)	6 (1.4%)	CS_D5s
Difficulty communicating, understanding or being understood	3 (0.6%)	6 (1.2%)	6 (1.4%)	CS_D6s
Total girls	497 (100.0%)	485 (100.0%)	442 (100.0%)	

Among girls under 12, vision, mental health, and mobility disabilities continue to be relatively more common disabilities, as shown in Table 13. Nearly a fifth, 18.8% of intervention cohort girls and 17.8% of comparison cohort girls, wear glasses. 2.9% of intervention girls and 3.8% do *not* wear glasses and have difficulty seeing. Regarding mental health, 15% of all cohort girls were reported by their caretaker to seem very anxious or nervous and 14% seemed very sad or depressed. Mobility was a concern for the 4.3% of cohort girls whose caretakers said that the girl uses equipment or receives assistance walking.

Table 13: Evaluation sample breakdown of girls under 12 (by disability, reported by primary caregiver)

	Intervention		Comparison		Comparison (w/o outliers)		
Disability indicator	**n**	**%**	**n**	**%**	**n**	**%**	**Source**
Wears glasses	45	18.8%	47	17.9%	37	17.8%	WG_CF1
Difficulty seeing even wearing glasses	1	0.4%	0	0.0%	0	0.0%	WG_CF2
Difficulty seeing	7	2.9%	8	3.1%	8	3.8%	WG_CF3
Uses a hearing aid	2	0.8%	0	0.0%	0	0.0%	WG_CF4
Difficulty hearing sounds like peoples' voices or music even with hearing aid	2	0.8%	0	0.0%	0	0.0%	WG_CF5
Difficulty hearing sounds like peoples' voices or music	1	0.4%	0	0.0%	0	0.0%	WG_CF6
Uses any equipment or receive assistance walking	13	5.4%	8	3.1%	6	2.9%	WG_CF7
Without equipment or assistance, difficulty walking 100 meters on level ground	1	0.4%	2	0.8%	2	1.0%	WG_CF8
Without her equipment or assistance, has difficulty walking 500 meters on level ground	0	0.0%	2	0.8%	2	1.0%	WG_CF9
With her equipment or assistance, has difficulty walking 100 meters on level ground	1	0.4%	2	0.8%	2	1.0%	WG_CF10
With her equipment or assistance, has difficulty walking 500 meters on level ground	0	0.0%	1	0.4%	1	0.5%	WG_CF11
Has difficulty walking 100 meters on level ground	0	0.0%	1	0.4%	1	0.5%	WG_CF12
Has difficulty walking 500 meters on level ground]	0	0.0%	1	0.4%	1	0.5%	WG_CF13
Has difficulty with self-care such as feeding or dressing herself?	2	0.8%	4	1.5%	3	1.4%	WG_CF14
Difficulty being understood by people inside of household	3	1.3%	3	1.1%	3	1.4%	WG_CF15
Difficulty being understood by people outside of this household	1	0.4%	4	1.5%	4	1.9%	WG_CF16
Has difficulty learning things	6	2.5%	3	1.1%	3	1.4%	WG_CF17
Has difficulty remembering things	4	1.7%	2	0.8%	2	1.0%	WG_CF18
Has difficulty concentrating on an activity that she enjoys doing	4	1.7%	7	2.7%	7	3.4%	WG_CF19
Has difficulty accepting changes in her routine	5	2.1%	2	0.8%	1	0.5%	WG_CF20
Has difficulty controlling her behaviour	2	0.8%	5	1.9%	4	1.9%	WG_CF21
Has difficulty making friends	8	3.3%	11	4.2%	10	4.8%	WG_CF22

Seems very anxious, nervous or worried	39	16.3%	34	13.0%	28	13.5%	WG_CF23
Seems very sad or depressed?	32	13.4%	39	14.9%	31	14.9%	WG_CF24
Total girls	239	100%	262	100%	208	100%	

3.3 Educational marginalisation

Table 14 below presents the proportion of cohort girls in the sample who have characteristics that may relate to educational marginalisation characteristics and barriers. For SOMGEP-T, educational marginalisation characteristics include poverty, disability, having migration or displacement disrupt schooling, and illiteracy among the girls' caretakers.

Prevalent characteristics include those regarding parental education, female-headed households, and poverty. Almost three-quarters of heads of household in intervention areas (70%) and comparison areas (67.6%) reported that they have no education. Similar proportions of primary caregivers said that they have no education in intervention (74.5%) and comparison areas (78.6%). Almost a third of cohort girls in both the intervention (47.7%) and comparison (45.8%) areas are living in female-headed households.

Table 14: Girls' characteristics

	Intervention (Baseline)	Comparison (Baseline)	Comparison (w/o outliers)	Source (Household and Girls School survey)
Sample breakdown (Girls)				
Family (%)				
Single orphans	94 (10.8%)	99 (11.4%)	91 (12.1%)	PCG_11g
Double orphans	2 (0.2%)	4 (0.5%)	4 (0.5%)	PCG_13g
Living without both parents (%)	84 (9.6%)	111 (12.8%)	104 (13.8%)	PCG_10g PCG_12g
Living in female headed household (%)	416 (47.7%)	413 (47.5%)	345 (45.8%)	HH_8
Married (%)	30 (3.4%)	33 (3.8%)	31 (4.1%)	PCG_22g
Mothers (%)				
Under 18	9 (1.0%)	9 (1.0%)	9 (1.2%)	PCG_23g
Under 16	4 (0.5%)	2 (0.2%)	2 (0.3%)	PCG_23g
Poor households (%)				
Difficult to afford for girl to go to school	101 (11.6%)	124 (14.3%)	78 (10.3%)	PCG_7enr
Household doesn't own land for themselves	200 (22.9%)	170 (19.6%)	140 (18.6%)	PCG_11econ
Home uses poor roofing material*	748 (85.8%)	771 (88.7%)	664 (88.1%)	PCG_2econ
Household unable to meet basic needs	306 (35.1%)	304 (35.0%)	259 (34.4%)	PCG_5econb
Gone to sleep hungry for many days in past year	105 (12.0%)	101 (11.6%)	91 (12.1%)	PCG_7econ
Language difficulties:				

LoI different from mother tongue (%)	62 (12.3%)	50 (10.4%)	16 (4.1%)	PCG_2enr, PCG_1enr
Girl doesn't speak LoI (%)	8 (1.6%)	20 (4.2%)	18 (4.6%)	PCG_3enr
Parental education				
HoH has no education (%)	610 (70.0%)	597 (68.7%)	510 (67.6%)	HH_13
Primary caregiver has no education (%)	650 (74.5%)	685 (78.8%)	593 (78.6%)	PCG_6
Total girls	872 (100.0%)	869 (100.0%)	754 (100.0%)	

*Poor roofing materials include mud, thatch, wood, tin/iron sheets, asbestos, cardboard, tarpaulin/plastic, other.

Barriers

Table 15 below presents the proportion of girls in the sample who face potential barriers to learning and transition in the domains of safety, parental/caregiver support, attendance, school facilities, and teachers across comparison and intervention areas. The proportion of girls that faced each of these potential barriers was balanced between intervention and comparison clusters, with the exception of girls who reported that they did not get the support they needed to stay in school and do well (4.2% in intervention clusters and 1.5% in comparison clusters).

Table 15: Potential barriers to learning and transition

	Intervention (Baseline)	Comparison (Baseline)	Comparison (w/o outliers)	Source
Sample breakdown (Girls)				
Home – community				
Safety:				
Fairly or very unsafe travel to schools in the area (%)	24 (4.8%)	24 (5.0%)	24 (6.1%)	PCG_9
Doesn't feel safe travelling to/from school (%)	23 (4.6%)	32 (6.7%)	31 (7.9%)	CS_W13s
Girl travels more than 30 minutes to school	32 (6.3%)	13 (2.7%)	12 (3.1%)	CS_W1s
Parental/caregiver support:				
Sufficient time to study: High chore burden	56 (11.1%)	54 (11.3%)	44 (11.2%)	PCG_26g
Doesn't get support to stay in school and do well (%)	21 (4.2%)	7 (1.5%)	5 (1.3%)	HHG_7
Girl has no choice in whether to attend school	385 (76.2%)	342 (71.3%)	282 (71.9%)	HHG_6
Family decides for girl whether she will attend school	110 (21.8%)	98 (20.4%)	94 (24.0%)	LSCU_h14, LSCO_h21, LSCU_s13, LSCO_s20

Family not a member of CEC	294 (58.2%)	225 (46.9%)	183 (46.7%)	SM_5h
Parent has never visited school	53 (10.5%)	65 (13.5%)	60 (15.3%)	PCG_TQC1
School level				
Attendance:				
Attends school half the time (%)	5 (1.0%)	8 (1.7%)	8 (2.0%)	PCG_6enr
Attends school less than half time (%)	5 (1.0%)	5 (1.0%)	5 (1.3%)	PCG_6enr
Doesn't feel safe at school (%)	32 (6.3%)	21 (4.4%)	20 (5.1%)	CS_W14s
School facilities:				
No seats for all students (%)	107 (21.2%)	104 (21.7%)	99 (25.3%)	CS_W5s
Difficult to move around school (%)	83 (16.4%)	105 (21.9%)	67 (17.1%)	CS_W6s
Doesn't use drinking water facilities	100 (19.8%)	122 (25.4%)	112 (28.6%)	CS_W7s
Doesn't use toilet at school	112 (22.2%)	136 (28.3%)	109 (27.8%)	CS_W9s
Doesn't use areas where children play/ socialise	187 (37.0%)	175 (36.5%)	165 (42.1%)	CS_W11s
No computers in class	398 (78.8%)	389 (81.0%)	322 (82.1%)	CSG_2s
Cannot use books or other learning materials at school	88 (17.4%)	122 (25.4%)	90 (23.0%)	CS_W2s
Teachers:				
Disagrees teachers make them feel welcome	22 (4.4%)	28 (5.8%)	26 (6.6%)	CS_WA
Agrees teachers treat boys and girls differently in the classroom	194 (38.4%)	195 (40.6%)	139 (35.5%)	CS_1s
Agrees teachers often absent from class	163 (32.3%)	168 (35.0%)	129 (32.9%)	CS_2s
Afraid of teacher	266 (52.7%)	236 (49.2%)	192 (49.0%)	HHG_7f_n
Uncomfortable asking teachers question	21 (4.2%)	23 (4.8%)	21 (5.4%)	HHG_7c_n
Teacher punishes/disciplines when students gets lesson wrong	353 (69.9%)	295 (61.5%)	255 (65.1%)	TQ_6s
Physical punishment witnessed last week	127 (25.1%)	100 (20.8%)	84 (21.4%)	TQ_8s
Caregiver rates principal or head teacher lowly	23 (4.6%)	24 (5.0%)	24 (6.1%)	SM_3h

Caregiver rates quality of teaching as poor	14 (2.8%)	22 (4.6%)	22 (5.6%)	TQ_3h
Teacher asks questions unequally	37 (7.3%)	51 (10.6%)	40 (10.2%)	TQ_1s
Teacher asks harder questions unequally	49 (9.7%)	52 (10.8%)	38 (9.7%)	TQ_2s

Table 16 below presents the data collected in the household survey on the migration behaviour of girls and boys in the households of cohort girls. The 125 migrant girls identified from intervention areas are 10.5% of the total household girls identified by the caregiver and 8.6% of those from comparison areas. The vast majority of these girls left to other villages in Somalia and Somaliland: 87.2% from intervention areas and 95% from comparison areas. A plurality of them left to stay with other family members. Among migrant girls from intervention areas, 44.8% left to stay with another family member and 47% of migrant girls from comparison areas did so. Only about a fifth of these migrant girls attend school: 20.8% from intervention and 21% from comparison clusters.

Although the qualitative tools were not designed to elicit information on why girls might be migrating and staying with family members (other than their parents), there are a few possible explanations that can be inferred from the information provided in the interviews. Girls often mention sickness in the family and family travel as reasons girl students might be absent from school, suggesting these may be common occurrences. For example, when asked why girls might miss school, one student explains, "Yes, when girls are sent somewhere else by the parents, or the mother is not available at the house."[39] A teacher explains, "Also, girls stop going to school because of family issues, such as when their mother is sick or has to do things outside the home, girls have to stay at home and help their mothers. That might take a week or more, so that, in the end, girls stop going to school."[40] When asked about their family members, girls also commonly mentioned having immediate family members who live in other areas for work and school. It is feasible that girls are forced to stay with family members if their primary caretaker falls seriously ill, is forced to leave the house for a prolonged period of time, perhaps in search of economic opportunities, or falls on hard times economically. This may be particularly true for mothers who are widows or do not have husbands and must therefore rely on family members to help care for their children. The data suggests that such women make up a significant portion of the interviewees, as 46% of women reported that they are the head of household in the quantitative survey, and many women from the qualitative interviews reported that they do not have husbands.

Relative to girls, a substantially higher proportion of boys in the household of intervention migrated out of their household. Thirty-four percent of boys from intervention areas and 32.5% of boys from comparison areas migrated, the vast majority to another village within in the country. Slightly over half of these migrant boys left to boarding school: 52.5% from intervention clusters and 55.4% from comparison areas. Nevertheless, only 15.8% of migrant boys from intervention areas and 16.2% from comparison areas now attend school.

Table 16: Migration of Boys and Girls (age 10-19)

[39] FGD – Girls
[40] FGD – Teachers

	Intervention	Comparison	Comparison (w/o outliers)	Source
Girls				
Migrant girls (10-19) in HH	125 (100%)	113 (100%)	100 (100%)	HH_19_n
Migrant girls/total girls (10-19) in HH	125 (10.5%)	113 (9.8%)	100 (8.6%)	HH_19_n, HH_4, HH_4_notcohort
Reasons for migration:				
Boarding school	30 (24%)	27 (23.9%)	24 (24%)	HH_20_n, HH_21_n, HH_22_n
To stay with other family member	56 (44.8%)	50 (44.2%)	47 (47%)	HH_20_n, HH_21_n, HH_22_n
To work	14 (11.2%)	9 (8%)	7 (7%)	HH_20_n, HH_21_n, HH_22_n
To get married	20 (16%)	27 (23.9%)	27 (27%)	HH_20_n, HH_21_n, HH_22_n
Migrant girl attends school	26 (20.8%)	26 (23%)	21 (21%)	HH_20_na, HH_21_na, HH_22_na
Migrant girl left to Somali village	109 (87.2%)	103 (91.2%)	95 (95%)	HH_20_nb, HH_21_nb, HH_22_nb
Migrant girl left Somalia	11 (8.8%)	10 (8.8%)	5 (5%)	HH_20_nb HH_21_nb HH_22_nb
Boys				
Migrant boys (10-19) in HH	101 (100%)	83 (100%)	74 (100%)	HH_23_n
Migrant boys/total boys (10-19) in HH	101 (34.2%)	83 (30%)	74 (32.5%)	HH_23_n, HH_5
Reasons for migration:				
Boarding school	53 (52.5%)	45 (54.2%)	41 (55.4%)	HH_24_n, HH_25_n, HH_26_n
To stay with other family member	37 (36.6%)	28 (33.7%)	24 (32.4%)	HH_24_n, HH_25_n, HH_26_n
To work	10 (9.9%)	4 (4.8%)	3 (4.1%)	HH_24_n, HH_25_n, HH_26_n
To get married	1 (1%)	6 (7.2%)	6 (8.1%)	HH_24_n, HH_25_n, HH_26_n
Migrant boy attends school	16 (15.8%)	16 (19.3%)	12 (16.2%)	HH_24_na, HH_25_na, HH_26_na
Migrant boy left to Somali village	95 (94.1%)	72 (86.7%)	67 (90.5%)	HH_24_nb, HH_25_nb, HH_26_nb
Migrant boy left Somalia	6 (5.9%)	11 (13.3%)	7 (9.5%)	HH_24_nb HH_25_nb HH_26_nb

3.4 Household profile

***Adult Composition*:** At baseline, approximately 87 percent of households (n=658) in the comparison group consisted of one to four adults who normally live and eat together; 89 percent of households (n=777) in the intervention group had compositions of adult residents within this range.

***Gender Composition*:** Intervention and comparison households were also similar in their gender composition. In the comparison group, nearly 94 percent of sampled households (n=706) had one to three women living together. In the intervention group these compositions were prevalent in 96 percent of households (n=835).

***Child Composition*:** Intervention and comparison groups are most similar in their percentage of households with children or young people aged 10 to 19 years; 100 percent of households in both groups (n=754 in comparison, n=872 in intervention) confirmed that they have at least one individual within this age range. Similarly, 100 percent of households have children or young people aged 10-19 years.

Furthermore, approximately 97 percent of households in both intervention and comparison groups (n=843 and 728 respectively) have one to two girls aged 10 to 19 years who are in grades three to six or are out of school.

There are much lower percentages of boys in this age range who are out of school or in these grade levels across intervention and comparison households: 26 percent (n=229) and 25 percent (n=187) respectively.

The percentages of households with 10-19-year-old girls who are in grades seven to grade nine were low across comparison and intervention groups. In the comparison group, only five percent of households (n=39) confirmed that they had one girl who was learning at those grade levels; performance was better in the intervention group at 10 percent (n=86).

Finally, the percentage of households that have one to three female residents aged 20-22 is less than 10 percent in both intervention (n=78) and comparison groups (n=71).

***Head of Household Gender*:** In the comparison group, 54 percent of households (n=408) are led by males while 46 percent (n=345) are led by females. Percentages are similar in the intervention group, with 52 percent of households led by males (n=456) and 48 percent led by females (n=416).

Regardless of the gender of the head of household, 100 percent of heads of households in both groups (n=754 in the comparison group, n=872 in the intervention group) follow the same religion, Sunni Muslim.

***Occupation*:** The percentages of heads of households by occupation type are similar across intervention and comparison groups. 42 percent of heads of households in both intervention and comparison groups do not have an occupation (n=368 in the intervention group, n=316 in the comparison group).

Among the heads of households that do have a job, 10 percent in the comparison group (n=76) and 12 percent in the intervention group (n=106) are pastoralists, 15 percent in both groups (n=117 in the comparison group and 132 in the intervention group) are salespersons or service workers, and approximately seven percent in both groups are homemakers (n=58 in the comparison group, n=60 in the intervention group).

In the comparison group, nearly 70 percent of employed heads of households (n=305) are remunerated in cash exclusively, 8 percent are compensated in cash and in-kind (n=37), and 8 percent are paid in-kind only (n=37). In the intervention group, 65 percent of employed heads of households (n=327) are remunerated in cash-only, 12 percent are paid in cash and in-kind (n=62), while 7 percent (n=36) are compensated in-kind only.[41]

[41] The remainder of respondents were either unemployed, unpaid, or did not know whether they were employed.

Literacy

***Education Level*:** Approximately 80 percent of comparison group heads of households (n=605) have no years of schooling under their belt or only some years of primary level education; less than two percent have completed university (n=11). In the intervention group, 81 percent of heads of households (n=706) have no schooling at all or some years of primary level education, while only 1.8 percent of heads of households (n=16) are university graduates.

***Time Spent Reading*:** Approximately 65 percent of girls in both intervention and comparison households (n=229 in comparison group, n=304 in intervention group) spend between one and two hours per week or less than one hour per week reading on average.

Only 10 percent of girls in the comparison group (n=36) and six percent of girls in the intervention group (n=26) spend more than eight hours reading per week on average.

***Displacement Status*:** Among sampled households in the comparison group, nearly 96 percent (n=722) reported having lived in their village for the past 12 months. In the intervention group, about 97 percent indicated likewise (n=849).

Approximately 7 percent of sampled households in both the intervention (n=62) and comparison (n=49) groups reported that they sometimes migrate during the dry season in search of better pasture. Among those who admitted to migrating, 82 percent in the comparison group (n=40) migrated in the last year or in the past 6 months; 79 percent of households in the intervention group (n=49) indicated the same.

***Perception of Safety and Security*:** 85 percent of primary care givers (n=641) in the comparison group reported that girls' school commute is "very safe"; over 86 percent of primary care givers (PCGs) in the intervention group (n=751) indicated the same. Only about 10 percent of PCGs in the comparison group (n=73) and approximately six percent in the intervention group (n=50) described girls' school commute as "very unsafe" or "fairly unsafe". When the same question was asked about boys' school commute, 85 percent of PCGs in the comparison group (n=641) and about 86 percent in the intervention group (n=753) confirmed that commute was "very safe". Only 7 percent of PCGs in the comparison group (n=54) and 5 percent in the intervention group (n=44) described boys' school commute as "very unsafe" or "fairly unsafe".

Minutes walking to nearest secondary school: Caregivers were asked how many minutes walking it would take to reach the nearest secondary school to understand the distribution and supply of secondary schools in communities. While the majority of caregivers estimated that they live an hour's walk or less from a secondary school (50.2 percent), there were significant zonal differences as shown in the table below.

Table 17: Caregiver Estimate of Time to Closest Secondary School

Time to secondary school	Total (%)
0 to 15 minutes	30.57
15 to 30 minutes	13.35
30 minutes to 1 hour	6.27
1 to 2 hours	5.72

3 to 5 hours	9.78
6 to 23 hours	4.86
More than 1 day	9.35
Don't know	20.11
Total	100

Attitudes and Practices toward Education:

***Right to Attend School*:** Over 97 percent of girls in both intervention and comparison groups (n=453 in the intervention group, n=344 in the comparison group) believe that girls have a right to go to school. When the same question was asked about boys' right to attend school, again, over 97 percent of girls in both groups (n=455 in the intervention group, n=344 in the comparison group) responded in the affirmative. Surprisingly, when the same girls were asked if this right should be extended towards disabled children, only 91 percent of girls in both intervention and comparison groups responded "yes" (n=425 in the intervention group, n=320 in the comparison group).

***Obstacles to Reading Time*:** When girls were asked to identify the reasons that prevented them from reading when they wanted to, top responses included: "lack of material to read," "the lack of free time," and "the lack of electricity/light." In the comparison group, these three reasons disrupt reading time among approximately 93 percent of sampled girls (n=172). In the intervention group, this percentage rises to about 96 percent (n=217).

***Usefulness of Education*:** PCGs were asked to clarify whether they believed that a girl is just as likely to use her education as a boy. Approximately 96 percent of PCGs in both intervention and comparison groups (n= 836 in the intervention group, n = 722 in the comparison group) either responded "strongly agree" or "agree."

Economic Condition

***Type of Dwelling*:** In the comparison group, approximately 87 percent of PCGs (n=659) reported that their household either lives in a non-traditional house (constructed from concrete, brick, or wood) or in a traditional house (e.g. a hut made from thatch or mud). In the intervention group, the percentage of households that fall into these two categories is 89 percent (n=776).

***Roof Material*:** The most commonly used roof material in both intervention and comparison households is tin/iron sheets. Approximately 43 percent of PCGs in the comparison group (n=322) and 49 percent of PCGs in the intervention group (n=430) have roofs built from this material. When the frequencies of the top four most common roof materials are added together, a total of approximately 81 percent of sampled PCG households in the comparison group (n=609) have roofs that are made of thatch, tin, cement or tarp/plastic. In the intervention group, 86 percent of sampled PCG households (n= 748) fall under these categories.

***Mobile Phone Ownership*:** Ownership of mobile phones is extremely prevalent. Over 94 percent of PCGs in both intervention (n=823) and comparison (n=711) groups reported having a mobile phone.

***Land Ownership*:** Approximately 78 percent of households in the comparison group (n=590) reported either having land that they own exclusively, or land that they own jointly with another party. In the intervention group, nearly 73 percent of households (n=636) fall into these two categories. In both groups, only a small percentage (approximately two percent; n=16 in the comparison group, n=19 in the intervention group) of households have both exclusive and joint land ownership.

***Savings*:** Nearly 92 percent of PCGs in the comparison group (n=690) admitted to having no savings. In the intervention group, approximately 87 percent of PCGs (n=758) indicated the same.

***Cattle/Camel Ownership*:** The majority of sampled PCG households across intervention and comparison groups do not seem to own cattle or camels. Only about 11 percent of PCGs in both groups (n = 82 in the comparison group, n=94 in the intervention group) responded "yes" to cattle or camel ownership. Among the households that do own cattle and/or camels, over 73 percent in the comparison group (n=60) reported that they own 10 or less. In the intervention group, approximately 70 percent of PCG households (n=66) fall under this category.

***Medium-Sized Livestock Ownership*:** Relative to cattle/camel ownership, ownership of medium-sized livestock is more prevalent among sampled households. About 64 percent of PCGs in the comparison group (n=483) and 56 percent in the intervention group (n=492) confirmed ownership. Among the households that own medium-sized livestock, nearly 50 percent in the comparison group (n=239) admitted to having 10 or less goats and/or sheep; in the intervention group, 54 percent of households (n=266) indicated the same.

***Small-Sized Livestock*:** When it comes to small-sized livestock, only about three percent of PCGs in both intervention and comparison groups reported ownership. Among those that own small-sized livestock, 52 percent of PCG households in the comparison group (n=12) confirmed owning five or less chickens; in the intervention group, about 80 percent of households (n=24) reported likewise.

***Access to a Water Reservoir/Storage*:** Roughly half of PCGs in both the intervention (47 percent; n=413) and comparison groups (49.6 percent; n=374) indicated that they have access to a water reservoir/storage.

Table 18: Household Economic Background Disaggregated by Head of Household Gender

Sample breakdown (Head of Household Gender)		
	Male	**Female**
Traditional/Non-Traditional Household	778 (90.1%)	657 (86.3%)
Tin/Iron Sheet Roof	407 (47.1%)	345 (45.3%)
Mobile Phone Ownership	827 (95.7%)	706 (92.8%)
Land Ownership	677 (78.4%)	584 (76.7%)
Savings	94 (10.9%)	84 (11%)

The most prevalent types of dwelling in the sample are traditional households built from concrete, bricks, or wood and non-traditional households, which are constructed from thatch or mud. Approximately 90 percent of sampled male heads of households reside in these types of dwellings compared to the 86.3 percent of female heads of households.

Among the types of materials used to construct household roofs, tin/iron sheets are the most widely used in the sample. Here, we see that tin/iron sheets are used by 47.1 percent of male heads of households while 45.3 percent of female heads of households opt for the same material.

We see a high percentage of mobile phone ownership regardless of the head of household's gender. Among sampled male heads of households, nearly 96 percent reported owning a mobile phone device. Among sampled female heads of households, 92.8 percent confirmed the same.

Land ownership among male and female heads of households is relatively common. Over 78 percent of sampled male heads of households reported exclusive land ownership, joint land ownership, or both; approximately 77 percent of sampled female heads of households reported likewise.

Finally, "savings" is a dimension in which both groups performed poorly. Only 10.9 percent of sampled male heads of household reported having savings. Female heads of household performed marginally better with 11 percent indicating likewise.

***Scholarships*:** Only 6.5 percent of sampled girls (n=29) in the comparison group received scholarships for girls' education. This rate is nearly doubled in the intervention group, at approximately 12 percent (n=67). This difference between the intervention and comparison groups is primarily a result of differential distribution of CARE bursaries, with 4.9% of intervention girls (n=27/553) having scholarships from CARE, as opposed to 0.9% of comparison girls (n=4/447) having CARE scholarships.

Among the girls that received scholarships, 100 percent of girls in the comparison group (n=29) reported that the scholarship was more likely to impact the likelihood of their enrolment. In the intervention group, responses were more varied. While about 82 percent of girls (n=55) agreed that scholarships were more likely to impact their enrolment, over 13 percent (n=9) believed that their chances of enrolment were just as likely as before even with the scholarship. Finally, three percent of girls in the intervention group (n=2) believed that the scholarship was less likely to make an impact on their likelihood of enrolment.

Causes of School Non-Enrolment

This subsection presents an analysis of potential causes of girls being out of school. Based on caregiver reports, there was a total of 713 girls who were not enrolled in school at the time of the baseline study (note, this figure excludes outlier schools).[42] Among these girls, the majority (74.8 percent) had never attended school at all. The table below displays the causes of girls' non-attendance or drop-out as reported by their primary caregivers.

The most prevalent cause of non-enrolment among girls is the lack of funds to cover girls' tuition. The second most common cause of drop out reported is family migration. There is little variation between the intervention and comparison groups in terms of the reported determinants of non-enrolment.

[42] Note, this estimate of enrolment status differs somewhat from the enrolment status reported directly by girls as part of the learning assessment. The learning assessment figure is assumed to be more accurate and thus informs most of the analysis in this report. The caregiver reported figure is used here because it forms the basis for whether or not respondents were asked the relevant questions about non-enrolment.

Table 19: Correlates of Non-Enrolment, Disaggregated by Intervention and Comparison Groups

Reasons for Drop Out	Intervention		Comparison (w/o outliers)		
	n	%	n	%	Source
Not Enough Money for Tuition	138	37.6%	156	45.1%	PCG_notenr3
Family Moved	118	32.2%	120	34.7%	PCG_notenr2b_n
Girl Needs to Work	53	14.4%	54	15.6%	PCG_notenr4
School is Too Far	48	13.1%	58	16.8%	PCG_notenr7
Lack of Assistive Devices	41	11.2%	23	6.6%	PCG_notenr11
Lack of Special Services	37	10.1%	38	11.0%	PCG_notenr10
Child Health Condition	35	9.5%	41	11.8%	PCG_notenr18
School is Not Important	34	9.3%	30	8.7%	PCG_notenr25
Child is Not Interested in School	30	8.2%	31	9.0%	PCG_notenr24
No Secondary School or Alternatives	27	7.4%	34	9.8%	PCG_notenr29_n
Inadequate Transport Services	24	6.5%	10	2.9%	PCG_notenr9
Teacher Lacks Ability	23	6.3%	29	8.4%	PCG_notenr12
Poor School Programming	20	5.4%	31	9.0%	PCG_notenr17
No Chaperone	18	4.9%	24	6.9%	PCG_notenr8
Child is Getting Married	18	4.9%	20	5.8%	PCG_notenr22
Cannot Use Toilet	17	4.6%	22	6.4%	PCG_notenr16
Child Does Not Learn Anything	17	4.6%	16	4.6%	PCG_notenr28_n
Unsafe Commute	16	4.4%	24	6.9%	PCG_notenr5
Child mistreated by teacher	15	4.1%	20	5.8%	PCG_notenr13
School Does Not Help Child Get a Job	14	3.8%	25	7.2%	PCG_notenr26
Cannot Move Around School	13	3.5%	18	5.2%	PCG_notenr15
Refusal of School Entry	12	3.3%	12	3.5%	PCG_notenr14
Child Bullied by Other Pupils	12	3.3%	11	3.2%	PCG_notenr27
Child Has/Is Going to Have a Baby	11	3.0%	16	4.6%	PCG_notenr23
Child is Too Old	9	2.5%	22	6.4%	PCG_notenr19
Unsafe School Environment	8	2.2%	24	6.9%	PCG_notenr6
Child Has Completed Enough Schooling	6	1.6%	7	2.0%	PCG_notenr21
Child is Not Mature Enough	4	1.1%	15	4.3%	PCG_notenr20
Total	367	100.0%	346	100.0%	

***Migration as a Cause of Non-Enrolment*:** About 35 percent of primary care givers in the comparison group reported that girls dropped out of school or never enrolled because their family moved. In the intervention group, 32 percent of PCGs indicated likewise. When PCGs were asked whether drop out was

attributed to financial reasons, higher percentages in both groups responded “yes.” In the comparison group, 45 percent of PCGs (n=156) indicated that there is not enough money to pay for girls’ school costs. In the intervention group, nearly 38 percent of PCGs (n=138) cited the same reason.

Project note:

Qualitative data indicates migration as a cause of dropout, and during previous SOMGEP evaluation rounds, references were made to girls struggling to attend a new school (teachers refusing entry; girls being too shy to engage with new colleagues). Families displaced by the drought are unlikely to be able to afford school, at least immediately, resulting in dropout and in a subsequent period out of school (temporarily or permanently). This is particularly likely when displacement occurs from one rural area to another, as observed in the sampled locations. While NGOs/charities have offered options for free education in IDP camps located in towns, these options are not available in rural areas.

Enrolment post-migration is unlikely to be hindered by school policies; most schools would accept enrolment at any time of the year. As noted above, however, migrants may not always be welcomed by schools, or may not have the means to seek enrolment.

Finance as a Cause of Non-Enrolment: Financial problems have an even larger impact. Insufficient funds to cover the cost of girls’ education is responsible for girls’ drop out in 38 percent of the cases in intervention sites and 45 percent of the comparison locations.

***Girls’ Employment as a Cause of Non-Enrolment*:** When PCGs were asked if the need to work prevented girls from attending school, only about 16 percent of PCGs (n=54) in the comparison group and 14 percent (n=53) in the intervention group responded “yes.”

***School Safety as a Cause of Non-Enrolment*:** Safety of school commute and security within the school facilities accounted for even lower percentages of drop out among girls. Only about seven percent of PCGs (n=24) in the comparison group and four percent (n=16) in the intervention group reported that their girls did not attend class because travelling to school was too dangerous. Meanwhile, seven percent of PCGs (n=24) in the comparison group and about two percent (n=8) in the intervention group reported that drop out was due to an unsafe school environment.

***Commute Distance as a Cause of Non-Enrolment*:** The distance to school also seems to play only a periphery role in causing drop out among girls. Only about 17 percent of PCGs in the comparison group (n=58) and 13 percent in the intervention group (n=48) cited distance as the cause of drop out. Insufficient transport services do not explain much about drop out among girls either. Only three percent of PCGs in the comparison group (n=10) and about seven percent in the intervention group (n=24) cited that inadequate transport services were an issue. When PCGs were asked whether the problem was related to the lack of a chaperone to accompany girls to school, only 7 percent in the comparison group (n=24) and about five percent in the intervention group (n=18) responded “yes.”

***Lack of Special Needs Accommodations as a Cause of Non-Enrolment*:** The same trend applies to the availability of accommodations made to disabled girls. Among girls whose caregivers said they had never enrolled in school, only 11 percent in the comparison group (n=38) and about 10 percent in the intervention group (n=37) responded “yes” when asked whether girls’ non-enrolment could be attributed to the lack of special services or assistance for girls who need it. Meanwhile, less than seven percent of

PCGs in the comparison group (n=23) and about 11 percent in the intervention group (n=41) cited the lack of assistive devices and technologies in schools as a barrier to girls' attendance.

***Teaching Quality/Classroom Dynamics as a Cause of Non-Enrolment*:** Drop out due to teachers' lack of teaching ability was also low across intervention and comparison groups. In the intervention group, only about eight percent of PCGs (n=29) indicated that teaching ability posed a barrier to girls' attendance, while less than seven percent of PCGs in the intervention group (n=23) indicated likewise. Similarly, sample PCGs mistreatment towards girls by classroom teachers was not a common obstacle to attendance. At baseline, less than six percent of PCGs in the comparison group (n=20) reported that their child had informed them that they had been mistreated by their teachers; reported incidence of mistreatment was even lower in the intervention group, at only about four percent (n=15). Lastly, less than four percent of PCGs in both intervention (n=12) and comparison (n=11) groups reported mistreatment towards their girls from fellow classmates as a cause of dropout.

***Refusal of Entry as a Cause Non-Enrolment*:** Interviews with PCGs indicated that another reason for drop out among girls may be due to refusal of school entry; however, these cases were uncommon as only about three percent of PCGs in both intervention (n=12) and comparison (n=12) groups reported this as cause of drop out.

***School Infrastructure as a Cause of Non-Enrolment*:** Relatively low percentages of PCGs in intervention and comparison groups point to reasons related to school infrastructure as causes of drop out among girls. Among the sampled PCGs, approximately five percent in the comparison group (n=18) reported that their girls dropped out because they could not move around the school campus or classrooms, and nearly four percent of PCGs in the intervention group (n=13) indicated the same. Percentages of PCGs responding in the affirmative remained low across intervention and comparison groups when they were asked if girls dropped out because they were unable to use the toilet while they were at school. Here, roughly six percent of PCGs in the comparison group (n=22) and about five percent in the intervention group (n=17) indicated that lavatory access was an issue.

***School Programs as a Cause of Non-Enrolment*:** School programming was also a relatively minor cause of drop out among girls. Only nine percent of PCGs in the comparison group (n=31) reported that drop out was due to a lack of school programs that met their girls' specific needs. Performance was notably better in the intervention group as only about five percent of PCGs (n=20) reported drop out attributed to inadequate school programs. When asked whether this issue extended to secondary schools, only about 10 percent of PCGs in the comparison group (n=34) and approximately seven percent of PCGs in the intervention group (n=27) responded "yes."

***Health Conditions as a Cause of Non-Enrolment*:** Nearly 12 percent of PCGs in the comparison group (n=41) and almost 10 percent of PCGs in the intervention group (n=35) attributed school drop out to girls' pre-existing health conditions.

***Demographic Barriers as a Cause of Non-Enrolment*:** PCGs revealed that characteristics such as girls' age and maturity play a minor role in leading to dropouts. Less than 7 percent of PCGs in the comparison group (n=22) and approximately 3 percent of PCGs in the intervention group (n=9) reported that their girls were too old to attend school. Even lower percentages of PCGs across comparison and intervention groups reported that immaturity was a cause of drop out. Only about four percent of PCGs in the comparison group (n=15) and approximately one percent of PCGs in the intervention group (n=4) believe that their girls are not mature enough to attend classes.

Furthermore, if marriage is a cause of drop out, it does not seem to apply to the majority of target girls. Among sampled PCGs, less than six percent in the comparison group (n=20) and less than five percent in the intervention group (n=18) indicated that marriage was the reason their girls had dropped out. The same analysis applies for childbearing as a cause of drop out among target girls. Only about five percent of PCGs in the comparison group (n=16) and three percent in the intervention group (n=11) reported that their girls dropped out because of motherhood.

***PCG Perceptions of Education as a Cause of Non-Enrolment*:** Only two percent of caregivers of non-enrolled girls in the comparison group (n=7) and 1.6 percent of caregivers of non-enrolled girls in the intervention group (n=6) believe that drop out occurred because their girls had already received enough classroom training. When PCGs were asked if girls dropped out because schooling was not important, only a small minority in both intervention and comparison groups responded "yes" (8.7 percent/n=30 in the comparison group and 9.3 percent/n=34 in the intervention group). Similarly, only nine percent of PCGs in the comparison group (n=31) and approximately eight percent in the intervention group (n=30) claimed that drop out was attributed to their girls not being interested in attending classes.

The percentage of PCG responses in the affirmative across intervention and comparison groups remained consistently low when less than eight percent in the comparison group (n=25) and less than four percent in the intervention group (n=14) agreed that girls dropped out because schooling did not help them find a good job. Finally, only 4.6 percent of PCGs across both intervention (n=17) and comparison (n=16) groups claimed that drop out was due to a lack of learning in school.

3.5 Intersection between key characteristics and barriers

Based on the foregoing analysis, the most prevalent characteristics were those related to poverty and education of the girl's family and the most commonly faced barriers included those relating to teacher quality and chore burden. Table 20 below presents the intersection of these themes in characteristics and barriers for cohort girls in intervention areas who are in school.

The characteristics with the strongest through line among these girls were those of poverty, characteristics frequently combined with poor teacher quality barriers. 89.5% of the in-school, intervention girls have homes with roofs constructed from mud, thatch, wood, tin/iron sheets, asbestos, cardboard, or tarp/plastic, a proxy indicator of poverty. These girls face a number of teacher quality barriers: nearly two-thirds of them, 62.6%, say that the teacher punishes and/or disciplines students when students get the lesson wrong, 45.7% say that they are afraid of the teacher, and 33.7% say that teachers treat boys and girls differently in the classroom. In addition, these girls face teacher absenteeism (28.5%) and the use of physical punishment (21.8%).

Girls who have a primary caregiver (71.5%) or head of household without education (65.9%) faced similar teaching quality challenges. Almost half, 47.7% of these in-school cohort girls from intervention areas with primary caregivers with no education said they had a teacher who punishes and/or disciplines students who get lessons wrong and 43% of these girls with heads of households with no education said the same. Teacher absenteeism is a barrier faced by 22.2% and 22.4% of girls with primary caregivers and heads of household without education, respectively.

Table 20: Examples of barriers to education by characteristic

Characteristic									
Barriers:	Home uses poor roofing materials	Primary caregiver has no education	HoH has no education	Female-headed household	No land ownership	Mental health disability	Girl doesn't speak language of instruction	Total girls with barrier	Total sample size
Teacher punishes/disciplines when students gets lesson wrong	316 (62.6%)	241 (47.7%)	217 (43%)	167 (33.1%)	73 (14.5%)	12 (2.4%)	5 (1%)	353 (69.9%)	505 (100%)
Girl afraid of teacher	231 (45.7%)	186 (36.8%)	170 (33.7%)	129 (25.5%)	55 (10.9%)	16 (3.2%)	2 (0.4%)	266 (52.7%)	505 (100%)
(In) Sufficient time to study: High chore burden[43]	52 (10.3%)	37 (7.3%)	48 (9.5%)	25 (5%)	8 (1.6%)	3 (0.6%)	1 (0.2%)	56 (11.1%)	505 (100%)
Girl agrees teachers treat boys and girls differently in the classroom	170 (33.7%)	136 (26.9%)	132 (26.1%)	96 (19%)	30 (5.9%)	13 (2.6%)	1 (0.2%)	194 (38.4%)	505 (100%)
Girl agrees teachers often absent from class	144 (28.5%)	112 (22.2%)	113 (22.4%)	78 (15.4%)	30 (5.9%)	11 (2.2%)	1 (0.2%)	163 (32.3%)	505 (100%)
Girl witnessed physical punishment last week	110 (21.8%)	82 (16.2%)	71 (14.1%)	61 (12.1%)	27 (5.3%)	3 (0.6%)	0 (0%)	127 (25.1%)	505 (100%)
Total girls with characteristic	452 (89.5%)	361 (71.5%)	333 (65.9%)	239 (47.3%)	99 (19.6%)	23 (4.6%)	8 (1.6%)		505 (100%)
Total sample size	505 (100%)	505 (100%)	505 (100%)	505 (100%)	505 (100%)	505 (100%)	505 (100%)	505 (100%)	

There are a number of factors that may be influencing teacher absenteeism. In the FGDs, teachers, mothers, and CEC members all expressed that teachers do not receive enough pay, and that the salaries they do receive are not provided consistently. Some teachers who participated in the FGDs were long-time volunteers. Salaries are subsidized in part by the fundraising efforts of CEC members, but not on a consistent basis, and teachers often both provide their services for free to students who cannot afford it and use their personal money to fund school repairs. “If there are broken windows, the teachers pay to fix them. Currently, we have replaced 6 windows and installed metal ones.”[44] As a result, it appears that teachers are forced to split their energies between teaching and searching for additional opportunities to make enough money to support their families. As one teacher explains, “In order to improve teachers’ quality, they need to get increased financial incentives, because teachers are suffering from lack of pay. We need to receive financial support, because if a teacher doesn’t have enough money or didn’t receive

[43] High chore burden is defined as requiring a whole day
[44] FGD – Teachers

any salary, there is no way that he/she can provide a quality education. He/she will leave the school to look for other, easier, ways to support themselves."[45]

Teachers also do not report receiving enough support and training to feel confident in their roles. Many teachers reported that they had not received any recent training over the past two years or support from the CEC or government. When asked what teachers would need to provide a quality education, teachers expressed an interest in learning more about their subjects and developing clear curricula that would enable them to provide a higher quality of education to students. One teacher explains how support from the government is limited: "We didn't receive any support from the government, except for four teachers, who are receiving a very small salary. I have been working here as a volunteer for a long time, without taking any salary."[46] Another teacher explains how the lack of a clear curriculum hinders his ability to teach students of different levels: "I teach four classes of the math subject and I do not have a curriculum to teach a good quality education to the child, and the children are not same because they have different intelligences, so they need to have quality education. After the Somalia authority collapsed, all the schools have different curriculum, so we need to unite all the curriculum."[47]

The exact causes for the correlation between poverty and poor teaching quality in these communities are unclear but the relationship is not unexpected. Poorer communities that are unable to pay their teachers as described above are likely not able to attract trained teachers who are trained in more effective classroom management techniques that do not resort to corporal punishment or who are willing to be paid insufficient and/or infrequent salaries. With fewer trained teachers, children from poor communities may disproportionately have teachers using corporal punishment. In addition, households with limited socioeconomic status may in turn only be able to send their girls to schools with low teacher quality where punishment and absenteeism may be common. The relationship between poverty and poor teaching quality can be investigated in future rounds of evaluation by asking teachers about how they made their choice to teach in the community as well as by better understanding the link between a teacher's training and the quality of their instruction.

3.6 Appropriateness of project activities to the characteristics and barriers identified

SOMGEP-T project activities are directed to achieve four main goals: 1) improving access to post-primary options, (2) fostering supportive school practices and conditions for marginalized girls, (3) promoting positive shifts on gender and social norms, and (4) enhancing the ability of MoEs to deliver quality education. Each of these activities would address the key barriers faced by in-school, intervention cohort girls with the exception of the first which is designed to broaden educational opportunities for cohort girls who are out of school. Developing supportive school practices by teachers would help marginalised girls engage with learning without fear of punishment or of the teacher. Promoting positive changes on gender norms will help address the problem of unequal intervention between girls and boys that was noted by

[45] FGD – Teachers
[46] FGD – Teachers
[47] FGD – Teachers

38.4% of these girls. Strengthening the ability of MoEs to deliver quality education may be able to not only promote these supportive practices but also decrease teacher absenteeism.

Several of the prevalent barriers identified by the analysis correspond with the project's ToC. These include demand-side barriers such as poverty and high chore burdens. Supply-side barriers described in the Theory of Change and identified in the analysis include limited access to qualified teachers who in addition to teaching numeracy and literacy can use supportive, gender-sensitive learning practices and limited capacity of school leaders and education officials to address absenteeism.

Project's contribution

The majority of the findings confirm SOMGEP-T's Theory of Change and previous assessments. Some findings, however, provide important input to CARE and its partners to further refine/ adjust the ToC.

A key finding of this evaluation round was the identification of a high proportion of young girls (under 12) whose caregivers reported that they are showing daily, weekly or monthly signs of depression and/or anxiety. While this is expected considering the ongoing shocks experienced by girls and their families in our target areas, the data provides an indication of the extent of the issue. It also suggests the need for similar items to be included in surveys for older girls – presumably affected to a higher extent than the younger cohort. The project will incorporate these aspects in our ToC. There are clear opportunities for addressing this point – by working with teachers to increase awareness during coaching sessions; linking with other organizations to develop simple strategies that can be adopted by teachers and girls'/ boys' empowerment fora to support students / participants who are facing anxiety and depression. It is also key to work with teachers to unpack the effects on learning.

Several aspects of the sample reflect the effects of the ongoing drought on education outcomes. One of them is the high proportion of out of school girls, and the fact that family movement was listed as a major reason for dropout. Additionally, the proportion of migrant girls and boys who are out of school is higher than observed during the first phase of the project. Most families have no savings. These findings, while expected, highlight the importance of considering the internal movement of families and the impact of the drought when deploying SOMGEP-T's interventions.

The low proportion of pastoralists in the sample raises interesting points, particularly considering the disparity in relation to other sources (such as the Population Estimation Survey of Somalia), and to the project's experience on the ground. On the other hand, a large proportion of the sample owns livestock. The disparity is potentially related to partial settlement in some locations, and to the loss of livestock as a result of the drought.

The intersection of poverty and the experience of physical discipline/ discrimination in class is another non-surprising finding, once again reaffirming dynamics of exclusion considered in the project's ToC. Nonetheless, it highlights the need to work with teachers and CECs to increase awareness of the effects of social dynamics on education outcomes, and to generate affirmative action at local level.

4. Key Outcome Findings

4.1 Learning Outcomes

SOMGEP-T targets three primary learning outcomes: learning, in terms of numeracy, literacy, and financial literacy, as well as transition of in-school girls from primary school to secondary school and transition of out of school girls to formal education institutions or alternative learning programs. This section presents key findings on learning outcomes, with emphasis on the identification of learning gaps and barriers, along with the discovery of sub-populations that tend to have the lowest learning outcomes. The section begins with a brief summary of the learning tests used and the scoring methods for those examinations. For literacy and numeracy assessments, a list of subtasks administered is provided for reference. Score distributions are explored for floor effects, and aggregate scores are presented by grade and by intervention versus comparison group.

Assessment Design

As with other GEC projects, SOMGEP-T focuses on numeracy and literacy as core learning outcomes. SOMGEP-T has also added a third focal learning outcome of financial literacy, which is closely related to numeracy skills, but which requires additional knowledge of financial principles and concepts such as profit. In Somalia and Somaliland, the official language of instruction is Somali in primary schools and English in secondary schools. Because the project targets girls in both primary and secondary school, the literacy assessment conducted included two modules, the first in Somali and the second in English.

The project's learning assessments were designed by CARE in conjunction with RI, which is also implementing a GEC-funded project (EGEP-T) in Somalia and Somaliland. The coordination between CARE and RI allowed for greater expertise to be brought to bear on the design – including Monitoring and Evaluation staff from each organization – and made piloting the tests more cost-effective. The tests were designed under guidance from the GEC FM for the development of SeGRA and SeGMA, mirroring the structure of the Early Grade Reading and Maths Assessments (EGRA and EGMA). The assessments test the following general skills (full-text versions of the assessments are provided in Annex 7):

Numeracy

- Subtask 1: Missing Numbers
- Subtask 2: Addition (level 1)
- Subtask 3: Subtraction (level 1)
- Subtask 4: Addition (level 2)
- Subtask 5: Subtraction (level 2)
- Subtask 6: Addition and subtraction word problems
- Subtask 7: Multiplication (level 1)
- Subtask 8: Multiplication (level 2)
- Subtask 9: Division (level 1)
- Subtask 10: Division (level 2)
- Subtask 11: Multiplication and division word problems

Somali Literacy

- Subtask 1: Reading Fluency – High-Frequency Words
- Subtask 2: Reading comprehension (easy)

- Subtask 3: Reading comprehension (medium)
- Subtask 4: Reading fluency (story reading)
- Subtask 5: Reading comprehension (hard)
- Subtask 6: Writing (fill in missing words)
- Subtask 7: Writing (convert sentence to negative form)
- Subtask 8: Writing (convert sentence to future tense)

English Literacy

- Subtask 1: Letter identification
- Subtask 2: Reading fluency or word recognition
- Subtask 3: Reading comprehension (easy)
- Subtask 4: Reading fluency or word recognition
- Subtask 5: Reading comprehension (medium)
- Subtask 6: Reading comprehension (difficult)
- Subtask 7: Writing (fill in missing words)
- Subtask 8: Writing (convert sentence to negative form)
- Subtask 9: Writing (convert sentence to future tense)

Each subtask comprised a set of individual items, ranging from one to ten per subtask. Piloting of the assessments took place in September 2017, with 310 randomly selected students in grades G5, G7, G8, Form 1 and Form 3. Based on the results of the pilot, CARE and RI jointly revised the assessments. Particular care was taken to prevent ceiling and floor effects, adjusting content to reflect learning levels observed at the final evaluation of SOMGEP/EGEP for corresponding grades, and removing tasks that proved to be too easy for respondents.

The scoring methodology ensured that each subtask was weighted equally in the final aggregate score. Specifically, each subtask was scored as the percentage of items correct out of the total number of items (hence ranging from 0 to 100). In keeping with FM guidance, the reading tasks that involved a word-per-minute (WPM) score were censored at a cap of 100 WPM, with individuals who scored above 100 WPM being assigned a score of 100 WPM. The result is that all subtasks were individually standardized to range from 0 to 100. The total score for the numeracy and literacy assessments was then generated by taking the average of the subtask scores for that assessment (with each subtask being given equal weight), presenting the total percentage score based on the averaged subtasks, ranging between 0 and 100. The financial literacy exam is an exception to this scoring procedure, as the first and second sections are scored and presented separately, each having a score ranging between 0 and 100. This procedure ensured that each subtask (and the associated skills) made an equal contribution to the final score for a given assessment, and that the final scores for each assessment have a comparable range from 0 to 100. For further details on assessment scoring and piloting, please see Annex 9.

In contrast to the numeracy and literacy assessments, the financial literacy exam is divided into two modules: (i) financial practices and (ii) financial calculations. The financial calculations module comprised eleven finance-focused word-problems that were arranged in order by their anticipated level of difficulty. Because the design of the financial literacy assessment differs significantly from the design of the other assessments, the approach to analysing financial literacy skill gaps (below) is accordingly different, as noted in the paragraph above.

Baseline Results

In reviewing the distributions of baseline scores, each score was first reviewed in terms of its reliability using Cronbach's alpha, which tests for the degree of inter-item correlations within each assessment. The results are summarized in the table below:

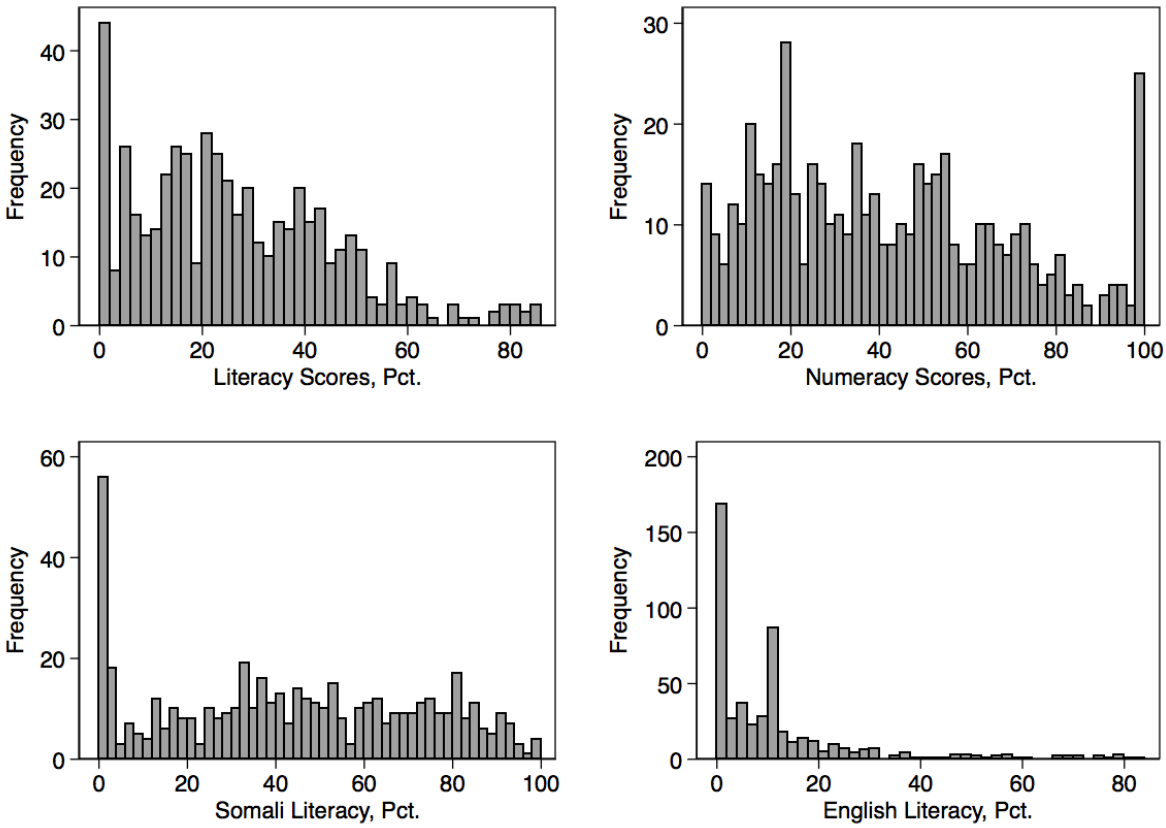
Assessment	*Literacy*	*Numeracy*	*Financial Lit.*
Alpha	0.97	0.98	0.86
Internal consistency	High	High	High

The Cronbach's alpha is very close to 1 for each of the assessments, indicating that the level of internal consistency is high.

The panels of graphs below summarize the aggregate distributions of learning outcomes for in-school girls, with one panel for intervention girls and one panel for comparison girls. The top two graphs in each panel presents combined Somali and English literacy scores, along with numeracy scores, separated by intervention and comparison, while the bottom two graphs in each panel present literacy scores disaggregated by Somali versus English, because the average performance levels and distributions are significantly different between the two languages.

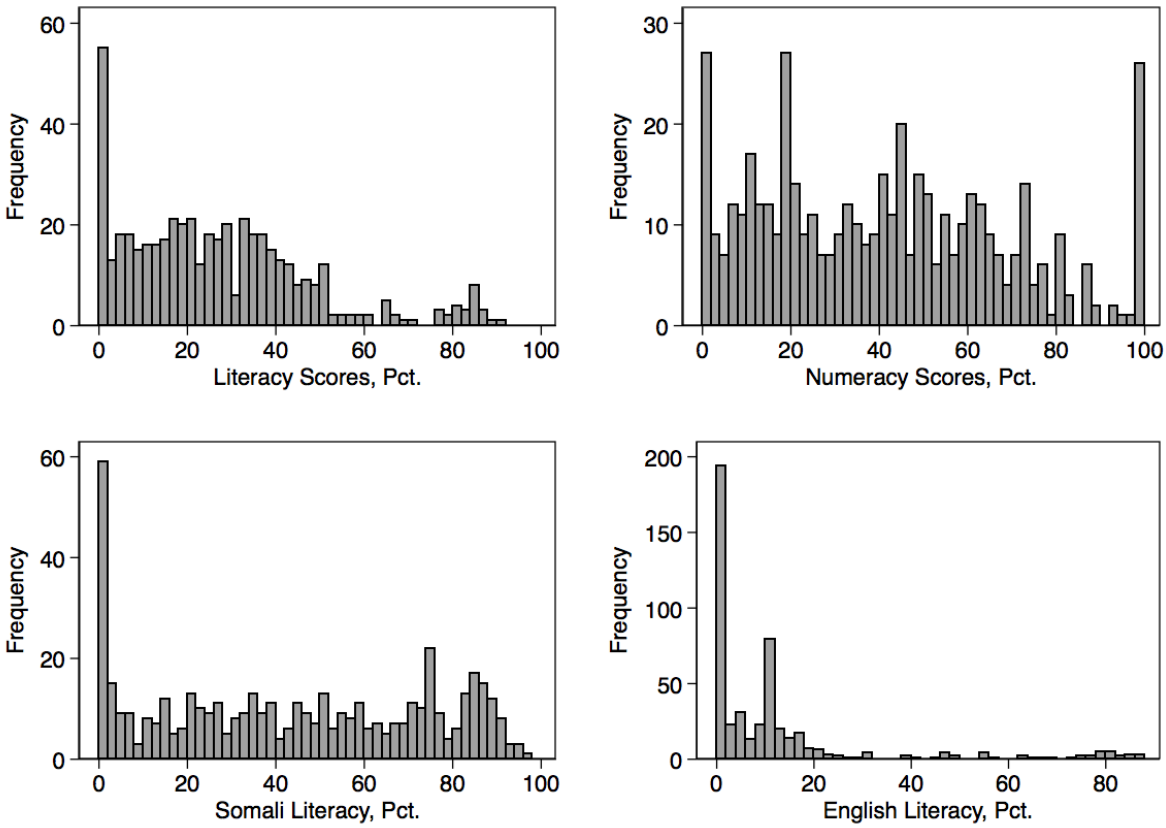
These graphs are presented for diagnostic purposes to identify floor and ceiling effects. Looking across the intervention and comparison groups, the distributions of assessment scores are relatively similar. For example, where there are floor effects in the intervention group, we see the same floor effects in the comparison group.

Figure 1: Aggregate distribution of learning outcomes, Intervention Group[48]



[48] The frequency refers to the number of children assessed who performed within each score range.

Figure 2: Aggregate distribution of learning outcomes, Comparison Group[49]



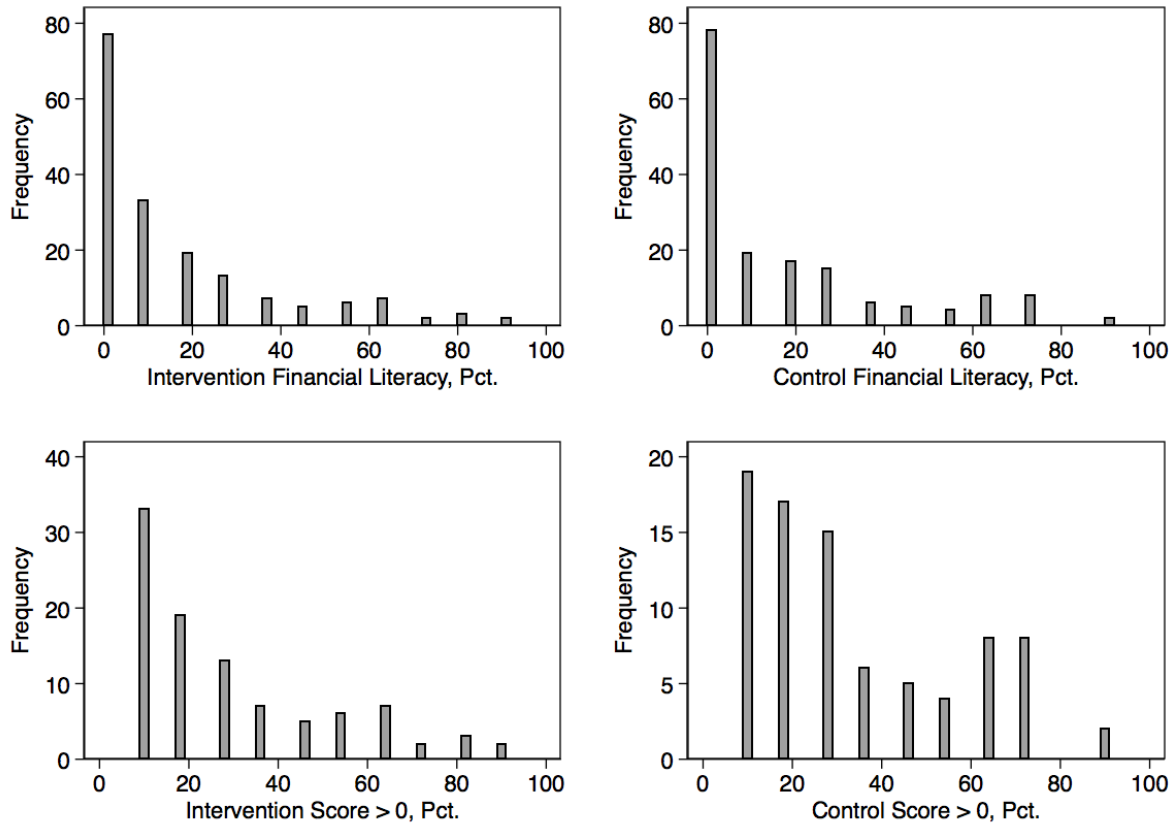
Comparing distributions of literacy scores across the intervention and comparison groups, there are significant floor effects in both groups. In literacy, 10% of all in-school girls scored less than 2% on the literacy portion of the learning assessment, and 89% of the in-school girls in the sample scored below 50% on the literacy portion, largely due to the inclusion of the English module, and also due to the comparatively low grade-levels of the girls assessed. The result is a right-tailed distribution.[50] Ideally, examination scores would approximate a normal distribution, centred at 50% (the midpoint of the possible score-range), meaning that approximately half of the in-school girls in the sample would score below 50% and half would score above 50%. The bottom two graphs in each panel disaggregated literacy outcomes by language, showing that the profound floor effect in literacy is clearly a problem of low English literacy in the sample, while there is almost no floor effect in Somali literacy.

In contrast, the numeracy results do not have as dramatic floor effects as the literacy results, but there is a degree of bimodality in the scores, with significant number of girls being clustered at both extremes (i.e. scoring at or nearly 0%, or scoring at or nearly 100%). At the bottom of the distribution of numeracy

[49] The frequency refers to the number of children assessed who performed within each score range.
[50] For literacy of in-school girls, Skewness = 0.85; Kurtosis = 3.5.

scores, 4% of girls scored less than 2% on that portion of the assessment, and 63% of girls scored less than 50%.[51] At the top of the distribution, approximately 5% of girls scored higher than 98%.

The financial literacy results show profound floor effects. On the panel of graphs below, the top two graphs show that 46.1% of in-school girls (n=155/336) scored 0% on the assessment. No girls achieved a perfect score (the highest score was 91%), and there was one question on the exam that was so difficult (and potentially confusing) that it only garnered 3 correct responses out of 336 in-school girls who took the financial literacy portion of the exam. Readers should bear in mind that this subsample of 336 girls (not counting out-of-school girls) tested into the financial literacy exam on the basis of having passed the first two subtasks of the numeracy exam. It was assumed that girls who failed the first two subtasks of the numeracy exam would also completely fail the financial literacy exam.



Because the high number of 0% scores masks variation among individuals who scored above 0%, the two graphs at the bottom of the panel present financial literacy scores by intervention and comparison, having removed girls who scored 0%. These graphs indicate a somewhat bimodal distribution of scores,

[51] For numeracy of in-school girls, Skewness = 0.45; Kurtosis = 2.3.

with a concentration of girls who scored below 30% and a concentration of girls who scored over 60%, but comparatively few girls who fall into the middle range of scoring near 50%.[52]

The analysis below will examine financial literacy results in greater detail. For now, it will suffice to observe that most girls in the sample have absolutely no financial literacy as measured by the assessment that they were given. This major floor effect is potentially problematic in terms of longitudinal analysis because it may mean that there is an entry-level learning gap in financial literacy, and girls who have fallen into that gap will stay trapped at the bottom of the skill-range and will be unable to improve over time. Put differently, if girls across all grade levels are already missing key skills that are essential for acquiring financial literacy, then it may be nearly impossible for them to improve over time without an intensive remedial intervention to ensure that girls have the foundational skills or knowledge necessary to do further learning. However, financial literacy is not presently being taught in schools, and the project intervention includes direct activities that will potentially improve financial literacy by: a) improving teachers' capacities to teach basic numeracy, and b) incorporating financial literacy in the activities taught.

Literacy

The Table below presents literacy results by grade (including out-of-school girls) and by intervention versus comparison groups. As a basic test of assessment validity, the Table 11 shows that learning outcomes and grade (along with out-of-school status) are strongly correlated, and in the expected direction of increased grade-level predicting increased learning. Mean literacy scores increase monotonically (i.e. stepwise) by grade across both the intervention and comparison groups, suggesting that the assessment scoring is valid and the assessment implementation was sound. While literacy scores increase as a function of grade-level, there is a marked slowing in the average rate of increase from Grade 5 to Grade 6. This attenuation of improvement may be a result of key skill gaps that will be investigated below.

Table 21: Literacy (EGRA/SeGRA)

Grade	Intervention Group Mean	Comparison Group Mean	Comparison Group Mean (Without outliers)	Standard Deviation in the intervention group
OOS	**8.6**	**8.2**	**8.2**	**13.1**
Grade 3	**17.8**	**16.4**	**14.5**	**15.7**
Grade 4	**24.6**	**24.5**	**21.9**	**19.5**
Grade 5	**33.2**	**32.6**	**27**	**17.6**
Grade 6	**34.3**	**37.4**	**30.8**	**18.3**

In terms of differences between intervention and comparison groups, Table 11 shows that mean literacy levels are closely matched between intervention and comparison at lower grade levels, but there is an

[52] For financial literacy of in-school girls, Skewness = 1.45; Kurtosis = 4.2.

emerging difference between intervention and comparison as grade-levels increase.[53] The average comparison-group student in grade 6 outperforms the average intervention group student by a margin of 3.1 percentage points. The observed divergence in grade 6 learning outcomes between the two groups is not particularly large at the aggregate level, but further investigation reveals that there are pronounced and significant differences in the performance of intervention versus comparison students by literacy subtasks. This divergence is explored in detail below. For now, it will suffice to say that this divergence was primarily a result of 5 comparison schools that drastically out-performed all of the rest in the sample. Further investigation revealed that three out of five of these schools had English as the primary language of instruction (unlike all of the other schools in the sample), and the other schools had English teachers who were exceptionally well trained and qualified vis-à-vis teachers at other schools in the sample (for more information on the characteristics of these special schools, please see the Methodological Annex).

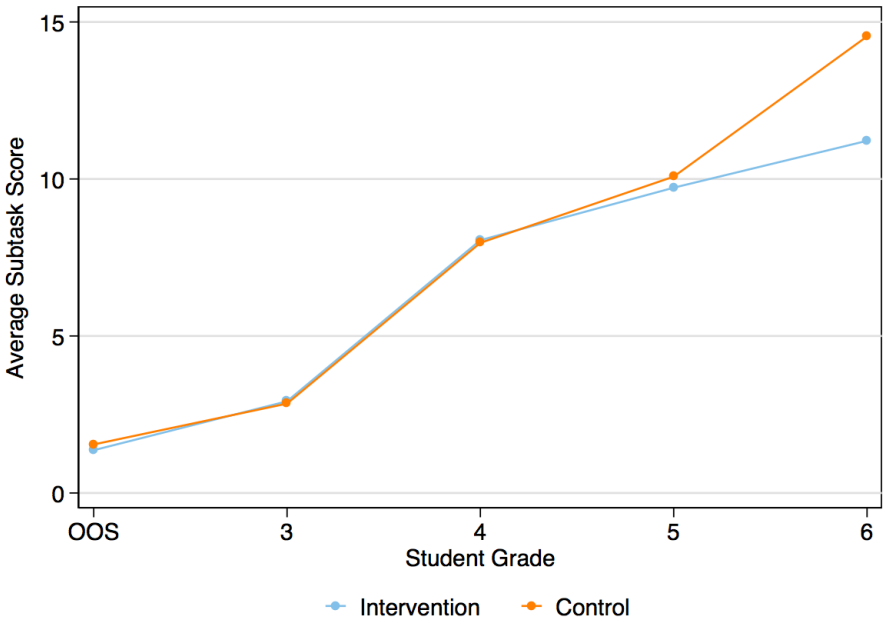
These five special schools fully account for the observed divergence between intervention and comparison schools. Ideally, the special characteristics of these schools could have been known during the construction of the sample, and these schools could have been excluded from the sample because there are no such comparable schools in the intervention group. Because these critical differences were only discovered following the conclusion of the study, the best strategy for dealing with these schools is to perform all relevant analyses of learning outcomes with and without those five schools included. Thus, Table 11 above and all subsequent tables present results with and without the inclusion of the five special schools.

Understanding Divergent Literacy Outcomes

Learning outcomes for intervention versus comparison diverge significantly in English literacy, with significant divergence becoming initially apparent from grade 5 to grade 6 at medium levels of difficulty in the reading comprehension subtask. The series of graphs below demonstrate that this divergence increases as a function of the difficulty of the English literacy subtasks. The graph below shows initial divergence at a medium level of difficulty in the reading comprehension subtask.

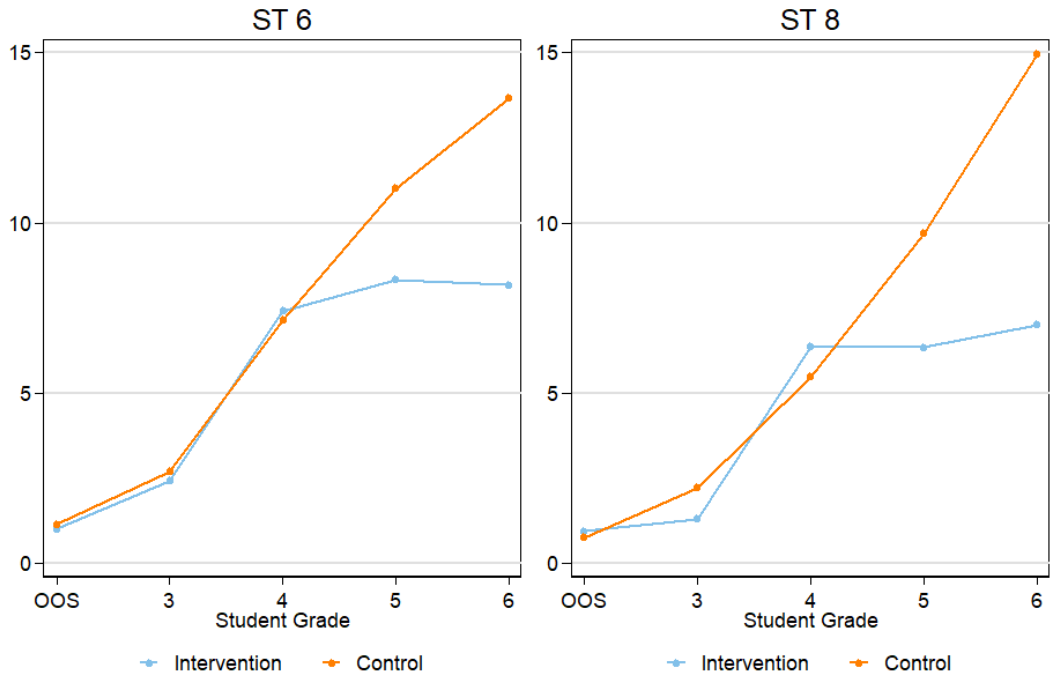
[53] Note that none of these differences between treatment and control are statistically significant, either in the aggregate, or by grade.

Figure 3: Reading Comprehension (Medium)



In the more difficult reading comprehension subtask (visualized below), there is a clear learning plateau occurring for intervention-group students from grade 4 to 5, while students in the comparison group appear to make more linear progress through each subsequent grade. The remaining two graphs below show that this plateau in intervention-group literacy outcomes persists across the more difficult subtasks, with the gap in performance (between intervention and comparison) becoming even wider at the highest levels of subtask difficulty – e.g. the Writing (negative form) subtask.

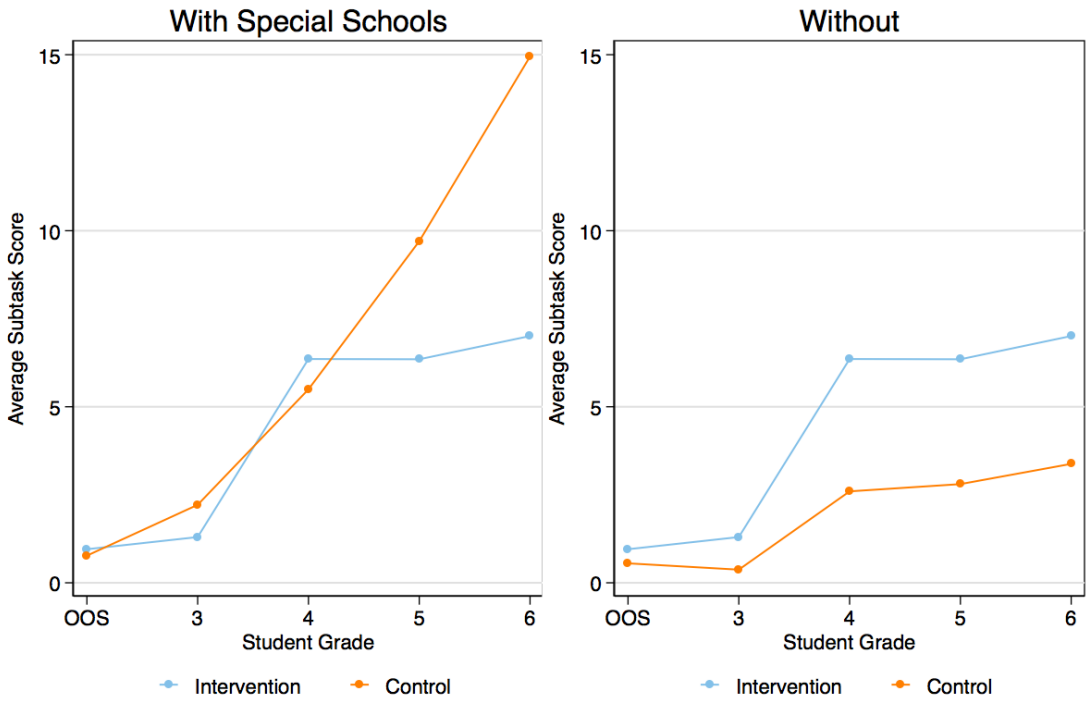
Figure 4: Subtask 6, reading Comprehension (Difficult); Subtask 8, writing (negative form)



Investigation of these marked differences between intervention and comparison revealed that five comparison schools were outperforming all of the other sampled schools by a significant margin. In particular, grade 5 and grade 6 learners in those schools had a consistent upward trajectory in terms of their English skill development, whereas learners from other schools tended to plateau in the more difficult English skills or had upward progress that was heavily attenuated after grade 4. It was discovered that these five comparison schools were significantly different from other sampled schools in terms of quality and type of English skill-related instruction that students in those schools were receiving (please see the Methodological Annex for more details).

Excluding these five special comparison schools from analysis results in the intervention and comparison groups having a nearly identical trajectory in terms of skill development across grade-levels. The panel below presents the negative-form writing task graph from above, alongside the analogous graph omitting the five special schools. While there is a gap between intervention and comparison schools in the Without graph, the trajectories from grade-to-grade are the same, which is ideal given the planned difference-in-difference analysis that will be applied to make longitudinal comparisons in future waves of the study.

Figure 5: Writing (negative form), comparison of trajectories with and without special schools



Numeracy

The table below presents numeracy results by grade (including out-of-school girls) and by intervention versus comparison groups. As with literacy outcomes above, Table 12 shows that numeracy scores and grade (along with out-of-school status) are strongly correlated, and in the expected direction of increased grade-level predicting increased learning in numeracy. Like literacy outcomes, numeracy outcomes increase monotonically by grade, suggesting that the assessment design was valid and the implementation of the assessment was sound. The smallest increase in average score is from Grade 5 to Grade 6, suggesting that skill-acquisition begins to plateau at Grade 5 (the potential reasons for this plateau will be explored in greater detail in the section on foundational skill gaps below). The general explanation for the plateaus in both literacy and numeracy is fundamental limitations in teachers' skills. The analysis of skill gaps below will show that learning plateaus emerge at specific skill levels, which generally correspond to the skills being taught at the grade-levels where plateaus are observed in this analysis.

Table 22: Numeracy (EGMA/SeGMA)

Grade	Intervention Group Mean	Comparison Group Mean	Comparison Group Mean (Without outliers)	Standard Deviation in the intervention group
OOS	**13**	**13**	**13.2**	**22.4**
Grade 3	**30.8**	**30.1**	**28.3**	**22.5**
Grade 4	**39.9**	**38**	**35.7**	**25.8**
Grade 5	**48.4**	**49.1**	**44.9**	**27.4**
Grade 6	**51.7**	**51**	**49.2**	**29**

Table 12 shows that the intervention and comparison groups are well-matched in terms of numeracy learning outcomes, even with the inclusion of the special schools. This finding underlines the specificity of English literacy skills as compared with numeracy skills, as well as the specificity of the teaching skills and approaches that led to higher than average literacy scores among the five special comparison schools. If the five special schools were significantly better resourced than others in the sample, or had teachers of higher overall quality, then we would expect to see differences in numeracy scores that would be analogous to the observed differences (namely divergence in skills at later grades) in literacy outcomes. The absence of such differences in literacy suggests that the teachers at the special schools were highly specialized in their teaching competencies related to teaching English.

Financial Literacy

The table below presents financial literacy results by grade and by intervention versus comparison groups. Financial literacy scores are positively correlated with grade-level and increase monotonically as expected, with notable exception of OOS girls who perform at approximately the same level (on average) as in-school girls in grades 3 and 4. Considering why out-of-school girls might have average scores as high as (or higher than) in-school girls, readers should remember the large floor effects in financial literacy, with a majority of learners scoring 0% on the exam. Given the lack of variability in financial literacy scores, a very small number of learners (who achieved non-zero scores) are effectively defining the mean for their entire grade-level, and for out-of-school girls, there are a number of older girls (ages 14 to 19) who achieved relatively high scores on the financial literacy exam, possibly due to being dropouts who acquired a modicum of financial literacy through involvement in family business or other economic activities.

Table 23: Financial literacy

Grade	Intervention Group Mean	Comparison Group Mean	Comparison Group Mean (Without outliers)	Standard Deviation in the intervention group
OOS	**8.8**	**10.5**	**10.1**	**17**
Grade 3	**8.8**	**6.7**	**6.9**	**16.8**

Grade 4	**12**	**11.3**	**11.8**	**18.2**
Grade 5	**20.2**	**19.5**	**17.6**	**25.5**
Grade 6	**19.4**	**25.7**	**19**	**23.3**

Table 13 also indicates that the largest increase in financial literacy is consistently from Grade 4 to Grade 5. Because financial literacy draws on numeracy skills (and scores are strongly correlated, as will be shown below), it is likely that this jump in financial literacy skill at Grade 4 is a product of finance-relevant numeracy skills that are typically acquired during Grade 4. It may also be the case that important concepts such as profit are often introduced in Grade 4, which would allow at least some Grade 4 students to overcome key conceptual thresholds or knowledge gaps that might otherwise prevent them from applying their numeracy skills to questions about financial literacy. This hypothesis about grade level and finance-specific skill acquisition will be investigated in greater detail below as part of the analysis of foundational skill gaps.

Identifying Foundational Skill Gaps

This section identifies potential skill gaps through an analysis of learning outcomes by subtask and by achievement category (non-learner, emergent learner, established learner, and proficient learner). The tables below present the percentage of in-school, cohort girls in the intervention group (n=505) who fall into a given learning category for a given subtask.[54]

On the following page, Table 24 presents foundational skill gaps for numeracy. As expected, the percentage of non-learners generally increases as a function of increasing sub-task difficulty, while the percentage of proficient learners decreases correspondingly. At higher levels of difficulty, the distribution of achievement levels becomes increasingly bimodal, with the number of emergent and established learners becoming smaller and smaller, indicating a growing skill gap and an ever-increasing proportion of non-learners who lack foundational skills and are unlikely to be able to make further progress in a given skill without significant remedial work.

[54] All tabulated results are weighted to adjust for the fact that the number of in-school girls in each cluster varies widely (from 4 to 23). Weights are applied such that each school-cluster counts evenly toward the estimated percentages. Thus, the school-level weight is $\frac{23}{n}$ where *n* = the number of in-school girls in a given school-cluster. This weighting is necessary in order to avoid a possible scenario in which the number of in-school girls in a given cluster is correlated with learning outcomes.

Table 24: Foundational numeracy skills gaps by learner categories

Categories	Subtask 1 Number Identification	Subtask 2 Addition (Level 1)	Subtask 3 Subtraction (Level 1)	Subtask 4 Addition (Level 2)	Subtask 5 Subtraction (Level 2)	Subtask 6 Word problems (add/subtract)	Subtask 7 Multiplication (Level 1)	Subtask 8 Multiplication (Level 2)	Subtask 9 Division (Level 1)	Subtask 10 Division (Level 2)	Subtask 11 Word problems (mult/div)
Non-learner 0%	3.5	6.4	23.8	34.9	47.6	34.9	47.5	73.6	69.2	81.8	68.7
Emergent learner 1%-40%	27.9	4.1	7.7	18.1	13.3	6.8	12.8	8.2	11.1	6.7	0.0
Established learner 41%-80%	29.5	17.9	14.2	21.1	19.4	27.0	17.3	5.8	7.1	3.8	11.2
Proficient learner 81%-100%	39.1	71.6	54.3	25.8	19.7	31.3	22.4	12.4	12.6	7.8	20.1
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 25: Foundational numeracy skills gaps with mean scores by grade

Grades	Subtask 1 Number Identification	Subtask 2 Addition (Level 1)	Subtask 3 Subtraction (Level 1)	Subtask 4 Addition (Level 2)	Subtask 5 Subtraction (Level 2)	Subtask 6 Word problems (add/subtract)	Subtask 7 Multiplication (Level 1)	Subtask 8 Multiplication (Level 2)	Subtask 9 Division (Level 1)	Subtask 10 Division (Level 2)	Subtask 11 Word problems (mult/div)
OOS	24.0	30.0	21.1	14.0	10.2	15.7	10.0	3.5	5.1	2.0	7.1
Grade 3	59.8	73.4	54.8	34.0	26.8	36.6	22.3	10.5	5.9	5.4	9.0
Grade 4	64.0	82.8	65.6	48.0	35.9	45.1	38.2	16.9	21.7	8.4	25.6
Grade 5	70.2	89.7	74.1	52.9	45.1	62.2	46.9	24.0	24.0	17.1	34.1
Grade 6	72.5	92.5	71.5	55.9	47.0	61.5	53.3	27.8	39.8	20.8	41.9

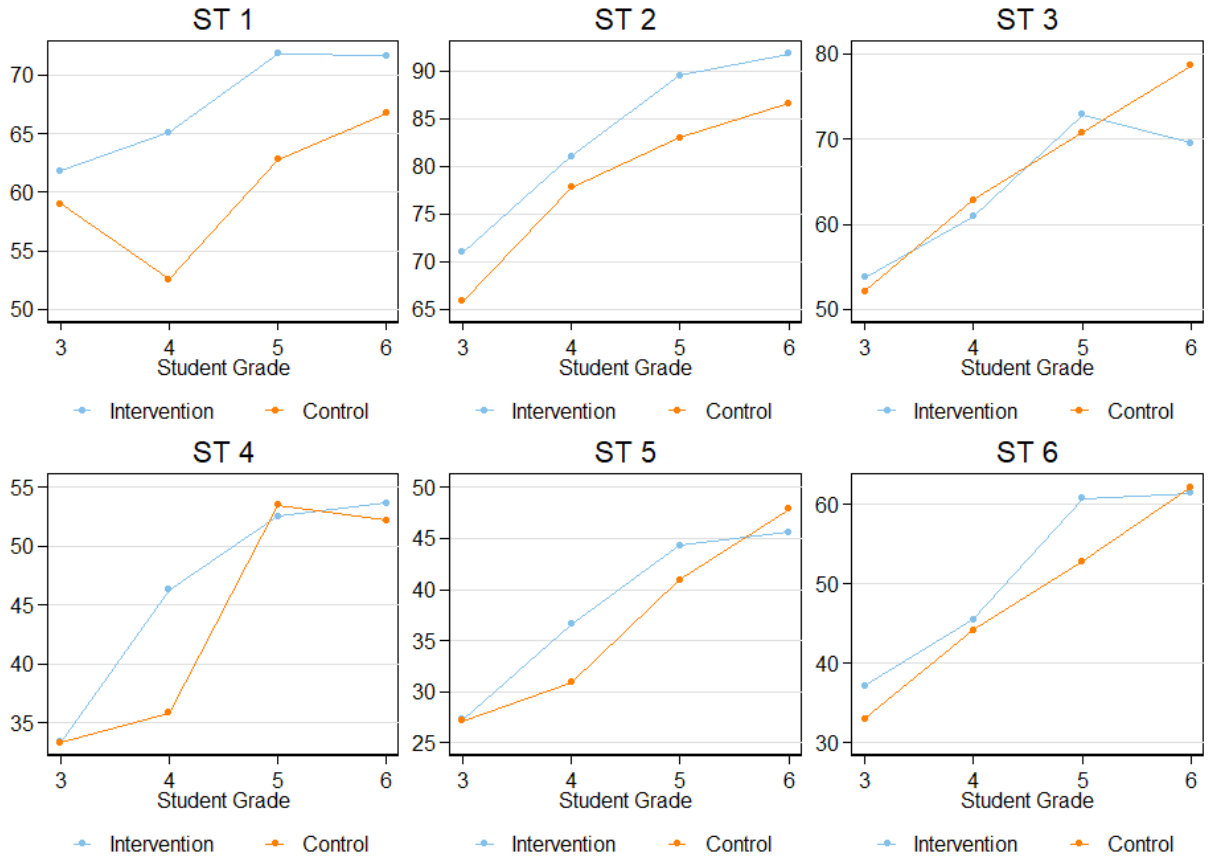
The primary skill gap in numeracy emerges between simple addition and subtraction (subtask 2 to subtask 3). There is a large increase of 17.4 percent in the proportion of non-learners from subtask 2 to subtask 3, suggesting that a significant number of in-school girls are failing to acquire foundational skills in subtraction. Subtask 3 is also where a bimodal distribution of skill-levels begins to emerge in the data. There is correspondingly a precipitous drop in the number of proficient learners from subtask 2 to subtask 4, indicating that subtraction and complex addition are challenging skills for the majority of learners.

A second major inflection point occurs between multiplication skill levels (subtask 7 to subtask 8). There is an increase of 26.1 percentage points in the number of non-learners from subtask 7 to subtask 8, indicating that approximately 26 percent of the girls who are able to do some multiplication are completely unable to solve more complex multiplication calculations, or basic division.

The achievement levels on word-problem subtasks indicate that if girls have the foundational skills in a given type of operation (e.g. addition or multiplication) that they are able to consistently solve word problems involving those operations. Put differently, the change from simple operations to word problems (involving the same operations) does not appear to present a significant additional challenge to girls, since their achievement levels are roughly equal between the two different problem types.

In order to further explore numeracy skill gaps, the panel of graphs below present numeracy scores by subtask and by grade for all in-school girls. Out-of-school girls score much lower than all in-school girls in terms of all subtasks, and thus are not shown in the graphs below so that in-school variation can be emphasised.[55]

Figure 6: Numeracy subtasks 1-6, by grade (excluding OOS girls and special cases)



The graphs above show a mostly consistent upward trajectory in performance on each subtask across grade-levels, albeit with a levelling-off or inflection point from grade 5 to grade 6.[56] This attenuation of learning from grade 5 to grade 6 was noted in the aggregate score distributions tabulated above. The levelling-off of learning at higher grade-levels becomes most consistent and pronounced from subtask 4 to subtask 6, although there is still some variation between the trajectories of grade 5 to grade 6 learners between the intervention and comparison groups. These findings are consistent with the skill gap noted in table 14 above, with a significant increase in the proportion of non-learners from subtask 2 through

[55] OOS girls are excluded from these graphs because their scores are significantly lower than those of all in-school girls. This large difference between in-school and OOS girls tends to mask (visually, on the plot region) the smaller differences that emerge among in-school girls.
[56] Note: despite relatively consistent upward trajectories by grade, scores in subtask 1 have an unexpected and unexplained drop from grade 3 to grade 4 learners who are members of the control group.

subtask 4 (i.e. between simple addition and subtraction or harder addition). This initial separation emerges between proficient and non-proficient learners (at low subtask levels), with skill-acquisition tending to level off at grade 5, indicating that remedial work on subtraction and complex addition may be a critical step toward improving numeracy scores, even for girls at higher grade-levels.

The panel of graphs below shows that this attenuation of learning from grade 5 to grade 6 is also relatively consistent across higher-level subtasks (7 to 11).

Figure 7: Numeracy subtasks 7-11, by grade (excluding OOS girls and special schools)

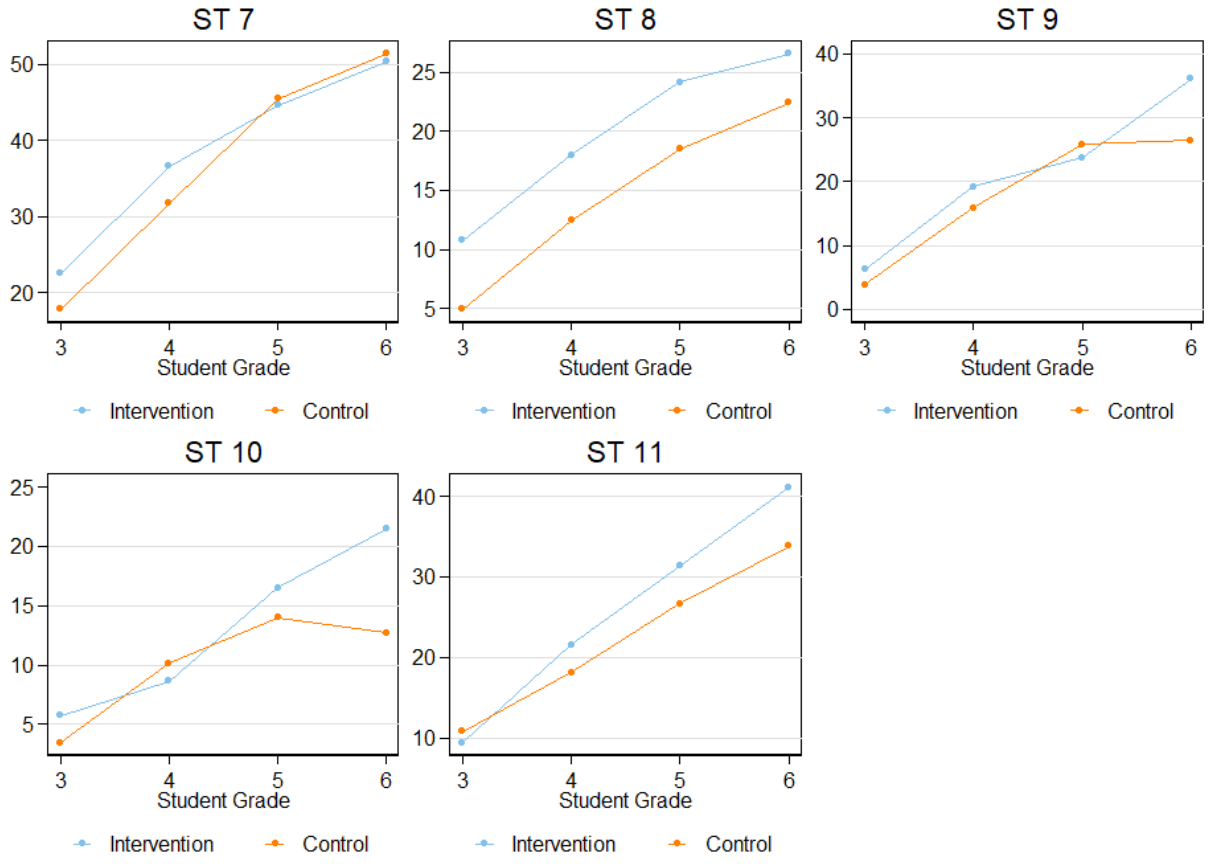


Table 26 and

Table 28 present foundational skill gaps for literacy, by language (Somali and English). Across both languages, reading tasks (graded in words per minute) have significantly different distributions from related reading comprehension tasks and writing tasks, namely that there are very few learners (in either language) who are coded as proficient readers when measured in words per minute, even if their comprehension is relatively high. Recognizing that the word-per-minute threshold for proficient reading may be different for Somali than for English, the Somali literacy scores were analysed to determine the average word-per-minute score of girls who also performed well on Somali reading comprehension (i.e. girls who were able to correctly answer 75% or more of the questions comprising the first three reading comprehension subtasks – 2, 3, and 5). Girls who answered 75% or more of the reading comprehension questions correctly averaged 45.6 words per minute on the first reading subtask (ST 1) and 60.7 words per minute on the second reading subtask (ST 4). This analysis suggests that the words-per-minute standard for proficiency in Somali can be assumed to be roughly equivalent to the words-per-minute standard for proficiency in English, which is established at 60 words-per-minute.

Table 26: Foundational (Somali) literacy skills gaps by learner category

Categories	Somali ST1 Reading Words	Somali ST2 Reading Comp (easy)	Somali ST3 Reading Comp (medium)	Somali ST4 Reading Fluency	Somali ST5 Reading Comp (difficult)	Somali ST6 Writing (fill blank)	Somali ST7 Writing (negative form)	Somali ST8 Writing (future tense)
Non-learner 0%	18.40	17.94	25.16	26.10	39.92	48.45	61.41	66.50
Emergent learner 1%-40%	42.51	2.20	5.95	24.60	12.48	11.67	4.89	3.24
Established learner 41%-80%	37.83	25.42	27.69	30.99	27.79	15.55	10.96	8.81
Proficient learner 81%-100%	1.26	54.44	41.20	18.31	19.81	24.32	22.74	21.45
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 27: Foundational (Somali) literacy skills gaps with mean scores by grade

Grades	Somali ST1 Reading Words	Somali ST2 Reading Comp (easy)	Somali ST3 Reading Comp (medium)	Somali ST4 Reading Fluency	Somali ST5 Reading Comp (difficult)	Somali ST6 Writing (fill blank)	Somali ST7 Writing (negative form)	Somali ST8 Writing (future tense)
OOS	8.7	18.1	15.3	15.1	8.7	9.8	9.8	8.4
Grade 3	20.7	53.0	41.2	26.3	25.8	22.6	17.5	14.3
Grade 4	30.1	72.1	55.9	39.1	40.5	35.8	29.1	24.3
Grade 5	42.4	84.0	78.0	53.2	50.1	51.1	41.8	37.4

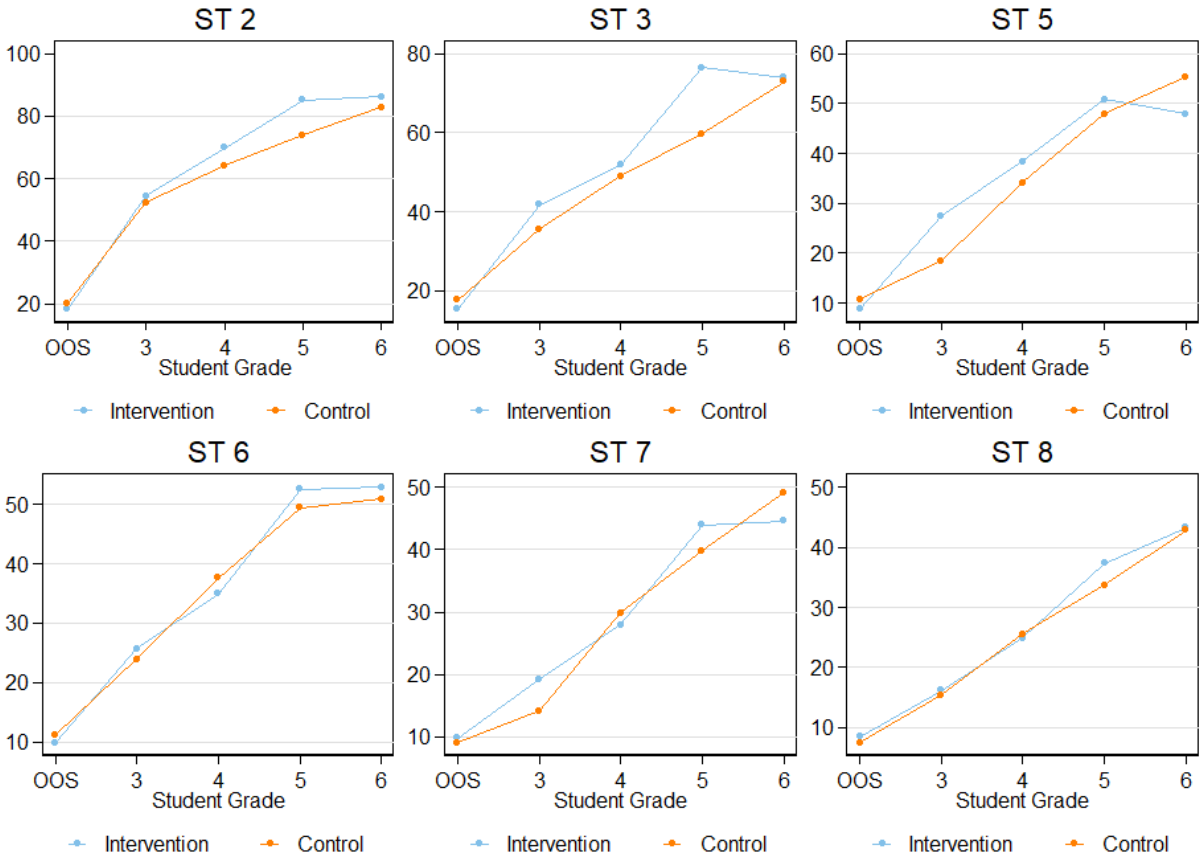
Grade 6	39.6	86.6	74.0	53.1	48.0	51.4	44.6	44.2

The primary skill gap in Somali literacy opens between medium and difficult levels of reading comprehension, with a 14.8 percent increase in the proportion of non-learners from subtask 3 to subtask 5, and a corresponding drop (by 21.4 percent) in the proportion of proficient learners. However, there are still moderate numbers of emergent and established learners in subtasks 3 and 5, suggesting that girls may still have the foundational knowledge to learn and improve these skills, even if they are not able to score perfectly on a given subtask.

Another significant skill gap exists between easy and more difficult writing tasks, with a 13.0 percent increase in the proportion of non-learners from easy writing in subtask 6 to more difficult writing (with negative constructions) in subtask 7. The distribution of achievement levels is increasingly bimodal across the writing subtasks, with fewer and fewer emergent and established learners, suggesting that girls who lack the foundational understanding of Somali grammar to complete subtasks 7 and 8 are falling directly into the non-learner category, and are probably fundamentally lacking the foundational skills necessary to move forward.

The panel of graphs below shows Somali reading comprehension and writing scores for each subtask, by grade. Despite the skill gaps identified above, there is a fairly consistent increase in score from grade to grade, even as the difficulty of the subtasks increases. This finding suggests that the gaps that do exist are fairly minor and are not truly “foundational,” in the sense that the majority of girls are sufficiently skilled to continue to learn and improve their scores as they progress from one grade to the next.

Figure 8: Somali reading comprehension and writing subtasks (2 to 3, and 5 to 8), by grade



The graphs below present Somali reading scores that were measured in terms of words read per minute. In both reading subtasks, the intervention and comparison groups have relatively similar trajectories, but there is an inflection point at grade 5, where learning levels off. The degree of attenuation is not consistent between intervention and comparison groups for subtask 1, and it is not clear why the intervention group score drops from grade 5 to grade 6. A similar trend involving levelling off of learning from grade 5 to 6 can be seen in related reading comprehension subtask 5 (graph above). As in numeracy, it is likely that these patterns are a reflection of teacher's skill levels. The project's activities are specifically designed to break these learning plateaus by addressing the specific gaps in teacher capacity.

Figure 9: Somali reading WPM scores, by grade

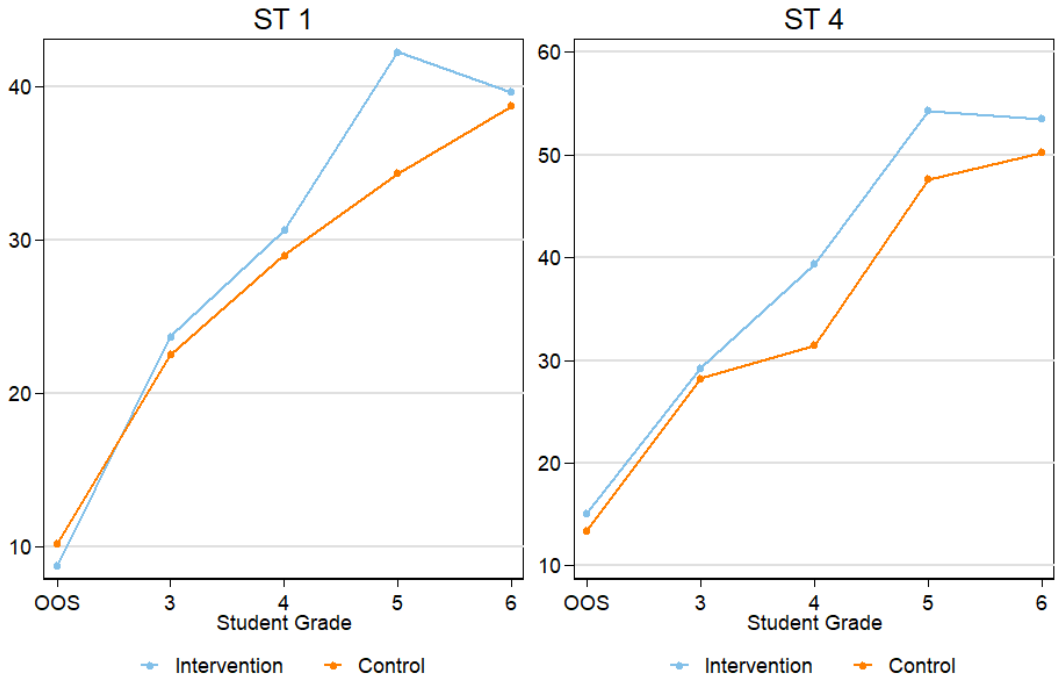


Table 28b: Foundational (English) literacy skills gaps by learner category

Categories	English ST1 Letter Identification	English ST2 Reading Words	English ST3 Reading Comp (easy)	English ST4 Reading Story	English ST5 Reading Comp (medium)	English ST6 Reading Comp (difficult)	English ST7 Writing (fill blank)	English ST8 Writing (negative form)	English ST9 Writing (future tense)
Non-learner 0%	41.9	48.0	81.0	58.3	88.3	92.0	92.6	95.3	95.5
Emergent learner 1%-40%	21.9	33.9	4.2	28.8	4.9	2.2	2.2	0.0	0.0
Established learner 41%-80%	13.0	17.3	9.4	9.1	4.0	3.0	2.3	1.5	1.1
Proficient learner 81%-100%	23.2	0.9	5.3	3.8	2.9	2.9	3.0	3.3	3.4
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 29b: Foundational (English) literacy skills gaps with mean scores by grade

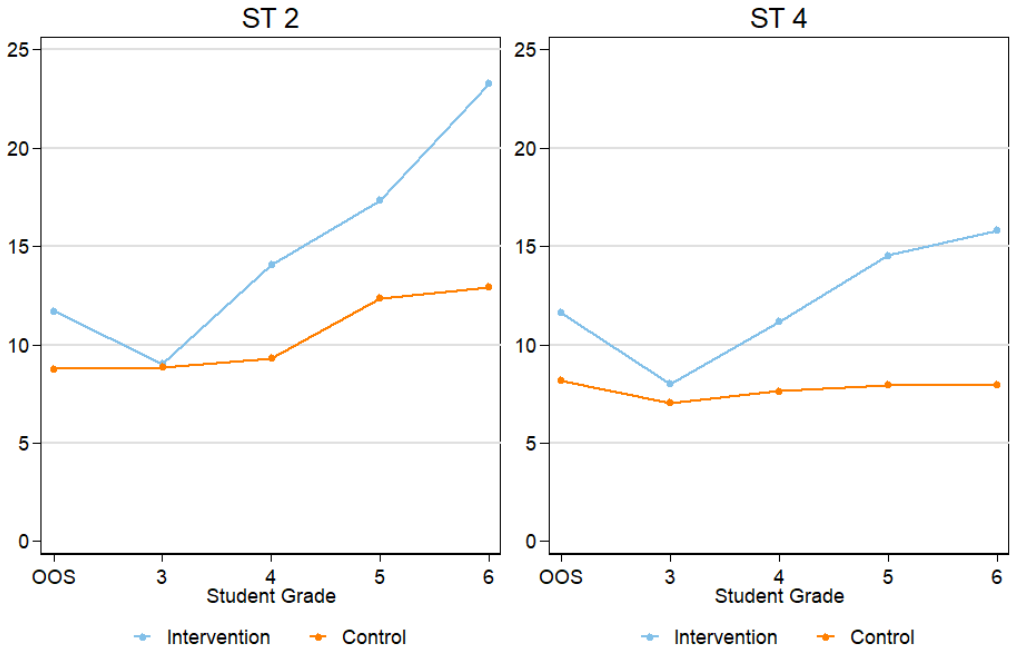
Grades	English ST1 Letter Identification	English ST2 Reading Words	English ST3 Reading Comp (easy)	English ST4 Reading Story	English ST5 Reading Comp (medium)	English ST6 Reading Comp (difficult)	English ST7 Writing (fill blank)	English ST8 Writing (negative form)	English ST9 Writing (future tense)
OOS	23.2	11.7	2.3	11.6	1.4	1.0	0.7	1.0	0.7
Grade 3	30.4	8.0	4.3	9.7	2.5	2.0	0.9	0.8	1.5
Grade 4	34.0	13.9	10.2	11.3	6.2	5.4	4.8	4.6	3.4
Grade 5	35.2	18.3	17.1	16.5	8.3	6.9	5.7	4.9	4.9
Grade 6	38.5	22.1	22.2	13.7	10.9	8.1	10.0	7.4	7.2

Baseline English literacy levels are extremely low. Nearly half (48.0 percent) of the cohort girls could not read any English words, thus falling into the non-learner category on subtask 2. Low levels of proficiency in reading English words create a stark barrier to learning on any subsequent reading or writing-related subtask. Even the girls who could read some English words tended to fall into the emergent or established learner categories, indicating a comparatively low level of mastery of the skill. Because of those low levels of mastery, the jump from English phonetics to English comprehension is prohibitively difficult, as explored further below.

Even among the minority of girls who could read at least some of a simple story (subtask 4), most of the learners who could read did not understand what they were reading, as reflected in the high proportions of non-learners in subtasks 3, 5 and 6. Over 80 percent of girls lack even the foundational knowledge necessary to begin comprehending what they are reading in English.

The panel of graphs below show English reading subtasks that were graded in terms of words per minute. The intervention and comparison groups have very different trajectories, with intervention scores showing a much steeper upward trajectory than comparison scores. This flattened learning trajectory is consistent across the other subtask scores for the comparison group. As will be seen below, these divergent learning trajectories come gradually into alignment as the subtasks become more difficult.

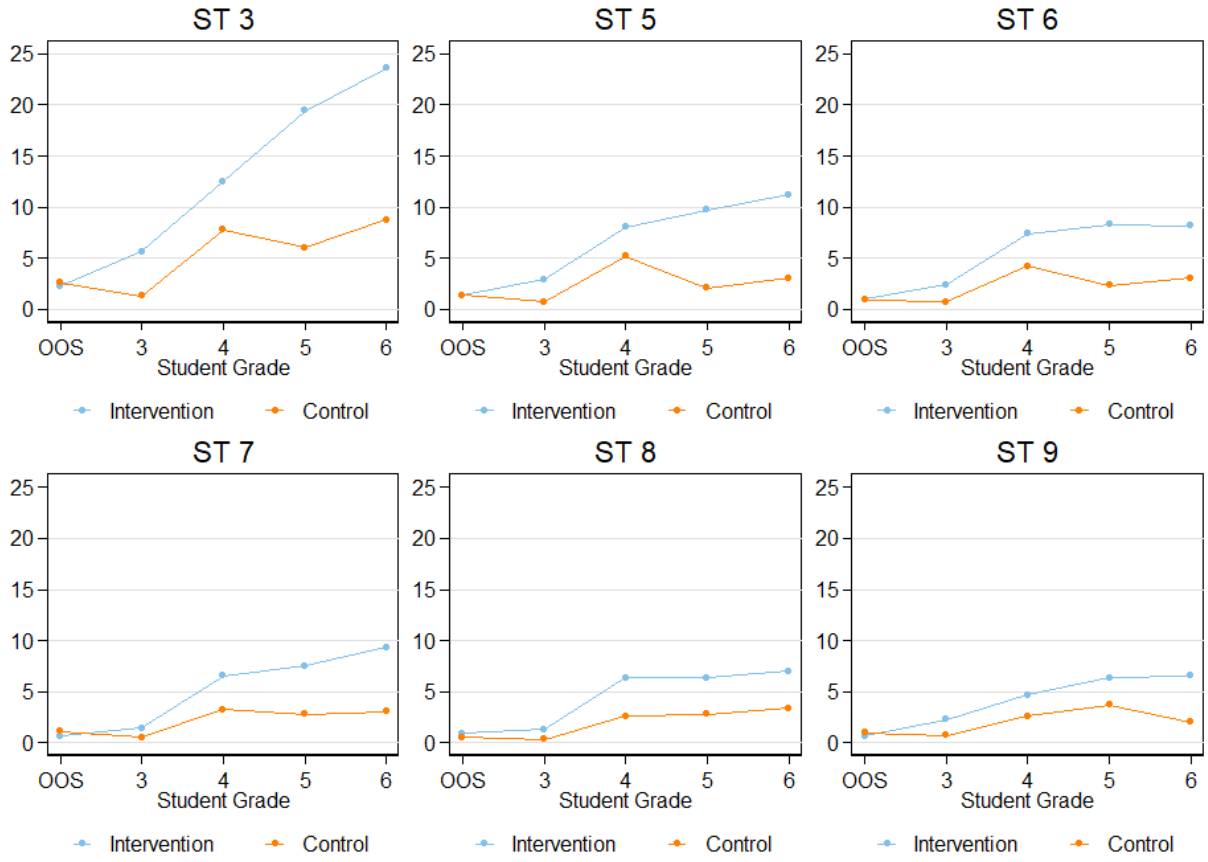
Figure 10: English reading WPM scores, by grade



The graphs below present scores for reading comprehension and writing subtasks, summarized by grade. These graphs show that performance increases consistently from grade 3 to grade 4 (even at higher difficulty levels), but performance is already relatively attenuated from grade 4 to grade 6, even at the lowest subtask difficulty-levels.[57] The distribution of scores across grades and subtasks suggests that remedial work may be necessary for girls as early as grade 4 (as well as higher grades) in order to obtain the foundational skills necessary for making further progress in learning to read and write in English.

[57] In subtask 3, there is a large and unexplained divergence between performance of intervention and control group girls, with girls in the control group showing a major slowing in learning from grade 4 to 5, and with that trajectory persisting from grade 5 to 6. The drop in achievement (among control girls) from grade 4 to 5 is consistent across all three reading comprehension subtasks, which is unexpected and does not have a clear explanation. It may simply be the case that the subsample of grade 5 control-group girls happen to be lower-performing than normal for their grade-level (for reasons that are mainly a product of random sampling error at the levels of school or household/learner selection, or both).

Figure 11: English reading comprehension and writing subtasks (3 and 5 to 9), by grade



The graphs above also highlight the fact that there is effectively no difference between out-of-school girls and grade 3 girls in terms of their performance on English reading comprehension and writing subtasks. This lack of difference between out-of-school girls and grade 3 girls suggests that minimal or no learning in English is taking place at elementary-school grade-levels.

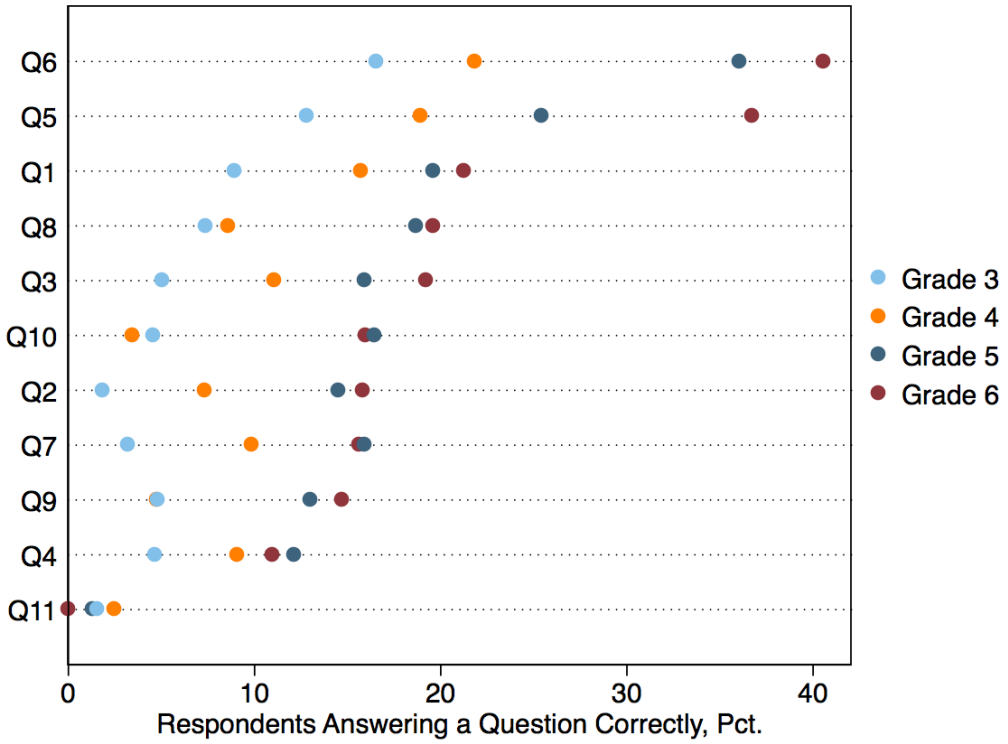
Financial literacy was assessed in an examination that did not have discreet subtasks, and therefore the gap-identification strategy used for numeracy and literacy is not appropriate. The graph below facilitates gap identification by presenting average scores for each question or problem, disaggregated by grade. Points represent the percentage of students in a given grade-level who gave a correct answer to the relevant question, and the questions are sorted from the easiest to the most difficult in terms of how students scored on these questions. While the questions were arranged in order from what was thought to be the easiest to the hardest, it is clear that Q6 and Q5 were, in fact, the easiest questions on the exam (more on this below).

The graph below shows significant separation between grades 5 and 6 at low levels of difficulty, but this difference effectively disappears as of Q1, which is the third most difficult question on the exam. These results suggest that there is a learning plateau encountered at grade 5, such that girls do not make significant improvement in their financial literacy, even as they advance from grade 5 to 6, and even as their numeracy may continue to improve. Even at moderate levels of difficulty, there continues to be

separation between grades 3 to 4 and grades 4 to 5, indicating that there are potentially important skills or knowledge being acquired at grades 4 and grades 5 that are enabling students in those grades to consistently score higher than their peers.

For the sake of consistency, this analysis excludes the five special comparison schools, such that analysis is performed on the subsample of 563 girls who passed the first two portions of the numeracy exam and who did not attend the five special comparison schools.[58]

Figure 12: Financial literacy skills gaps



As noted above, almost half of the in-school girls (46.1%, n=155/336) who took the financial literacy portion of the exam were not able to answer any questions correctly. An understanding of *profit* is the primary conceptual or knowledge-based threshold that may have prevented girls from answering comparatively easy questions correctly, even if they had the requisite numeracy skills. The easiest questions on the exam (Q5 and Q6) still required that learners understand the concept of profit in order to perform the calculations necessary and give a correct answer. Thus, profit-knowledge is the primary learning gap in financial literacy.

Across all grade levels, there is a significant gap between the skills necessary to answer Q6 and Q5, as compared with the skills necessary to answer the other questions on the exam. Questions 5 and 6 are

[58] It is worth noting that these results do not vary significantly if the special schools are included.

part of the same word-problem, and answering them requires the ability to perform simple division (along with foundational understanding of the concept of profit). While Q1 and Q2, for example, only require addition and subtraction (which are more basic numeracy skills than division), they also required the financial reasoning to know how to properly combine more than two quantities (where there is a key choice or choices to be made of which quantity should be subtracted from or added to which other quantity). In Q6 and Q5, there is no such complex choice to be made, nor is there the need to provide the exact numeric answer (since the answers to these problems are multiple-choice).[59] Thus, if the girl knows simple division and knows what profit is, she will answer Q6 and Q5 correctly. Most of the other questions on the exam require both the correct mathematical utilization of a number of quantities described in the word problem, along with the completion of a calculation and the reporting of an exact answer. Thus, the second foundational gap in financial literacy is learners' abilities to combine multiple quantities appropriately, based on the scenario described in the word problem, and based on what they understand of the underlying financial concepts, such as *gross* versus *net profit*.

Boys' data and comparison with girls' data

Analysis of boys' learning outcomes reveals significant gender disparities, with boys having higher literacy and numeracy scores than girls across all grade levels. The average unweighted score for in-school boys in numeracy was 49.9 percent, which is 8.4 percentage points above in-school, cohort girls; the average score for boys in literacy was 30.8 percent, which is 4.1 percentage points above girls (n=346 boys; n=985 girls). For both numeracy and literacy, boys' scores are higher than girls' scores by a statistically significant margin.[60]

It is understood that community attitudes related to education and gender can potentially influence gender disparities between boys and girls. For example, if girls' families place a higher value on girls' education, then they may try to reduce the degree to which girls' household chores potentially interfere with their ability to study, and this in turn might be reflected in improved learning outcomes. Given the potential linkages between attitudes and learning outcomes, it is important to note that, despite the consistent gap between boys' and girls' learning outcomes in the baseline sample, the qualitative data suggests that significant progress has been made in terms of improving attitudes toward girls' education. Most adult and child respondents suggested that educating boys and girls is equally important, and this was largely attributed to a shift in social norms – mothers described how they, and others in their community, now understand the value of girls' education.

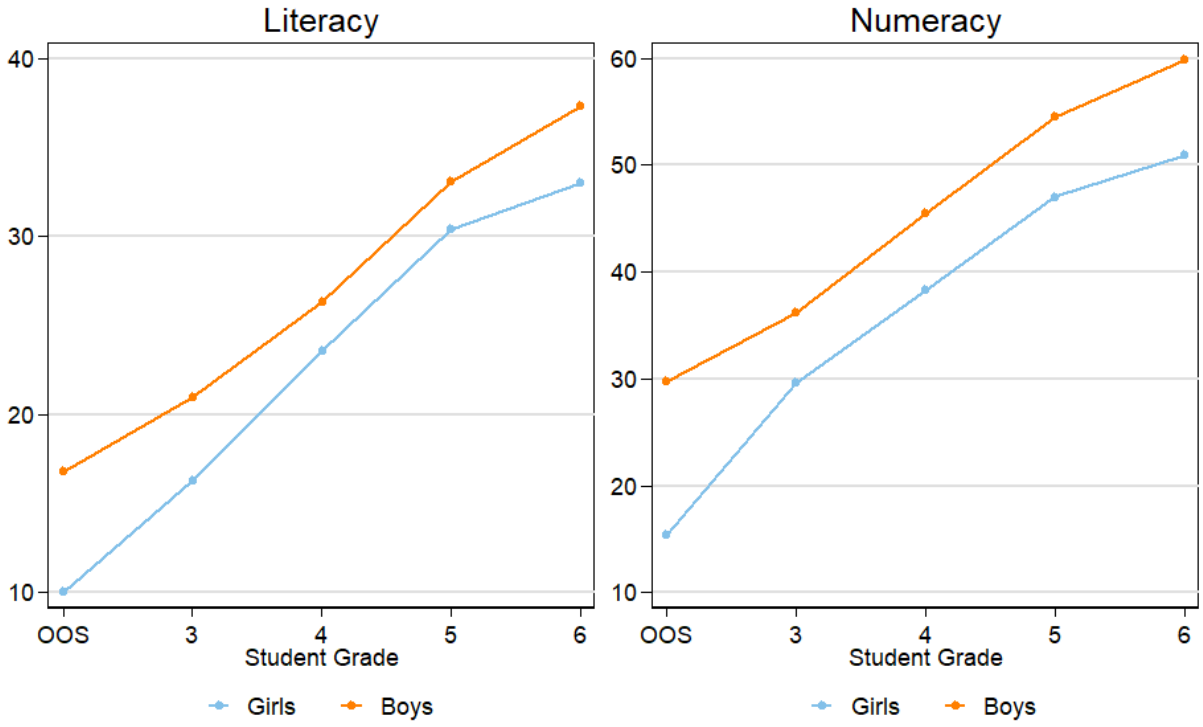
However, a minority of respondents made arguments that educating boys was more important than educating girls. Some mothers suggested that boys' education is more important due to the level of responsibility men assume once they grow up, in addition to their perceived roles as leaders. As one mother summarized this sentiment in a focus group: "The boys are more useful than the girls because

[59] Q6 is also a true or false question, increasing the potential for correct answers through guessing (which may help to explain why this question has the highest proportion of correct answers across all grade-levels.
[60] In a regression of numeracy score predicted by gender (and controlling for clustering at the school level), p=0.000. In a regression of literacy score predicted by gender (and controlling for clustering at the school level), p=0.000. Note: these tests are highly statistically significant irrespective of model choice – i.e. whether the outcome variable is assumed to be linear, or whether the outcome variable is assumed to take on a negative binomial distribution (which is especially appropriate in the case of literacy scores, given significant floor effects, resulting in over-dispersion of the learning outcome variable).

they will be more responsible for themselves, their parents, children, and others."[61] Another mother suggested that parents were still guilty of actively discouraging girls from pursuing their education while enforcing traditional gender roles that maintain gender gaps in attendance and likely also performance in school: "For example, if [parents] have two boys and one girl, they send the two boys to school and tell the girl to work in the kitchen, to cook food and wash the dishes. They even tell her that education is just useless for her. So, I can say that the biggest reason why many girls do not get the chance to go to school is housework."[62]

The panel of graphs below present boys' numeracy and literacy assessment scores (as percentages) alongside girls' assessment scores, by grade, including out-of-school boys and girls (n=510 boys; n=1,923 girls). While boys and girls have similar learning trajectories, the graphs show that boys consistently score higher than girls at each grade-level, as well as when comparing out-of-school boys with out-of-school girls.

Figure 13: Comparison of boys' and girls' literacy and numeracy scores, by grade and OOS



[61] FGD – Mothers
[62] FGD – Mothers

As shown in the graphs above, these disparities in learning outcomes already exist as of Grade 3, which begs the question of when and how these disparities start to emerge. The data available in this SOMGEP-T baseline study do not provide a means of tracing these disparities back to their origins, but the SOMGEP baseline study executed in 2013 suggests that these disparities emerge as early as Grade 2, suggesting that the Grade 3 gap observed in this study is merely a result of the perpetuation of a trend that emerged at the very earliest grade-levels.

The following table is reproduced from the SOMGEP 2013 report, summarising mean UWEZO scores by gender and by grade.[63] The final column of the table shows the difference between girls and boys scores at each grade-level.

	Girls			Boys			
Grade	**Mean**	**Standard Deviation**	**Number**	**Mean**	**Standard Deviation**	**Number**	**Gender Gap (Girls - Boys)**
OOS	0.31	1.08	285	0.31	0.95	42	0
1	0.69	1.51	208	0.59	1.47	51	0.1
2	1.81	1.95	289	1.94	2.05	90	-0.13
3	2.93	1.98	228	3.51	1.79	74	-0.58

The table above shows that out of school girls and girls in Grade 1 are effectively scoring the same as boys (and scoring somewhat better than boys in Grade 1). It is in Grades 2 and Grade 3 that boys begin to increasingly outperform girls. This finding suggests that girls and boys are not entering school with fundamentally different levels of knowledge or skill. Rather, these skill gaps open up during the earliest years of schooling, and then become entrenched as time passes.

In light of the foregoing analysis, it is likely that gender disparities are a product of classroom dynamics and cultural norms that increasingly affect girls as they age. One potential explanation is that girls' shyness, which was mentioned by respondents across FGD groups as a factor influencing girls' participation and engagement in classrooms, may not manifest in a way that affects learning until girls are exposed to group dynamics in the classroom.

Although many FGD respondents mentioned that girls are active and engaged in the classroom, in many instances more so than boys, there is some evidence from the qualitative findings to suggest that male teachers may be resistant to these gender-related cultural shifts occurring. One teacher explains his dissatisfaction with the behaviour of girls in relation to boys: "The Somali culture seems to have changed. Girls were always very polite, even outside of school, but now the old, polite, girls are not around. Now they are pouring soil on each another, running on the streets, and are trouble makers. Meanwhile, boys nowadays are polite and politely walk the streets. Therefore, lately we have been putting pressure on the girls and that is why their behaviour has disappeared."[64] Other qualitative findings suggest that similar troublemaking behaviour is accepted and expected in boys. As one mother explains, "Mothers do not

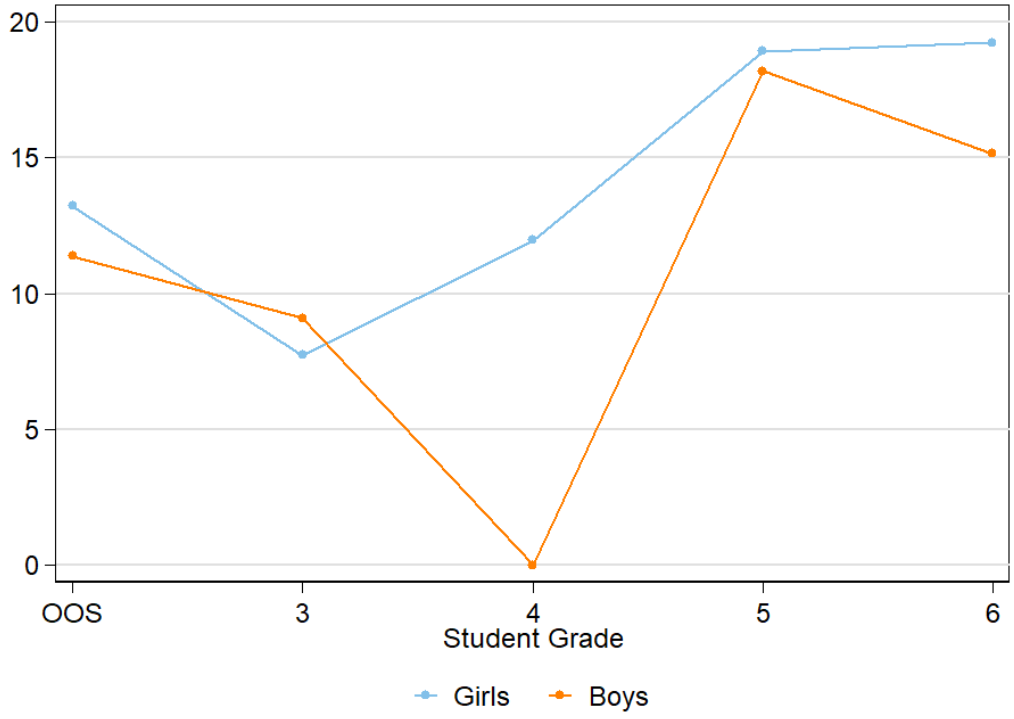
[63] See CARE SOMGEP Baseline Report (2013), pp. 50-51.
[64] FGD – Teachers

prefer boys. Mothers prefer girls to work at home. Boys are sent to school, so they can cause trouble somewhere other than home."[65] This resistant attitude, when combined with teachers' tendency to encourage boys' participation more than girls' and a lack of female role models, may be having a significant effect on the motivation levels of girls and their perceptions of their gender roles.

Financial literacy scores run contrary to the systematic gender disparities observed above, with in-school, cohort girls outperforming in-school boys in the aggregate, as well as at most grade-levels. As with girls, only boys who passed the first two subtasks of the numeracy exam were given the financial literacy exam. The average unweighted score for in-school boys was 10.9 percent, which is 5.9 percent lower than the average for in-school girls (n=15 boys; n=336 girls).[66]

The graph below compares boys' and girls' financial literacy scores, by grade, showing that girls outperform boys in financial literacy in every grade except grade 3. There is an extreme inflection-point in boys' scores in grade 4, but this is a result of an exceedingly small sample size for boys who took the financial literacy assessment, with only 3 boys in grade 4, all of whom scored 0% on the financial literacy assessment. The subsample of in-school boys who took the financial literacy exam (n=15) is ultimately too small to support valid inferences about differences in financial literacy by gender.

Figure 14: Comparison of boys' and girls' financial literacy scores, by grade and OOS



[65] FGD – Mothers
[66] This difference in financial literacy performance by gender is not statistically significant, but this is probably because of the very small subsample size of in-school boys.

Notwithstanding the limited sample size for boys, it is conceivable that the boys sampled are indicative of the population at large, and that girls have higher financial literacy than boys (even though boys have higher numeracy, on average, than girls). As noted in the analysis of girls' financial literacy scores above, there is a conceptual threshold created by whether or not learners have a foundational understanding of *profit*. It is possible that more girls than boys have a foundational understanding of profit because girls tend to accompany their mothers to the market (whereas boys do not) and thus tend to acquire an experiential understanding of financial principles in a way that boys do not. In particular, it may be the case that girls who have dropped out of school and subsequently found employment have learned key financial concepts as part of their employment (making them more competent in financial literacy, even than many in-school girls). The qualitative data does not provide any direct support for this hypothesis, but the quantitative data reveals that, for out-of-school girls, financial literacy is positively correlated with girls being employed (although this correlation is not statistically significant, likely due to the very small subsample of girls who are out of school and employed).[67] As will be shown below, in financial literacy, boys show the same major learning gap as girls (between questions 5 and 6, and the others), and appear to be subject to the same profit-threshold as girls.

The tables below present foundational skills gaps analysis for boys. As shown above, boys consistently score higher than girls across grade-levels, and also across relevant subtasks. Overall, for any given subtask, a somewhat higher proportion of boys (as compared with girls) occupy the proficient learner category.

Notwithstanding these systematic differences between boys and girls, the major learning gaps for boys tend to be similar to those encountered by girls, meaning that gaps tend occur at similar skill-levels.

[67] Among out-of-school girls, 11 were reported to have found some form of employment (formal or informal).

Table 30 shows foundational skills gaps in numeracy for boys. As with girls, there is a large increase (12.9 percent) in the proportion of non-learners from subtask 2 to subtask 3, as well as a second large skill gap (increase in non-learners of 29.2 percent) from subtask 7 to subtask 8. These parallel skills gaps for boys and girls suggest that, even though boys' scores are higher than girls' scores on average, boys are running into the same problems as girls in terms of the foundational skill that they may be lacking.

Table 30: Boys' foundational numeracy skills gaps

Categories	Subtask 1 Number Identification	Subtask 2 Addition (Level 1)	Subtask 3 Subtraction (Level 1)	Subtask 4 Addition (Level 2)	Subtask 5 Subtraction (Level 2)	Subtask 6 Word problems (add/subtract)	Subtask 7 Multiplication (Level 1)	Subtask 8 Multiplication (Level 2)	Subtask 9 Division (Level 1)	Subtask 10 Division (Level 2)	Subtask 11 Word problems (mult/div)
Non-learner 0%	1.2	1.8	14.6	21.1	34.8	19.3	37.1	66.4	62.0	77.8	62.9
Emergent learner 1%-40%	26.9	6.4	5.3	16.4	15.5	8.8	12.3	12.0	11.7	9.4	0.0
Established learner 41%-80%	28.7	14.0	13.7	22.8	23.4	31.9	21.4	8.2	13.7	5.3	14.0
Proficient learner 81%-100%	43.3	77.8	66.4	39.8	26.3	40.1	29.2	13.5	12.6	7.6	23.1
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 31 shows foundational skill gaps for boys in Somali literacy, again revealing parallel skill-gaps between boys and girls. As with girls, the primary skill gap is between medium and difficult levels of reading comprehension, with a 19.6 percentage point increase in the proportion of non-learners from subtask 3 to subtask 5.

Table 31: Boys' foundational literacy skills gaps (Somali)

Categories	Somali ST1 Reading Words	Somali ST2 Reading Comp (easy)	Somali ST3 Reading Comp (medium)	Somali ST4 Reading Fluency	Somali ST5 Reading Comp (difficult)	Somali ST6 Writing (fill blank)	Somali ST7 Writing (negative form)	Somali ST8 Writing (future tense)
Non-learner 0%	10.5	11.1	16.4	17.3	36.8	33.3	47.1	53.5
Emergent learner 1%-40%	38.6	3.8	7.0	21.4	10.5	13.7	7.6	6.1
Established learner 41%-80%	48.5	24.3	31.3	40.1	32.2	17.3	11.1	10.5
Proficient learner 81%-100%	2.3	60.8	45.3	21.4	20.5	35.7	34.2	29.8
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

As with girls, nearly half of the boys in the sample (43.6 percent) lack the foundational skills to read English words, and thus fall into the non-learner category. Even among boys with a fundamental grasp of English phonetics, the majority do not understand what they are reading, with nearly 80 percent of boys (as with girls) falling into the non-learner category for easy English reading comprehension.

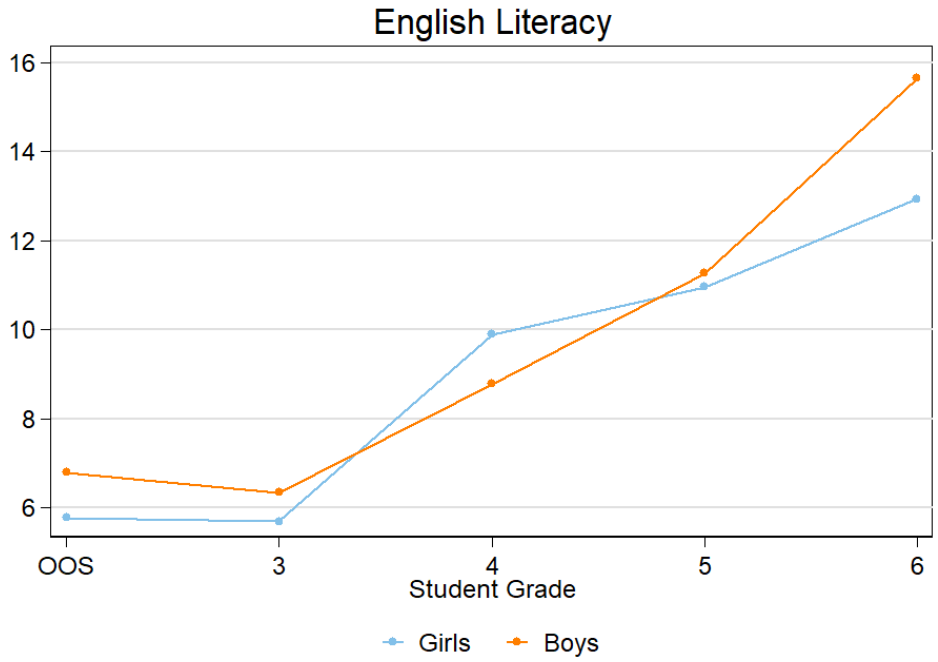
Table 32: Boys' foundational literacy skills gaps (English)

Categories	English ST1 Letter Identification	English ST2 Reading Words	English ST3 Reading Comp (easy)	English ST4 Reading Story	English ST5 Reading Comp (medium)	English ST6 Reading Comp (difficult)	English ST7 Writing (fill blank)	English ST8 Writing (negative form)	English ST9 Writing (future tense)
Non-learner 0%	39.5	43.6	78.1	55.7	87.1	92.4	91.8	94.4	93.9
Emergent learner 1%-40%	22.5	37.3	4.7	27.5	3.2	2.1	1.2	0.0	0.0
Established learner 41%-80%	20.2	17.6	8.8	11.1	4.4	2.1	2.3	1.2	2.3

Proficient learner 81%-100%	17.8	1.5	8.5	5.7	5.3	3.5	4.7	4.4	3.8
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

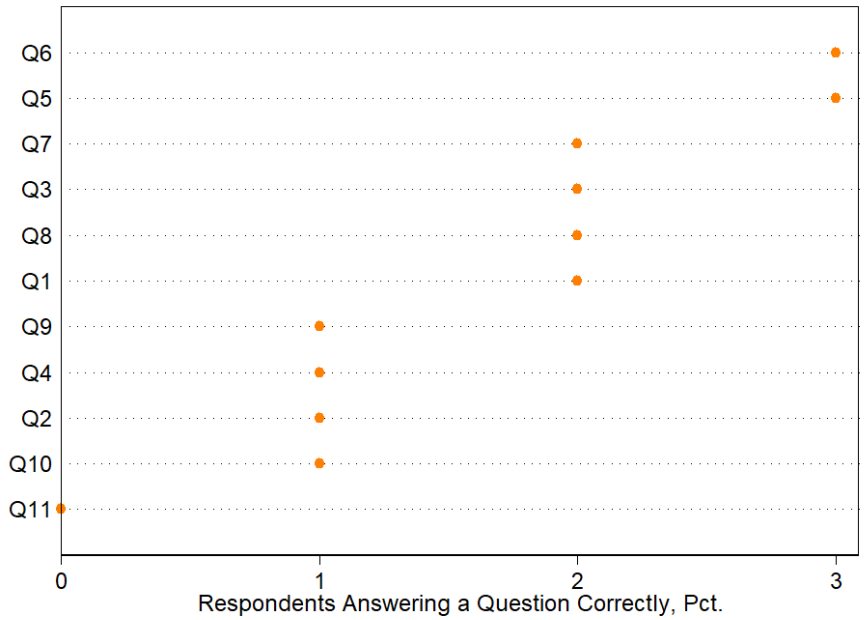
The table above suggests that boys' proficiency levels may nearly identical to girls' learning outcomes in English literacy. The graph below presents a comparison of boys' and girls' English literacy scores by grade, showing that at most grade-levels, boys and girls are scoring within 2 percentage points of one another, on average. The exception is in grade 6, where boys' averages are substantially higher than girls'. This convergence of learning outcomes between boys and girls emphasizes the degree to which variations in learning are heavily determined by teacher skill levels, with very few teachers being adequately trained to teach English.

Figure 15: Comparison of boys' and girls' in English literacy



The graph below illustrates financial literacy for boys, showing the same primary skill-gap as existed for girls. In the graph below, boys' financial literacy scores are not disaggregated by grade because the in-school sample size (n=15) is too small to support such disaggregation.

Figure 16: Boys' foundational skills gaps in financial literacy



As with girls, the easiest questions in financial literacy were Q5 and Q6, and the hardest question was Q11 (with zero correct responses from boys). While the sub-sample of boys who took the financial literacy exam is very small, the convergence of question-level distributions between boys and girls suggests that boys and girls face the same challenges and skill gaps in terms of their understanding of financial literacy, and it may be the case that girls tend to acquire somewhat more financial literacy (on average) than boys through experiential learning – i.e. as a result of accompanying caretakers to the marketplace and observing transactions in that setting.

While learning outcomes for boys are higher on average than those for girls (except in financial literacy), the analysis of boys learning outcomes suggests that the most significant skill gaps are consistent across boys and girls. The consistency of these skill gaps across genders suggests that the foundational gaps identified are probably a result of school-level (not individual-level or gendered) differences, including teachers' relative skill levels and levels of comfort teaching different types of material. The barriers analysis below suggests that lower teacher quality (as assessed qualitatively by the primary caregiver) is a strong determinant of learning outcomes. In the qualitative evidence from caregivers, mothers complain that the low quality of schools and of the education that girls receive at school is a barrier to learning and to continued attendance.

Grade Levels Achieved

This section reports the share of girls achieving each grade level of literacy and numeracy, based on an analysis of the school curricula or syllabi of Somaliland and Puntland. It is important to note the context of curriculum development in Somalia. First, SOMGEP-T schools fall under the direction of Ministries of Education in multiple jurisdictions; as a result, in principle, they adhere to different curricula. Second, at least one of the relevant jurisdictions – the FGS – is currently in the process of finalizing a national

curriculum, and no current curriculum was available for review at the time of this report.[68] Third, the curricula that the evaluation team was able to obtain are focused almost exclusively on mathematics and English learning only, while the targeted learning outcomes for specific grade levels in Somali are either not given or very loosely specified. Furthermore, because the learning assessments used in this evaluation were developed independently of the curricula themselves, the skills tested in the assessments do not always line up neatly with skills in the curricula.[69]

Table 33: Grade Level Standards for Mathematics and English Literacy

Grade Level Achieved	Mathematics Skills	English Literacy Skills
1	• Number identification up to 99 (portion of subtask 1) • Addition without carrying numbers (portion of subtask 2) • Subtraction without borrowing (subtask 3)	N/A
2	• Number identification up to 999 (portion of subtask 1) • Addition carrying one number (portion of subtask 2) • Addition with 3 digits, carrying up to 1 number (subtask 4) • Subtraction carrying one number (portion of subtask 5) • Addition and subtraction word problems with simple underlying arithmetic (subtask 6) • Multiplication of 1-digit numbers (subtask 7) • Division of 2-digit number by 1-digit number (subtask 9)	• Letter identification (subtask 2)
3	• Subtraction carrying two numbers (portion of subtask 5) • Multiplication of 2-digit numbers (subtask 8) • Word problems with simple multiplication and division (subtask 11)	• Identification of basic words, e.g., classroom objects, foods, animals (subtask 1)
4	• Division of 3-digit number by 2-digit number (subtask 10)	• Reading simple sentences (subtask 3 and portion of subtask 4)

[68] The availability and consistency of curricula is not only a problem at the level of regional governments. During one FGD, CEC members noted significant differences in the curriculum at private and public schools in the same area, and – more generally – between any two schools in the area, making it difficult for students to transfer seamlessly between schools (FGD with CEC members). This problem is magnified by the lack of consistency at the regional and federal level.

[69] To illustrate, consider mathematics at grade levels 5 and above: none of the specific skills tested in the learning assessments are indicative, specifically, of the achievement of Grade 5 (or 6) mathematics performance. As a result, although the learning cohort includes children in grades 5 and 6, the available data do not allow us to distinguish between students who achieve a 4th grade level and children who achieve a 5th grade level of performance in the subject.

Grade Level Achieved	Mathematics Skills	English Literacy Skills
5	N/A	• Reading low-medium difficulty sentences (subtask 5; portion of subtask 4)
6	N/A	• Reading medium-difficulty sentences (subtask 6) • Filling in missing words with medium-difficulty words (subtask 7) • Converting to negative form (subtask 8) • Converting to future tense (subtask 9)

A full description of the curricula of Puntland and Somaliland is provided in Annex 15. The table above, describes the standards developed by the evaluation team for grade level achievement in mathematics and English literacy. In cases where no standard is described, the learning assessments utilised in the evaluation did not include a skill specific to that grade level. In cases in which a subtask is distributed across two grade levels, we distinguish between less and more difficult portions of the subtask, on an item-by-item basis. In order to achieve a given grade level, a student must achieve a score of approximately 80 per cent on subtasks (or relevant, grade-specific portions of a subtask) for that grade, and those for the preceding grades.[70] To illustrate this system, consider a student being assessed for grade 1-level numeracy: they would need to achieve scores of approximately 80 per cent or higher on subtask 3. They would also need to achieve a score of approximately 80 per cent on the grade 1-level portions of subtasks 1 and 2, which test number identification up to 99 and addition that does not require "carrying" numbers. They would *not* need to achieve a passing score on the grade 2-level portions of subtasks 1 and 2, which test number identification from 100 to 999, and addition that requires carrying numbers, respectively. A student being assessed for grade 2-level competency would need to complete each of the subtasks specified for grade 1 *and* those specified for grade 2.

Table 34: English Grade Level Achieved by intervention (and comparison girls in parentheses), by Grade

Grade Level Achieved	Out-of-School	Grade 3	Grade 4	Grade 5	Grade 6
2	6.3% (1.0%)	5.2% (1.9%)	5.9% (2.2%)	7.9% (5.2%)	4.7% (6.2%)
3	3.3% (0.3%)	2.6% (0.6%)	0.8% (1.1%)	0.8% (0.7%)	0.9% (4.1%)
4	0.0% (0.0%)	0.0% (0.0%)	0.0% (0.0%)	0.0% (0.0%)	0.0% (2.1%)
5	0.0% (0.0%)	0.0% (0.0%)	0.0% (0.0%)	0.0% (0.0%)	0.0% (1.0%)
6	0.0% (0.0%)	0.0% (0.0%)	0.0% (0.0%)	0.0% (0.0%)	0.0% (0.0%)

Table 35: Mathematics grade level achieved by intervention (and comparison girls in parentheses), by Grade

[70] Where there are many items in a subtask, we follow the 80 per cent rule. Where there are four items, we allow one wrong answer (75 per cent correct) without disqualifying a student from achievement of a grade level.

Grade Level Achieved	Out-of-School	Grade 3	Grade 4	Grade 5	Grade 6
1	12.5 % (9.3%)	32.5% (28.5%)	38.1% (31.9%)	46.8% (41.8%)	43.0% (46.4%)
2	1.9% (1.8%)	1.9% (1.3%)	4.2% (6.6%)	10.3% (11.9%)	17.8% (13.4%)
3	0.8% (1.5%)	1.9% (0.6%)	3.4% (5.5%)	8.7% (9.7%)	15.0% (10.3%)
4	0.3% (1.3%)	1.9% (0.6%)	2.5% (5.5%)	7.9% (9.0%)	14.0% (9.3%)

A grade-by-grade breakdown of achievement levels in English and mathematics are reported in the tables above for the sample of cohort girls. In each table, the achievement levels for treated cohort girls are provided alongside comparison cohort girls, whose levels are reported in parentheses. To illustrate, the results show that just 2.6 per cent of treated cohort girls in grade 3 achieved grade 3 performance in English, compared to 0.6 per cent among comparison girls. Consistent with the aggregate results regarding mathematics and English literacy reported above, students achieved consistently higher grade levels in mathematics than in English. This is not surprising, given English is not consistently taught as a subject in primary schools, and the vast majority of schools lack qualified English teachers.

The primary finding emerging from this analysis concerns the extremely small share of students who achieve performance equivalent to their respective grade levels. Ideally, we would expect girls to achieve performance at their grade level. However, performance at these levels is exceedingly rare: no girls in grades 5 and 6 achieved the expected performance levels in English, for instance, and only 2.5 per cent of treated in grade 4 achieved a 4th grade level in mathematics.

Performance among cohort boys is similar, in general. The tables below report the grade levels achieved by cohort boys in English and mathematics, respectively, among the aggregated sample of cohort boys (i.e. boys in both treated and comparison schools). Relative to their female peers, boys perform similarly on English, but generally outperform their female peers in mathematics. Even among boys, however, achievement of on-level learning performance – e.g., 4th grade achievement among boys in grade 4 – is found only among a small minority of students.

Table 36: English Grade Level Achieved by Cohort Boys, by Grade

Grade Level Achieved	Out-of-School	Grade 3	Grade 4	Grade 5	Grade 6
2	5.5%	2.0%	2.6%	3.3%	12.5%
3	3.0%	0.0%	2.6%	1.1%	3.8%
4	0.0%	0.0%	0.0%	0.0%	2.5%
5	0.0%	0.0%	0.0%	0.0%	1.3%
6	0.0%	0.0%	0.0%	0.0%	1.3%

Table 37: Mathematics Grade Level Achieved by Cohort Boys, by Grade

Grade Level Achieved	Out-of-School	Grade 3	Grade 4	Grade 5	Grade 6
1	26.2%	35.3%	55.3%	48.4%	52.5%
2	6.1%	2.0%	11.8%	8.8%	20.0%
3	4.3%	1.0%	9.2%	7.7%	15.0%
4	3.7%	1.0%	6.6%	7.7%	11.3%

4.2 Subgroup analysis of the Learning Outcome

This section presents an analysis of learning outcomes by key subgroups of the population of cohort girls, as well as an analysis of potential barriers to learning. The section on boys' learning outcomes has already addressed the issue of contrasts between girls and boys, so this section focuses on key differences within the sample of girls. There are ultimately very few critical subgroupings that help to identify girls who are likely to score significantly lower than their peers. The analysis of barriers to learning allows for the identification of several critical barriers that are consistent predictors of lower learning outcomes for learners who reported encountering such barriers.

It is also important to note that the qualitative data, while providing significant evidence regarding many outcomes of interest, does not provide evidence to explicitly address questions of why some groups of girls may score better than others on assessments or why some barriers may have larger or smaller effects on learning outcomes. It appears that caretakers are comfortable commenting on outcomes such as attendance, as well as key transition outcomes such as dropping out of school, but they tend to not comment directly on learning outcomes. This may be a result of the fact that the majority of caregivers (approximately 56 percent) are illiterate, and thus they do not feel comfortable commenting on the determinants of girls' learning outcomes. As further evidence of the fact that caretakers may not feel qualified to make judgments about girls' learning outcomes, nearly 5 percent of caretakers of in-school girls declined to rate the quality of their girls' teachers (by selecting either a neutral option or by selecting 'don't know').

Despite caretakers being unwilling or unable to comment directly on learning outcomes, the qualitative interviews with teachers and students provided information on the school dynamics that serve as barriers to learning. Their accounts suggest that the major barriers to learning are a lack of qualified teachers, uniform curricula, classrooms, and school materials. Girl students from one FGD explained how the curriculum has only recently been switched to English, which poses an issue for all students, but particularly for those from other areas: "I came from Bossaso, where we used to learn this subject in Somali, and so I did not adapt well when I moved here."[71] In addition to the curriculum change, there is a lack of consistency in the instruction of a given course. When asked why English is difficult, one girl explains, "Because, we don't have a permanent teacher who continually teaches us English. Every few days we get a new English teacher."[72]

In addition to high turnover, the quantitative data suggests that teacher absenteeism is high. Qualitative data from teachers suggests that absenteeism and turnover are high because teachers are not paid an adequate salary, do not feel adequately trained, and do not receive the support and materials they need to provide a quality education. In reference to the lack of materials, one teacher explains, "They need equipment to help explain the lessons, because we currently use stones and broken sticks."[73] Teachers also complain that there are not enough classrooms, which disrupts learning by forcing them to hold multiple classes in a single classroom. One teacher explains that each class consists of two grades and that there are only three teachers and another concurs, explaining, "I won't add anything, but I am emphasizing that point. For example, if the class consists of grades 1 and 2, we divide the board with a line. Then we face problems such as when we are explaining a lesson to one grade, the students from

[71] FGD – Girls
[72] FGD – Girls
[73] FGD – Teachers

the other grades shout and talk in the class, because they are sharing the same class. We are requesting more classrooms to be built."[74]

Table 16, below, summarizes learning scores by literacy and numeracy for each of the major subgroups within the sample of 897 in-school cohort girls. The subsample of in-school girls is used here in order to focus on factors that potentially explain differences in learning outcomes among girls who are attending school. Out-of-school girls are also presented as a separate subgroup for analysis in the final row of the table below.

Table 38: Learning scores of key subgroups (all in-school girls, excluding outlier schools)[75]

	Average literacy score (aggregate)	Average numeracy score (aggregate)	Number of observations for subgroup
Characteristics:			
All in-school girls	23.73	39.9	897
Living without both parents	22.83	45.17	65
Mother tongue different to LOI	29.99	59.22*	78
Disability			
Vision impairment	35.79*	35.36	3
Hearing impairment	15.81	17.21*	4
Mobility impairment	32.83	41.94	3
Cognitive impairment	20.59	32.30	3
Self-care impairment	17.16	37.58	2
Communication impairment	21.41	24.90*	6
Mental health impairment	17.03*	35.60	38
Anxious	18.71	28.68	35
Depressed	21.24	32.26	30
Any disability	19.25*	34.47	51
HOH and Carer Characteristics			
HOH no wage-earning occupation	24.51	42.47*	411
HOH no education	24.04	40.58	567
HOH female	23.91	39.35	417
Carer no education	22.66*	39.77	647

[74] FGD – Teachers
[75] Statistically significant results are marked with an asterisk* ($p<0.05$ in a bivariate regression with cluster-robust standard errors).

Household Assets			
Owns camels	24.74	40.13	70
Owns medium-sized livestock	21.50*	37.08*	535
Owns small livestock	23.45	36.60	43
Owns mobile phone	23.61	39.83	861
Access to water reservoir/storage	23.99	39.77	490
Owns land	23.45	38.70	623
Poverty			
House is informal/temporary structure	23.13	29.82*	45
Gone to seep hungry most days	24.95	51.75	31
Gone without enough clean water most days	26.86	46.04*	95
Gone without medicines or medical intervention most days	21.85	41.64	173
Gone without cash income most days	22.06	39.49	153
Migration			
Displaced or moved in past 12 months	14.54	39.59	6
Household migrates seasonally	28.78	36.67	34
Other			
High chore burden (whole day spent on chores)	33.92*	43.49	100
Married	26.18	32.83	11
Mother, under 16	38.85*	33.03	4
Out of school girls	8.43*	13.10*	729

*Note, an asterisk indicates results that are statistically significant at the 95% confidence level (or higher) in a regression with cluster-robust standard errors.

Learning outcomes are not significantly correlated with most subgroup types. Given the potential salience of head-of-household and caregiver characteristics in determining girls' educational prospects, it is worth nothing that learning outcomes are not significantly correlated with the gender of the head of household. The head of household having a wage-earning job is a predictor of higher numeracy outcomes, possibly because the household may depend on a small family business to make a living, and girls' involvement in the business may provide them with more opportunities to practice numeracy skills. Among girls who are conventionally considered at very high risk of dropping out of school, being married, as well as living with her husband or parents-in-law is also not a significant predictor of learning outcomes. In addition, high chore burden, as well as being a mother under 16, are predictors of higher learning outcomes. This finding, which seems to contradict logical assumptions, may be a result of the fact that older girls are likely to have higher levels of chore burden and are more likely to be mothers, while older girls are also more likely to belong to higher grades and have learned more.[76]

[76] This correlation is not consistent across literacy and numeracy outcomes and is probably spurious.

A few of the subgroups above have consistent (and statistically significant) correlations with learning outcomes. The findings above suggest that girls with disabilities are generally at risk in terms of having lower than average learning outcomes in both literacy and numeracy (with a statistically significant correlation for literacy). The most significant and consistent predictors of lower learning outcomes are impairments related to vision, communication, and mental health. Notwithstanding these findings, the effects of disability on girls' learning are not as consistently negative as one might expect, given the potential difficulties that girls with significant impairments might face. The lack of consistent effects may be a result of the very small sub-sample size of girls with different disability types. It may also be the case that at least some schools are making adequate accommodations for girls who have disabilities that are severe enough to potentially have a negative effect on their learning. In the qualitative evidence, there are no complaints about girls with disabilities accessing education.

The effect of poverty is inconsistent along different proxies of poverty. Having a house that is a temporary structure, which is taken as a proxy of poverty, does predict lower literacy and numeracy outcomes (significantly lower for numeracy), but none of the other proxies or indicators of poverty are statistically significant predictors of lower learning outcomes, and some are positively correlated with learning outcomes.

Pastoralism may have an adverse effect on learning, but the quantitative evidence is mixed on this point. The most direct measure of pastoralism is if the head of household's occupation is reported to be pastoralism or animal herding. There is no statistically significant association between learning outcomes and the head of household being pastoralist. On the other hand, ownership of medium-size livestock is a statistically significant predictor of lower learning outcomes across both numeracy and literacy, which potentially supports the hypothesis that a pastoralist lifestyle (associated with owning medium-sized livestock) is an impediment to learning. However, seasonal household migration is not significantly predictive of lower learning outcomes, which is a finding that would be expected if pastoralism and seasonal migration are truly causing lower learning outcomes due to girls missing school or due to girls having a higher chore-burden while other household members are away. Further triangulating with the data available, high chore-burden is also not a significant predictor of lower learning outcomes. However, living in a temporary structure is a predictor of lower learning outcomes, and this can be taken as a proxy for pastoralism. On the basis of the different indicators of pastoralism, it can be cautiously concluded that a pastoralist lifestyle is associated with lower than average learning outcomes.

The greatest predictor of lower learning outcomes is out-of-school status. Out-of-school girls have literacy and numeracy scores that are lower than the averages for in-school girls to a statistically significant degree.

Finally, the graphs below show that learning outcomes are positively correlated with age, although the effect is not monotonic or stepwise. Learning scores attenuate at around 14-15 years of age, likely because these girls over 15 years of age are older than most of the girls in their grade-level, and thus may have already been out of school in the past or may have been held back by one or more grades because of a lack of foundational knowledge.

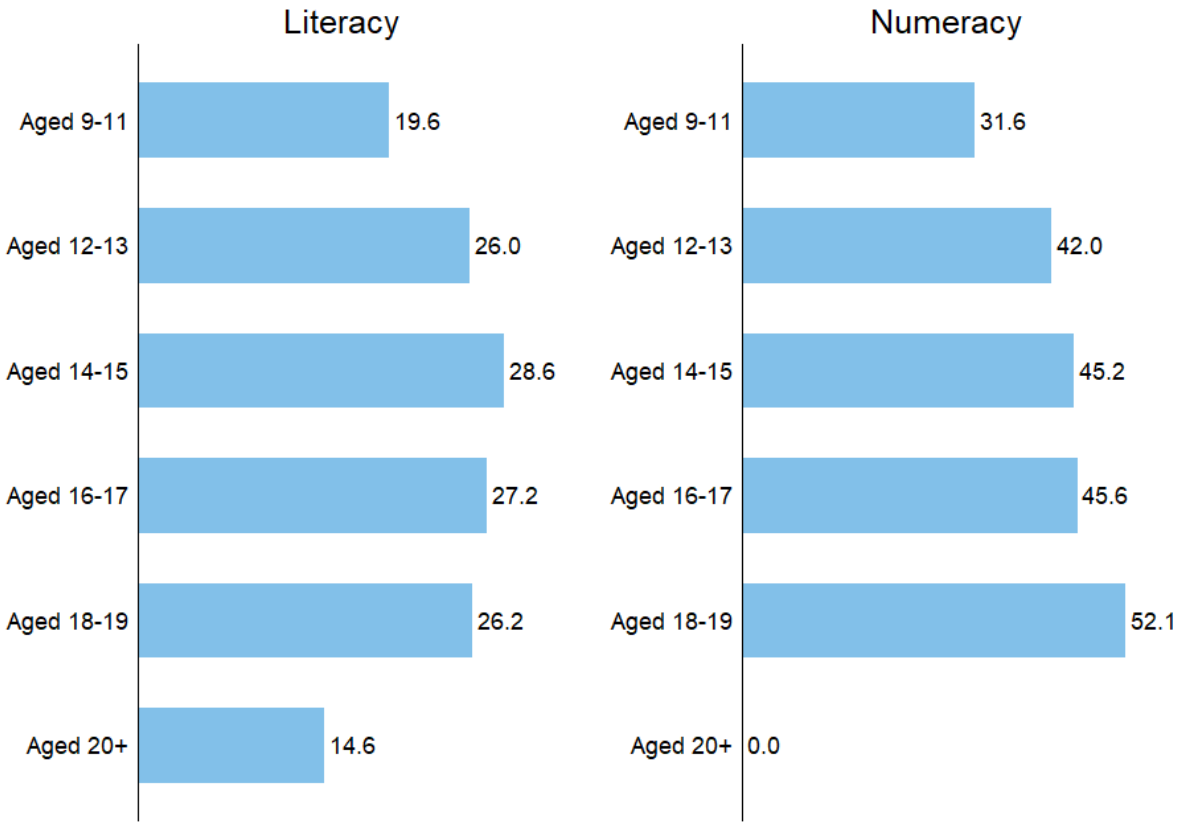
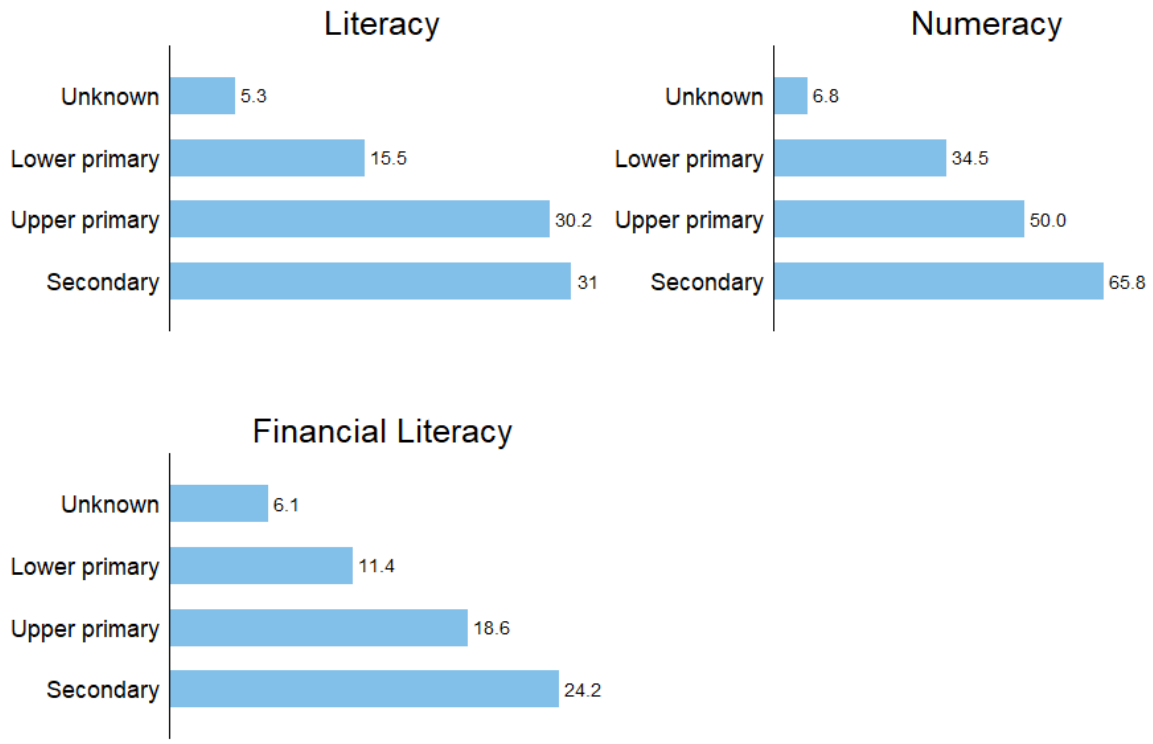


Table 17 presents potential barriers to learning, with average learning scores for sets of learners who reported having encountered one of the barriers below. These different barriers are relatively common, as can be seen from the fairly large subgroup sizes reported below, however most of the barriers investigated here are not significantly correlated with lower learning outcomes.

Learning outcomes for OOS girls

In order to identify the skill levels of potential ASLP participants, out of school girls have been categorized by the approximate grade-level at which they last attended school (i.e. early-primary dropout, versus late-primary dropout, versus secondary dropout). The graph below presents average scores by the approximate grade last-attended.

Figure 17: OOS learning outcomes by last grade enrolled



These results for OOS girls can be compared with average results for in-school girls by grade to determine the approximate grade-level at which OOS girls are actually functioning as compared with in-school girls. Girls who were last enrolled in lower primary score at a level that is approximately equivalent to the sample of grade 3 girls (with grade 3 girls scoring 16.3 and 29.6 as compared with 15.5 and 34.5 for OOS girls who dropped out in lower primary). Girls who were last enrolled in upper primary score at a level that is approximately equivalent to the sample of grade 5 girls (with grade 5 girls scoring 30.3 and 46.7 as compared with 30.2 and 50.0 for OOS girls who dropped out in upper primary). Girls who were last enrolled in secondary school are also performing at approximately the same level as grade 5 girls from the sample in literacy, although their numeracy scores are higher than the averages for grade 6 girls in the sample.[77]

The results differ somewhat for financial literacy, with OOS girls tending to have higher skill levels (relative to when they last attended school) than with literacy and numeracy. OOS girls who were last enrolled in lower primary have a skill level that is approximately equivalent to sampled girls in grade 4

[77] The sample of girls who dropped out in secondary schools is only N, so estimates for this category of OOS girls are highly unreliable.

(with grade 4 girls scoring 12.0, as compared with 11.4 for OOS girls who dropped out in lower primary). Girls who were last enrolled in upper primary have a skill level that is approximately equivalent to grade 5 girls (with grade 5 girls scoring 18.9, as compared with 18.6 for OOS girls who dropped out in upper primary). Finally, girls who were last enrolled in secondary school score far higher than those in grade 6 from the sample of in-school girls (who had an average score of 19.2).

Thus, girls who are entering ASLP programs who were previously enrolled can be placed by their approximate grade-level, with the expectation that girls who were previously enrolled in lower primary grades will be able to start learning skills that would normally be taught to grade 3 girls (and possibly at a grade 4 skill level in financial literacy), while girls who dropped out in upper primary will be able to start learning skills typically taught in grade 5 (and possibly learning numeracy skills at the level taught in grade 6). Finally, girls who were previously enrolled in secondary school will probably need to be tested for their skill levels, since the sample size for that subgroup of OOS girls is far too small to establish expectations with any certainty.

Table 39: Learning scores along key barriers (for in-school girls, excluding outlier schools)

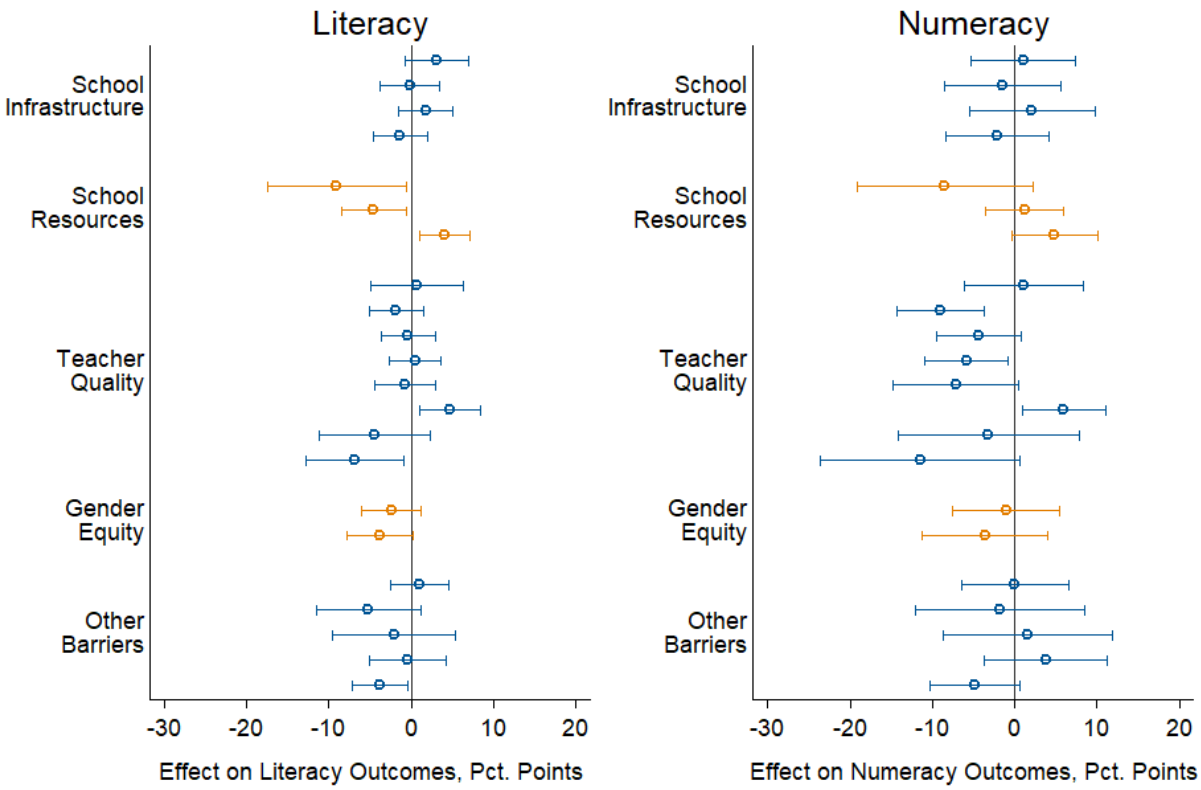
	Average literacy score	Average numeracy score	Number of observations for subgroup
Characteristics:			
All in-school girls	23.73	39.9	897
School Infrastructure			
Difficult to move around school	26.59	42.04	150
Doesn't use drinking water facilities	23.98	40.27	212
Doesn't use toilet at school	25.41	42.87	221
Doesn't use areas where children play/socialise	23.37	40.09	352
School Resources			
No computers at school	23.44*	40.75	720
School does not have learning materials	20.57*	42.13	178
Not enough seats for children at school	26.91*	43.65	206
Teaching Quality			
Disagrees teachers make them feel welcome	24.38	40.98	48
Agrees that they are afraid of teacher	23.25	37.49	458
Agrees teachers treat boys and girls differently in the classroom	23.9	38.71	333
Agrees teacher is often absent from class	24.32	37.47	292
Teacher punishes students who get things wrong	23.87	39.46	608
Teacher uses corporal punishment	26.34*	42.77*	211
Carer says principal performance is poor	19.44	37.08	47
Carer says teaching at school is poor	17.1*	29.14	36

Gender Equity			
Teacher targets questions by gender	21.98	40.35	77
Teacher targets difficulty of questions by gender	20.65	38.02	87
Other Barriers			
Agrees she has no choice in schooling decisions	24.36	41.83	667
Over 30-minute travel time to school	19.15	39.53	44
Feels unsafe on way to school	22.15	42.68	54
Feels unsafe at school	23.64	44.77	52
Caretaker has never visited school (disengaged)	20.34*	35.82	113

*Note, an asterisk indicates results that are statistically significant at the 95% confidence level (or higher) in a regression with cluster-robust standard errors.

The panel of graphs below presents t-test results for the learning barriers tabulated above. Each barrier is plotted separately, with the dot representing the average effect of a given barrier, and the bars around the dot representing the 95% confidence interval surrounding that estimate. Barriers are grouped by category to facilitate visual comparison. Comparing the two graphs, one can see that the effect of a given barrier on literacy is, in most cases, in the same direction as the effect of the same barrier on numeracy, although the results are not convergent between literacy and numeracy scores in terms of their statistical significance (e.g. results for literacy might be significant while the results for numeracy are not, or vice-versa). In order to facilitate analysis of barriers, all of the results displayed below represent the effect of the presence of a given barrier on learning outcomes, such that (if a potential barrier does have detrimental effects) we would expect the estimated effect for that variable to be negative (i.e. below the zero reference-line in the graphs below).

Figure 18: Effect of barriers on learning outcomes



Proceeding from the top, down, none of the indicators of school infrastructure have any consistent or significant effect on learning outcomes.

Students in better-resourced schools, with computers, consistently outperform those in schools without computers. The graphs above show the obverse of this relationship, namely that attending a school with no computers is a consistently negative predictor of learning outcomes (vis-à-vis students who attend schools that do have computers). The result for literacy outcomes is statistically significant, and the result for numeracy outcomes is not (although it is relatively close to the threshold for statistical significance). Note that this result is not about the effect of computers on learning in the classroom per se, but rather about computers serving as a proxy for how well-resourced a school is in general. Girls attending better-resourced schools tend to have higher assessment scores.

The absence of adequate learning materials is a significant predictor of lower literacy outcomes, but not a predictor of numeracy outcomes. This finding is potentially consistent with the fact that literacy learning depends heavily on students having access to adequate reading materials, whereas numeracy skills can potentially be taught (and practiced effectively by students), even in the absence of textbooks or other learning materials.

In terms of indicators of teacher quality, fear of the teacher (reported by girls), as well as poor principal performance and poor teaching (as reported by caretaker), are all predictors of lower than average learning outcomes in both literacy and numeracy. For literacy scores, poor teaching quality is a statistically significant predictor of lower scores. For numeracy, fear of the teacher is the most significant predictor of lower performance. These findings are in keeping with the skill-gap analysis presented earlier, suggesting that skill gaps are probably emerging consistently across genders because of fundamental limitations in teachers' instructional skills. Thus, investments in improving schools (in terms of teachers' skill levels and the quality of their engagement with students) are likely to have a significant payoff in terms of improved learning outcomes.

Gender inequality also predicts lower learning outcomes in both literacy and numeracy. These results are not statistically significant, even though the negative correlation is itself consistent across different proxies and across learning outcomes (suggesting that this finding is worth considering even though it does not reach conventional levels of statistical significance).

Finally, a long travel time to school (over 30 minutes) and having a disengaged caretaker (who has never visited the girl's school), are both predictors of lower learning outcomes. A long travel time to school is not a statistically significant predictor of learning outcomes, but the effect on literacy is sizeable (albeit insignificant). It should be noted that only 5 percent of girls reported having a trip of over 30 minutes in duration, so this barrier is comparatively exceptional. A disengaged caretaker is a statistically significant predictor of a lower literacy score, and the result for numeracy is also substantial and nearly statistically significant.

Profile of at-risk and high-achieving girls

In order to determine the characteristics of the most at-risk girls, and the most high-achieving girls, the subsample of in-school, cohort girls in the intervention group were divided into quintiles by their scores, and the bottom 20 percent were classified as at risk, while the top 20 percent were classified as high-achieving. The characteristics of both groups were analysed in terms of key subgroup categories that tended to predict girls belonging to the top or bottom 20 percent. The analysis of at-risk girls and high-achieving girls involved all of the subgroups and barriers considered above. In the interest of space, full tables by subgroups and barriers are not provided here. Rather, the key, statistically significant results are summarised in narrative form.

At-risk girls

There were very few consistent traits of girls who were defined as at-risk.[78] Girls who are at-risk do tend to have a mental health disability or psychosocial issues (with caretakers reporting that they often feel anxious). The general finding that there are few consistent predictors of being at-risk is consistent with the

[78] In many cases, a given subgroup variable was positively and significantly correlated with one assessment score, e.g. literacy, while being negatively (and not significantly) correlated with another assessment score, e.g. numeracy (or vice-versa). In these cases, it was assumed that the statistically significant correlation was spurious because it did not consistently predict extremely low levels of performance (which would presumably help to predict a high probability of dropping out). There were also cases in which statistically significant correlations ran in a direction that was highly counterintuitive – e.g. visual disability status being significantly correlated with *not* being at risk – which suggests that these correlations are probably spurious, and possibly a result of small sub-sample sizes.

fact that there were also very few statistically significant predictors of lower than average assessment scores as part of the subgroup analysis above.

High-achieving girls

In contrast to the analysis of at-risk girls, there are consistent and statistically significant predictors of high achievement levels. There are also important findings related to key subgroups that are defined at the household level: namely, that disabled girls and girls from pastoralist households (while not consistently belonging to the at-risk category) are almost never located in the high-achieving category. Disabilities involving hearing, vision, cognition, self-care, and communication all predict that girls *will not* be high-achieving. In addition, girls from pastoralist households (with the head of household being pastoralist and as proxied through the household owning medium-sized livestock) and girls whose caretaker has no formal education tend to *not* be high-achieving in literacy and numeracy.[79]

This analysis of at-risk and high-achieving girls suggests that the presence of key barriers as well as the membership in disadvantaged subgroups do not so much cause girls to under-perform as these factors *inhibit girls' abilities to excel*. Girls who performed in the top 20 percent in terms of literacy and numeracy scores had far fewer disadvantages than their peers in terms of disability status and in terms of belonging to a pastoralist household. The removal of barriers to learning for disabled girls and girls in pastoralist households is likely to improve learning outcomes by allowing the most motivated girls in those subpopulations to excel in ways that this analysis suggests they presently cannot.

As noted, the analysis of at-risk girls did not reveal consistent factors that were associated with girls falling into the bottom 20 percent and thus being at a higher risk of dropping out of school. In order to better understand the determinants of dropping out of school, the section on transition outcomes below presents a more direct analysis of this question – analysing the characteristics of in-school versus dropout girls, versus girls who have remained out of school. This analysis reveals an important set of subgroup characteristics and barriers that were not strong predictors of learning outcomes but that are strong predictors of key transition outcomes such as dropping out of school.

4.3 Testing the TOC – intermediate outcomes and learning outcomes

This section explicitly tests key causal linkages that are fundamental to the SOMGEP-T ToC. The TOC implies that each of the intermediate outcomes (to be covered in detail in section 5 below) have the potential to contribute to learning outcomes. Each of these implied contributions can be tested quantitatively through an analysis of the level of correlation between intermediate outcomes and learning outcomes and cross-checked through triangulation with the available qualitative data. Below, each intermediate outcome is examined in turn – attendance, school governance, teaching quality, and life skills – in terms of the independent effect on learning outcomes. In addition to this analysis of intermediate outcomes, key outputs are identified that correlate strongly with learning outcomes. It is possible that these outcomes are making a particularly large contribution to removing barriers or

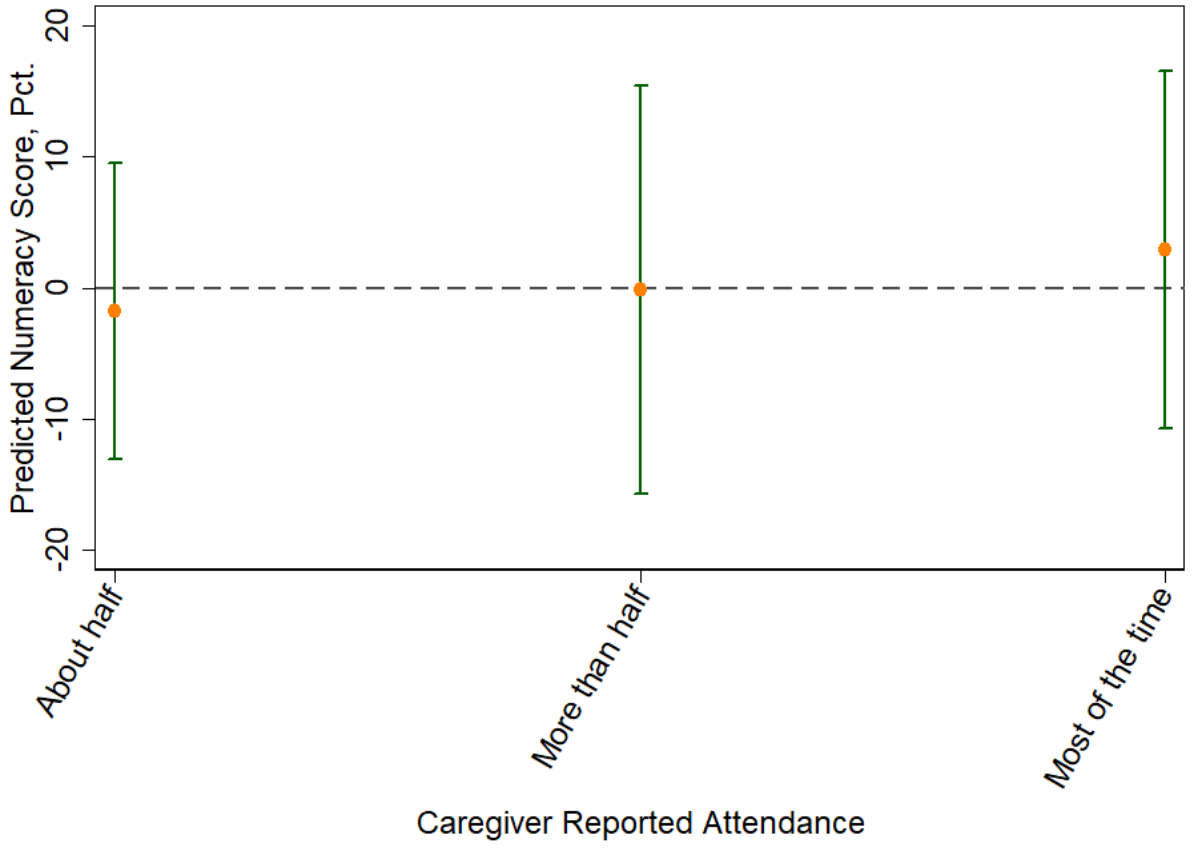
[79] Regarding proxies for pastoralism, it should be noted that seasonal migration is not a predictor of non-membership in the high-achieving category, but as noted, the other two indicators of pastoralism were significantly correlated with being non-high-achieving.

empowering marginalised groups in ways that improve learning outcomes. Finally, a tertiary hypothesis about the positive relationship between numeracy and financial literacy is tested and confirmed.

IO 1: Attendance Rates and girls' learning

The ToC hypothesizes that higher attendance rates will in turn lead to better learning outcomes. When a regression is run of learning outcomes, that is numeracy and literacy scores, on attendance variables in the household survey as well as in the school survey, we find that attendance is in fact a significant and positive predictor of learning outcomes, but only for literacy scores. This finding reinforces the notion that teachers are broadly struggling to teach basic numeracy skills, particularly multiplication, division, and problem solving. Numeracy skills plateau and then higher attendance has no additional effect on improving them. The figure below presents the coefficients for varying degrees of attendance as captured by answers given by caregivers estimating the attendance of their girls. As can be seen, while the predicted coefficient increases with attendance as would be expected by the hypothesis, the coefficients are not statistically different from zero, which suggests that attendance is not significantly related to numeracy scores.

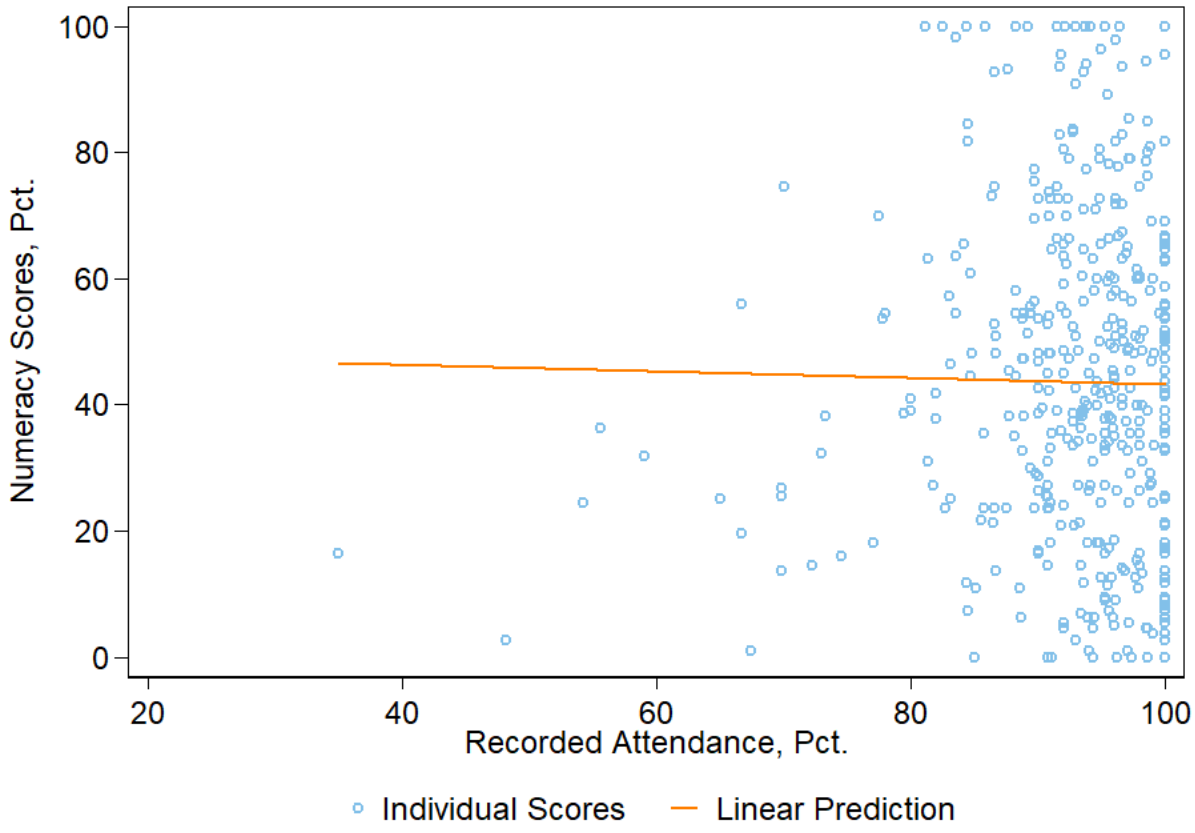
Figure 19: Coefficients of Regression of Numeracy Scores on Caregiver-reported Attendance



A similar pattern emerges when we compare literacy scores with attendance rates gathered from school records and recorded in the school survey. As shown in the figure below, the relationship between

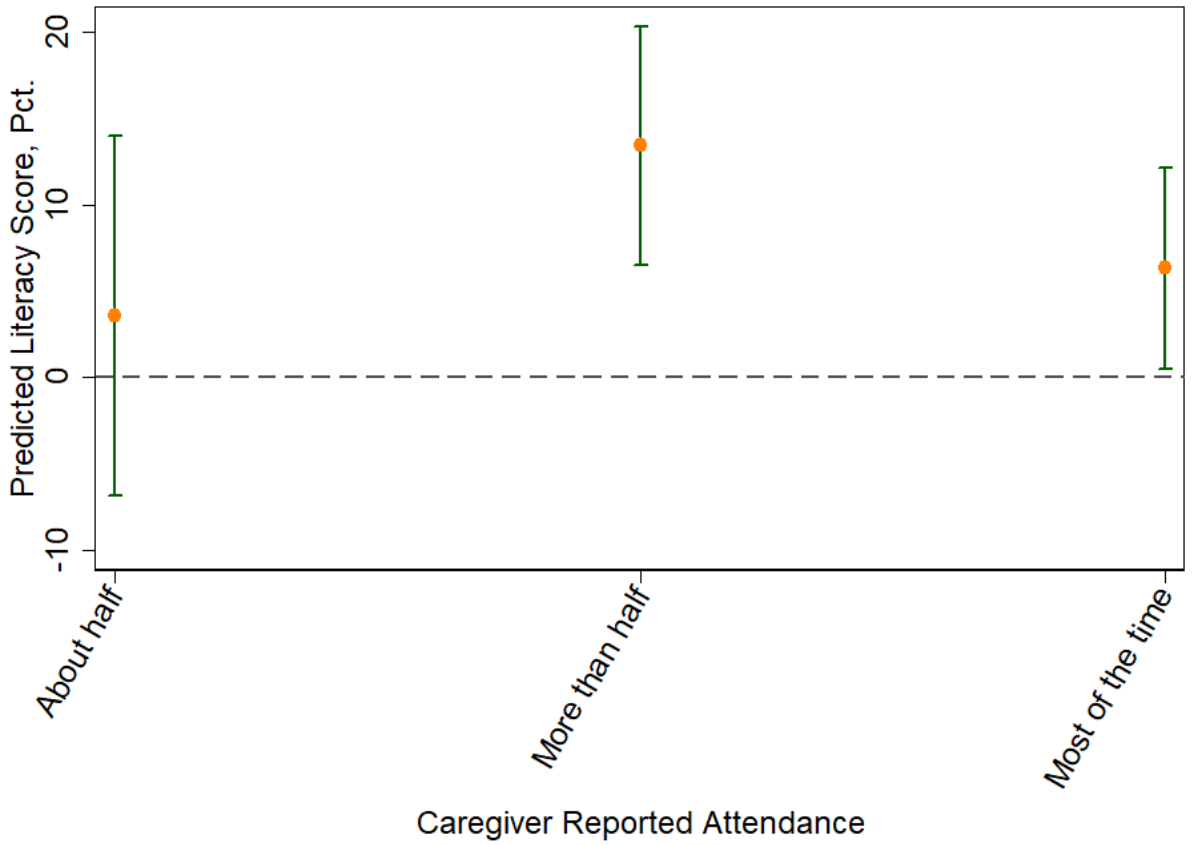
recorded attendance and numeracy is almost flat, indicating that there is no relationship between two. Regression analysis also bears out this finding.

Figure 20: Numeracy Scores by School Record Attendance



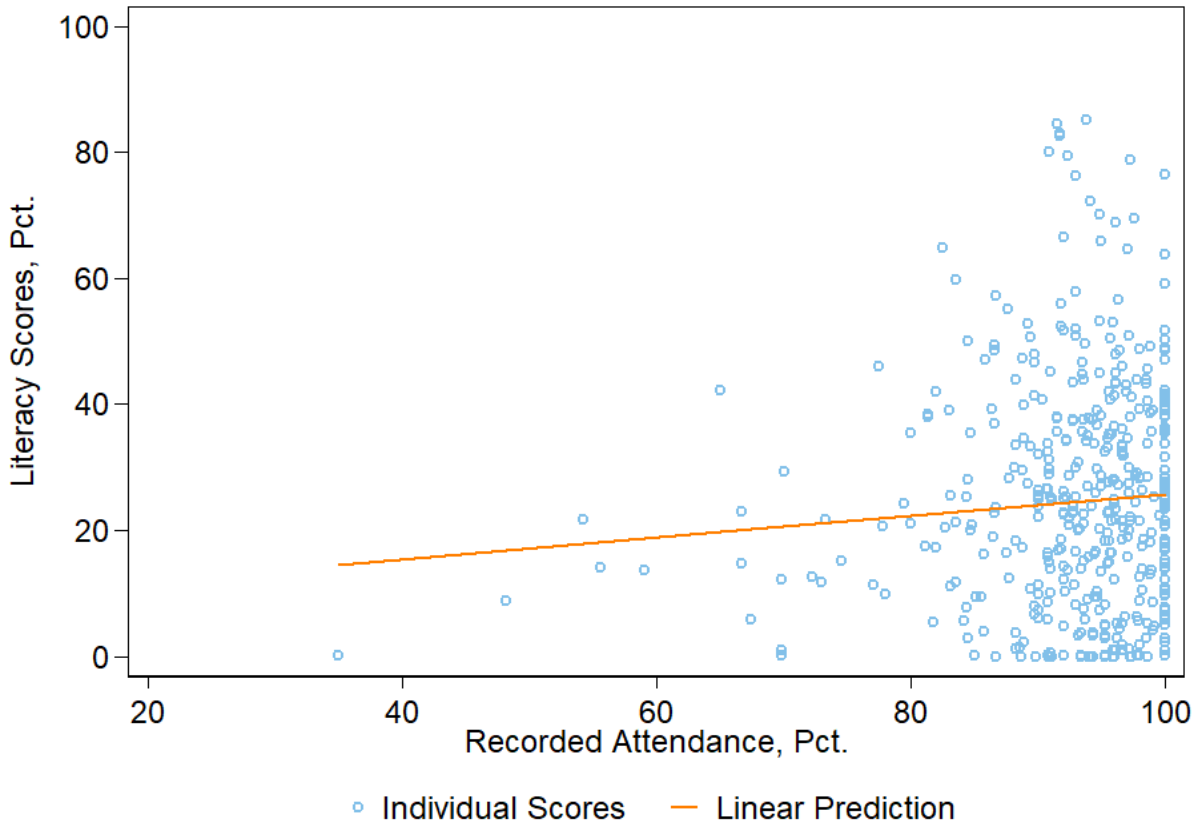
However, when literacy scores are regressed on caregiver estimates of the attendance of their girls, we do observe a significant and positive relationship with attendance rates, as illustrated by the figure below. Girls who are estimated to attend more than half the time schools are open are predicted to have a significantly higher literacy score than girls who did not. This finding comes with a caveat. While we would expect that literacy scores would rise with attendance monotonically, literacy scores of those girls who attended school most of the time were not significantly higher than girls who attended more than half the time, suggesting there were not substantial gains from greater attendance for girls estimated to attend most of the time in comparison with girls who attended more than half the time.

Figure 21: Coefficients of Regression of Literacy Scores on Caregiver-reported Attendance



The positive relationship is also observed when literacy scores are compared with recorded attendance rates gathered from the school survey. As shown in the figure below, there is a slightly positive relationship between literacy scores and recorded attendance rates. Regression analysis reveals that this relationship is positive, but not significant.

Figure 22: Literacy Scores by School Record Attendance



IO 2: School governance and girls' learning

The SOMGEP-T project focuses on cultivating sustainable outcomes through improved school governance and the fostering of active CEC support for schools. The hypothesis is that schools that have active CECs and that are better supported by their CECs will ultimately deliver higher quality education to girls who will then perform better and have lower dropout rates. A simple test of this hypothesis involves examining the correlation between communities that have an active CEC and girls' learning outcomes. Active CECs are coded on the basis of the caretaker reporting that the school in their community has a CEC, and that the CEC in question communicates regularly (on a weekly, monthly, or yearly basis). As predicted by the ToC, girls in communities with active CECs have significantly higher literacy and numeracy outcomes than girls in communities with inactive CECs or no CECs.[80]

IO 3: Teaching quality and girls' learning

The ToC hypothesises that improved skill-specific teaching quality – i.e. addressing specific teaching skill gaps that are reflected in girls' learning – will translate into improved learning outcomes for girls. The

[80] In a regression of literacy against active-CEC (coded 1 if active and 0 otherwise) with cluster-robust standard errors, p=0.000. In a regression of numeracy and active-CEC with cluster-robust standard errors, p=0.008.

greatest support for this hypothesis comes from the five outlier schools from the comparison group whose students vastly outperformed the other students in the sample in terms of their English literacy scores. The teachers in these outlier schools were discovered to be particularly skilled in English instruction (including having advanced degrees in some cases), and thus higher-than-average English subtask performance among those teachers' students can be clearly explained as a result of higher skill-specific teaching quality.

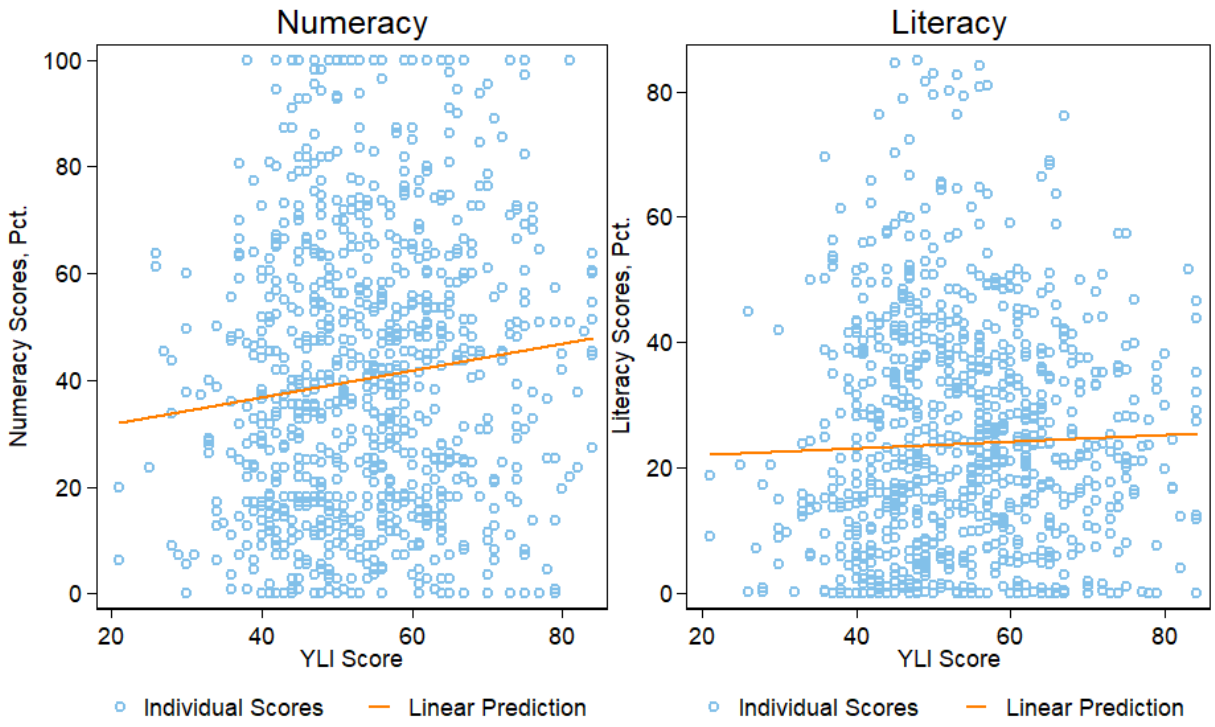
More broadly, there is a clear correlation between low teaching quality (as reported by the primary caregiver) and lower learning outcomes, even when the outlier schools are excluded from analysis. The barriers analysis above has shown that, for in-school girls, low teaching quality predicts lower literacy and numeracy scores. In the case of literacy, the correlation is statistically significant.[81] In the case of numeracy, the correlation is on the borderline of significance.

IO 4: Life skills and girls' learning

The project ToC hypothesises that if girls improve their life skills in terms of leadership skills, self-confidence and self-efficacy, that they may perform better in school as a result of being more confident in their abilities and being able to participate more actively in the classroom. A straightforward test of this hypothesis is whether girls' learning outcomes are strongly correlated with their YLI scores. The panel of graphs below presents girls' literacy and numeracy scores as a function of their YLI scores, with the orange line on each graph indicating the slope of the fitted regression line. In the case of numeracy, the correlation with YLI score is positive and statistically significant.[82] In the case of literacy, the correlation is positive but is not statistically significant. Thus, the hypothesis about more leadership skills leading to higher academic performance finds a moderate level of support in the baseline data.

Figure 23: YLI scores versus learning outcomes, for in-school girls

[81] The correlation between teaching quality and girls' literacy is statistically significant in a regression with cluster-robust standard errors, at p=0.031.
[82] YLI score and numeracy score are correlated at p=0.009 in a regression with cluster-robust standard errors. YLI score and literacy score are correlated at p=0.393 in a regression with cluster-robust standard errors.



It is important to note that the floor effect from extremely low levels of English literacy in the sample tends to mask any correlations that may exist between YLI and literacy. When YLI is regressed against Somali literacy alone, the level of correlation is much higher, although still not quite statistically significant.[83]

In general, it is understood that leadership or life skills tend to improve learning outcomes through the mechanism of increased confidence or self-esteem and correspondingly increased classroom participation. The relationship between self-esteem and classroom participation will be explored in greater detail in the sub-section on girls' self-esteem in Section 5 below.

Output 2: School infrastructure/resources and girls' learning

Output 2 implies that improving school infrastructure – including the construction of additional classrooms and water facilities – and the provision of additional resources to schools will potentially improve attendance and retention and also potentially improve girls' learning. This hypothesis finds mixed support in the barriers analysis above. The availability and quality of school infrastructure, including the usability of drinking facilities and toilets (as reported by girls), are not significantly correlated with learning outcomes. However, girls do tend to perform better in schools that have more resources, where

[83] YLI score and Somali Literacy score are correlated at p=0.113 in a regression with cluster-robust standard errors.

computers in the classroom and having sufficient learning materials in the classroom are important high-end and low-end proxies for the level of resources that a given school has. Girls attending schools that have computers in the classroom and that have sufficient learning materials score significantly higher in literacy than their peers attending lower-resourced schools. Girls' numeracy scores are less sensitive to the level of resources available to schools, and these correlations are not statistically significant.

Output 3: Caretaker literacy and girls' learning

Output 3 is based partly on the hypothesis that improving the literacy (and financial literacy) of mothers will improve their ability to help their daughters with schoolwork at home, and thus may correspondingly improve girls' learning. If this relationship between mothers' literacy and girls' learning exists, the most direct link would be with girls' literacy. Carer literacy was measured in the household survey by caregivers being asked if they had the ability to read a short, written message. The hypothesis in question is tested through a regression with carer literacy as a predictor of girls' literacy. As expected, carer literacy is positively correlated with girls' literacy scores, but the correlation is not statistically significant.[84] In addition, caregiver education-level is also correlated with literacy scores. Girls have significantly lower literacy score if their caregivers reported having no formal education.[85]

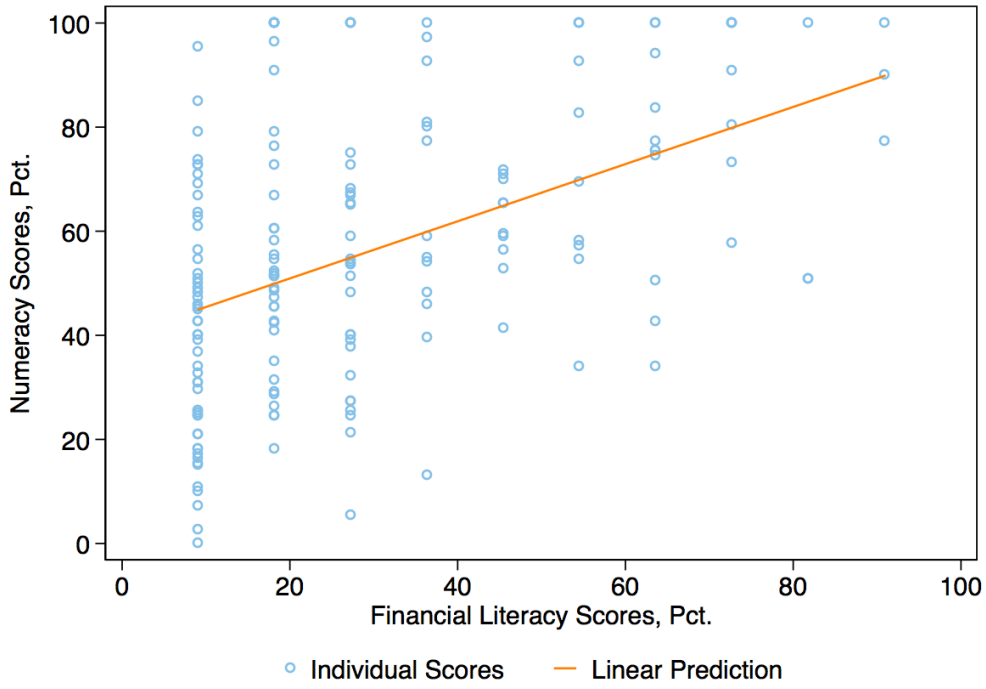
Relationship between numeracy and financial literacy

There is a strong, positive correlation between numeracy and financial literacy among in-school girls.[86] The direction and strength of this correlation is consistent across both the intervention and comparison groups. The graph below plots financial literacy scores against numeracy scores for all girls who scored higher than 0% on the financial literacy exam (n=255). This analysis censors girls who scored 0% because it is almost certain that they lacked fundamental conceptual understanding of profit, creating a clear threshold within which numeracy skills do not matter because of lack of requisite knowledge of how to interpret the word problems. Beyond the *profit-concept* threshold, it is clear that the more skilled girls are in math, the better they are able to apply their knowledge of financial concepts to answer questions successfully.

The orange trend-line indicates the direction of the relationship between financial literacy and numeracy by plotting the slope of the relevant bivariate regression line.

[84] The correlation between caregiver literacy (coded as 1 if the caregiver reports being able to read and 0 otherwise) and girls' literacy is not statistically significant, with p=0.203.
[85] The correlation between caregivers having no formal education (coded as 1 if the caregiver reported having no formal education and 0 otherwise) and girls' literacy is statistically significant, with p=0.003.
[86] The correlation between numeracy and financial literacy is significant at p=0.000 in a linear regression.

Figure 24: Scatterplot of numeracy versus financial literacy, with linear prediction



4.4 Transition Outcome

This section presents key findings for transition outcomes. First, the definitions of transition pathways are presented and summarized. Based on these definitions, the sample of benchmark girls has been categorized by transition type, and these results are summarized to establish baseline expectations for transition for girls aged 20 to 22. Based on the defined transition pathways, the sample of cohort girls is also categorized by transition type, and these results are summarized to establish baseline transition rates.

The table below presents definitions of transition pathways for girls targeted by SOMGEP-T programming. These definitions attempt to capture a realistic range of possible transitions, categorizing these into transitions that will be considered “successful” (in terms of girls being able to either continue their education or find employment that is gainful and non-exploitative) versus “unsuccessful” (i.e. being likely to severely limit girls’ educational and economic prospects for the future). The definitions of the table are reviewed in narrative form below.

Table 40: Transition pathways

	Baseline point	Successful Transition	Unsuccessful Transition
Lower primary school	Enrolled in Grade 3, 4	• In-school progression • Drops out but is enrolled into	• Drops out of school • Remains in same grade

		alternative learning programme	
Upper primary	Enrolled in Grade 5, 6, 7, 8	• In-school progression • Moves into secondary school • Moves into ASLP	• Drops out of school • Moves into work, but is below legal age
Secondary school	Enrolled in Grade F1, F2, F3, F4	• In-school progression • Enrols into technical & vocational education & training (TVET) • Gainful employment • Moves into ASLP	• Drops out of school • Moves into employment, but is unpaid or otherwise exploited
Out of school	Dropped out	• Re-enrol in appropriate grade level in basic education • Enrol in alternative learning programme • Engages in wage/self-employment	• Remains out of school

At each stage of their education, in-school girls have the potential to: 1) progress to the next grade, 2) remain in the same grade, or 3) drop out of school. It is understood that in-school progression is the ideal outcome, and thus considered a successful transition. Dropping out or remaining in the same grade (which increases the likelihood of dropping out in the future) are understood to be unsuccessful outcomes because they limit girls' prospects of continuing to advance their education. It is also possible that girls may drop out but enrol in an alternative learning programme that will allow them to continue their education and potentially re-enter formal education in the future. Thus, out-of-school girls (including dropouts) who are enrolled in an alternative learning programme will also be considered to have made a successful transition. Similarly, for older girls, it is possible that girls may drop out but enrol in a TVET program or make their way into gainful (i.e. wage-earning/ self-employment and non-exploitative) employment. Such transitions make it likely that girls will continue to improve their economic life prospects, and thus these are considered successful transition outcomes as well. Because dropout rates may be higher during the transition from primary to secondary school, this transition is separated out when establishing transition rates so that it can be examined separately from other types of in-school progression.

For out-of-school girls, a successful transition would involve re-enrolment in formal education or enrolment in an alternative learning programme where the girls will have a higher probability of continuing to pursue their education. An unsuccessful transition for out of school girls is simply remaining out of school.

Benchmarking

The benchmark sample comprises 732 cohort girls (aged 11 to 19 years) belonging to the intervention-group along with 218 girls, age 20 to 22, whose present transition outcomes are taken as indicative of potential future outcomes for older cohort girls. It should be noted that the sample of intervention-group girls in the benchmark sample are also represented in the tables of cohort girls below.

The overall transition rate for the benchmark sample is 48.8 percent, with significant differences in transition rates by age. Transition outcomes for the benchmark sample are presented in the table below.

Younger girls are much more likely to achieve a successful transition than their older peers. In particular, in-school progression decreases in almost step-wise fashion as a function of increasing age. Among out of school girls, transition into informal education has uneven rates across ages and there is no discernible trend.

Transition outcomes for the benchmark sample are presented in the table below. The overall successful transition rate for benchmark girls is 48.8 percent, with significant differences in transition rates by age. Looking at the more specific outcome of enrolment, 50.7 percent (n=482/950) were enrolled in school or university at the time of the baseline survey. Among girls who were not enrolled in school at the time of the baseline, 35.5% (n=318/950) had also not been enrolled during the previous year.

Girls from the benchmark sample who are 20 years old are much more likely to achieve a successful transition than their older peers. In particular, 20-year-olds are more likely to be enrolled in formal education (than older girls) and thus have a higher proportion of in-school progression. Among out of school girls, younger girls in the benchmark sample have a higher rate of transition into informal education.

As might be expected, the rate of employment is higher for older girls, although the percentage of girls who are employed, albeit not gainfully, is highest among girls who are 22 years old.

Table 41: Benchmarking for the Transition Outcome

Benchmark group													
		Benchmark transition pathway											Transition rates
		Successful Transitions						Unsuccessful Transitions					
Age	Sample size (#)	In-school progression	Moves into secondary school	Enrolled in TVET course	Enrolled in informal education	Gainful employment (of age)	Re-enroll at grade level	Remains in same grade	Underage employment	Non-wage-earning or low-wage employment	Drops out of school	Remains out of school	Successful transition rate per age (%)
11	101	54.5%	0.0%	0.0%	6.9%	0.0%	3.0%	12.9%	0.0%	0.0%	4.0%	18.8%	64.4%
12	135	51.1%	0.0%	0.0%	0.7%	0.0%	0.7%	17.8%	0.0%	0.0%	5.9%	23.7%	52.6%
13	133	45.1%	0.0%	0.0%	3.8%	0.0%	0.0%	18.0%	0.0%	0.0%	6.8%	26.3%	48.9%
14	113	52.2%	0.0%	0.0%	12.4%	0.0%	0.9%	13.3%	0.0%	0.0%	3.5%	17.7%	65.5%
15	79	39.2%	0.0%	0.0%	1.3%	0.0%	0.0%	15.2%	0.0%	1.3%	3.8%	39.2%	40.5%
16	68	36.8%	0.0%	0.0%	8.8%	0.0%	4.4%	11.8%	0.0%	1.5%	2.9%	33.8%	50.0%
17	41	26.8%	0.0%	0.0%	7.3%	2.4%	0.0%	14.6%	0.0%	2.4%	4.9%	41.5%	36.6%
18	36	11.1%	0.0%	0.0%	22.2%	2.8%	0.0%	5.6%	0.0%	2.8%	0.0%	55.6%	36.1%
19	26	15.4%	0.0%	0.0%	7.7%	0.0%	0.0%	3.8%	0.0%	0.0%	3.8%	69.2%	23.1%
20	130	3.8%	0.8%	5.4%	17.7%	0.8%	16.9%	8.5%	0.0%	5.4%	0.0%	40.8%	45.4%
21	39	0.0%	0.0%	5.1%	12.8%	5.1%	7.7%	0.0%	0.0%	2.6%	0.0%	66.7%	30.8%
22	49	0.0%	0.0%	4.1%	10.2%	4.1%	18.4%	2.0%	0.0%	12.2%	0.0%	49.0%	36.7%
Overall	**950**	**34.0%**	**0.1%**	**1.2%**	**8.4%**	**0.7%**	**4.4%**	**12.3%**	**0.0%**	**1.9%**	**3.5%**	**33.5%**	**48.8%**

Overall, these findings suggest that successful transition is more difficult as girls get older, and this negative correlation between age and transition will be observed in the cohort sample below as well. The most fundamental reason is that, as girls get older, their ability to re-enrol and remain enrolled in formal education at an appropriate grade-level decreases because of the increased likelihood of marriage and motherhood, as well as the social and economic pressures to get and maintain a job and the difficulties that girls face when they are enrolled in a formal setting in which they are significantly older than their peers. Marriage and motherhood are often cited as barriers to girls continuing their education, and girls experience increasing social pressure to marry as they age. A girl in a focus group summarised what she saw as the rationale for that pressure: “Marriage is compulsory. It is one of our religious obligations. This is how all human life has been started, and everybody needs to have children."[87] A girl in a focus group explained the linkage between marriage and discontinuing education, saying that, "After marriage, girls are too shy to continue with their education."[88] The suggestion that married girls are too “shy” to return to school is most likely a statement about their age (relative to their grade-level) making them feel ashamed to return to school because they know that they will be older than their peers, which could be socially isolating and might lead to older girls being teased by their peers. Another girl corroborated this explanation, suggesting that social norms enforced through teasing tend to inhibit married girls from feeling comfortable re-entering school: “When she gets married, she is afraid to go to school, because other students might mock

[87] FGD – Girls
[88] FGD – Girls

her."[89] These norms may be policed by adults as well, who expect wives to care for the house and produce children once they are married, and who see schooling as a conflicting priority. One girl explains, "When the girls have family problems and decide to marry a man and moves in with him, she might be the only girl in the home."[90] Being the "only girl in the home" subtly suggests that the newly married girl will have many household responsibilities and that these will be paramount for her. Schooling is implicitly a secondary priority or perhaps a conflicting priority.

Transition outcome of cohort girls

The Tables below present transition outcomes for girls who are part of the cohort sample, ages 10 to 19, with the outcomes for intervention and comparison girls being presented separately. The overall successful transition rates are nearly identical for the intervention group and the comparison group, with 50.8 percent for the sample of intervention girls and 50.5 percent for the sample of comparison girls. When examined by individual transition outcomes, the rates are also similar between intervention and comparison: the most prevalent outcome for in-school girls is in-school progression, with 43.2 percent of intervention girls and 41.9 percent of comparison girls progressing in school; the most prevalent outcome for out-of-school girls is remaining out of school, with 30.7 percent of intervention girls and 30.7 percent of comparison girls remaining out of school.

Table 42: Intervention group (girls)

Intervention group (girls)													
		Benchmark transition pathway											Transition rates
		Successful Transitions						Unsuccessful Transitions					
Age	Sample size (#)	In-school progression	Moves into secondary school	Enrolled in TVET course	Enrolled in informal education	Gainful employment (of age)	Re-enroll at grade level	Remains in same grade	Underage employment	Non-wage-earning or low-wage employment	Drops out of school	Remains out of school	Successful transition rate per age (%)
10	140	42.1%	0.0%	0.0%	5.0%	0.0%	1.4%	9.3%	0.0%	0.0%	4.3%	37.9%	48.6%
11	101	54.5%	0.0%	0.0%	6.9%	0.0%	3.0%	12.9%	0.0%	0.0%	4.0%	18.8%	64.4%
12	135	51.1%	0.0%	0.0%	0.7%	0.0%	0.7%	17.8%	0.0%	0.0%	5.9%	23.7%	52.6%
13	133	45.1%	0.0%	0.0%	3.8%	0.0%	0.0%	18.0%	0.0%	0.0%	6.8%	26.3%	48.9%
14	113	52.2%	0.0%	0.0%	12.4%	0.0%	0.9%	13.3%	0.0%	0.0%	3.5%	17.7%	65.5%
15	79	39.2%	0.0%	0.0%	1.3%	0.0%	0.0%	15.2%	0.0%	1.3%	3.8%	39.2%	40.5%
16	68	36.8%	0.0%	0.0%	8.8%	0.0%	4.4%	11.8%	0.0%	1.5%	2.9%	33.8%	50.0%
17	41	26.8%	0.0%	0.0%	7.3%	2.4%	0.0%	14.6%	0.0%	2.4%	4.9%	41.5%	36.6%
18	36	11.1%	0.0%	0.0%	22.2%	2.8%	0.0%	5.6%	0.0%	2.8%	0.0%	55.6%	36.1%
19	26	15.4%	0.0%	0.0%	7.7%	0.0%	0.0%	3.8%	0.0%	0.0%	3.8%	69.2%	23.1%
Overall	**872**	43.2%	0.0%	0.0%	6.2%	0.2%	1.1%	13.5%	0.0%	0.5%	4.5%	30.7%	50.8%

As with the benchmark sample, the likelihood of a successful transition for cohort girls decreases as a function of age. This negative correlation between age and successful transition is accounted for by the fact that the likelihood of in-school progression is much lower for older girls, and older girls are more likely to stay out of school once they have dropped out.

Table 43: Comparison group (girls)[91]

Comparison group (girls)			
	Benchmark transition pathway		Transition rates
	Successful Transitions	Unsuccessful Transitions	

[89] FGD – Girls
[90] FGD – Girls
[91] Note: for this table, the sample of comparison girls includes girls in the five special schools that were excluded from the learning assessment analysis above. The inclusion of these girls does not appear to skew the results, as the estimated successful-transition rates for the intervention and control samples are nearly identical, as are the in-school progression rates by grade.

Age	Sample size (#)	In-school progression	Moves into secondary school	Enrolled in TVET course	Enrolled in informal education	Gainful employment (of age)	Re-enroll at grade level	Remains in same grade	Underage employment	Non-wage-earning or low-wage employment	Drops out of school	Remains out of school	Successful transition rate per age (%)
10	160	45.6%	0.0%	0.0%	7.5%	0.0%	0.6%	13.1%	0.0%	0.0%	4.4%	28.8%	53.8%
11	101	49.5%	0.0%	0.0%	8.9%	0.0%	0.0%	11.9%	0.0%	0.0%	3.0%	26.7%	58.4%
12	122	54.1%	0.0%	0.0%	6.6%	0.0%	0.0%	15.6%	0.0%	0.0%	4.1%	19.7%	60.7%
13	112	55.4%	0.0%	0.0%	7.1%	0.0%	0.9%	12.5%	0.0%	0.0%	2.7%	21.4%	63.4%
14	118	39.0%	0.0%	0.0%	5.1%	0.0%	1.7%	16.9%	0.0%	0.0%	5.9%	31.4%	45.8%
15	86	37.2%	0.0%	0.0%	3.5%	0.0%	0.0%	23.3%	0.0%	1.2%	10.5%	24.4%	40.7%
16	78	23.1%	0.0%	0.0%	15.4%	0.0%	1.3%	1.3%	0.0%	1.3%	9.0%	48.7%	39.7%
17	38	21.1%	0.0%	0.0%	18.4%	0.0%	0.0%	2.6%	0.0%	0.0%	10.5%	47.4%	39.5%
18	35	17.1%	0.0%	0.0%	2.9%	0.0%	0.0%	8.6%	0.0%	0.0%	11.4%	60.0%	20.0%
19	19	15.8%	0.0%	0.0%	21.1%	0.0%	0.0%	0.0%	0.0%	0.0%	5.3%	57.9%	36.8%
Overall	**869**	41.9%	0.0%	0.0%	8.1%	0.0%	0.6%	12.8%	0.0%	0.2%	5.8%	30.7%	50.5%

4.5 Sub-group analysis of the transition outcome

This section presents an analysis of the determinants of successful versus unsuccessful transition, by key sub-groups and barriers. In the interest of economising on space, the tables below only present transition rates for subgroups that were strong determinants of transition rates. These tables are split between transition rates for in-school versus out-of-school girls, because it is understood that the determinants of progressing from grade to grade (for in-school girls) are potentially different from determinants of re-enrolment or enrolment in an alternative learning program (for out-of-school girls). One of the most noteworthy findings is that the subgroups that are the strongest predictors of lower transition rates are different from the subgroups that are the strongest predictors of lower learning outcomes (see above).

Table 44a and b: Transition outcomes by subgroup for in-school and OOS girls

In school girls	Intervention transition rate	Comparison transition rate	Number of observations for intervention + comparison	Significance with 95% confidence level*
Characteristics:				
All in-school girls	77.0%	74.0%	897	-
Mother tongue different to LOI	79.0%	100.0%	78	*
Anxious	62.0%	71.0%	35	*
Depressed	52.0%	70.0%	30	*
Displaced or moved in past 12 months	100.0%	79.0%	6	
Household migrates seasonally	87.0%	88.0%	34	
High chore burden (whole day spent on chores)	52.0%	73.0%	100	*
Married	83.0%	33.0%	11	
Mother, under 16	100.0%	0.0%	4	
Low attendance	77.0%	56.0%	65	
Full orphan	67.0%	74.0%	25	

Out of school girls	Intervention transition rate	Comparison transition rate	Number of observations for intervention + comparison	Significance with 95% confidence level*
Characteristics:				
All OOS girls	15.0%	18.0%	756	-
Mother tongue different to LOI				
Anxious	12.0%	20.0%	32	
Depressed	6.0%	19.0%	34	
Displaced or moved in past 12 months	5.0%	14.0%	48	
Household migrates seasonally	7.0%	11.0%	78	*
High chore burden (whole day spent on chores)	12.0%	17.0%	344	
Married	29.0%	15.0%	50	
Mother, under 16	0.0%	0.0%	2	*
Low attendance				
Full orphan	10.0%	8.0%	22	

Across both in-school and out-of-school girls, the consistent predictors of lower transition rates are anxiety and depression (as reported by the caregiver), as well as high chore burden. Membership in these subgroups is a statistically significant predictor of lower learning outcomes for in-school girls, and also predicts lower transition rates for out-of-school girls (although the results are not statistically significant).

For in-school girls, being instructed in a language other than their mother tongue is a statistically significant predictor of lower transition rates. This finding contrasts with the subgroup analysis of learning outcomes, where instruction in a language other than their mother tongue was not a significant predictor of lower learning outcomes. This is important to note, because learning outcomes and transition outcomes are not strongly correlated in the baseline sample of in-school girls, meaning that the probability of advancing from grade to grade is not as strongly tied to performance in school as one might expect. Instead, it appears that girls' psychosocial health and other aspects of their personal or home lives are the most important determinants of advancing from one grade to the next.[92] Below, the analysis of barriers to transition will provide further support for the linkage between psychosocial health and transition.

The most important predictors of lower transition outcomes are migration. In particular, seasonal migration (which is associated with pastoralism) is a statistically significant predictor of lower transition rates. Results from the qualitative interviews suggest that migration is a barrier to girls staying in school because families who migrate do not have the resources required to send their children to school. Economic constraints were mentioned by respondents across FGD groups, primarily in reference to pastoralist communities and those who have been forced to migrate as a result of the drought. One mother explains, "As you know the community faced a big drought that caused the community to lose all of their animals that they were using to feed, and all the community came back in the town. But they do not have any money to enroll the baby. For example, you might see one family have 5 children in the home and 5 of them are not enrolled because they do not have an income to enroll them. And there are 20 to 30 families that have children not enrolled in school because of economy." A girl student explains, "Yes, there are many who don't come to school and the reason is, there is lack of economy. Most of these girls are the ones affected by the droughts."

Evidence on the effect migration has on students is mixed. In some instances, it appears that students can miss a significant amount of schooling as a result of migration. One teacher explains, "Sometimes they send students to [*location name*] and after two days of absenteeism, you ask their parents and they will tell you what happened. Then after one year when the student returns, the parents will bring him/her back to the school where she/he has missed the whole academic year." In some communities, teachers and CEC members conduct outreach and are able to enroll these students for free. One teacher explains, "We refer them to the same level they were before and they just sit easily," with another teacher confirming that there are no challenges once they register. Aside from these few accounts, the qualitative data does not provide detailed information into the process of registering new students. It is unclear, for example, whether there is a consistent gap in students' enrolment and whether enrolment is restricted to certain times of the year. Given the lack of uniformity generally observed between schools, it is reasonable to assume that the process may differ from area to area, which may further compound the negative effects of migration. Further research should aim to elicit more information on the process

[92] Note that anxiety and depression (as reported by the caretaker) are significantly correlated, which is consistent with what is known about these conditions as they relate to mental health (p=0.000 in a chi-squared test).

surrounding enrolment of students who have migrated and the effects of migration on school-age students.

Motherhood is also a significant predictor of lower transition rates for out-of-school girls, although the subsample of out-of-school mothers is too small to allow for strong conclusions to be drawn.

The table below analyses in-school girls in terms of potential barriers to transition, including the same barriers that were considered above in the analysis of learning outcomes. As with the subgroup analysis, the barriers to transition identified below are different from barriers to learning outcomes identified earlier.

Table 45: Barriers to transition for in-school girls

	Intervention transition rate	Comparison transition rate	Number of observations for intervention + comparison	Significance with 95% confidence level
Characteristics:				
All in-school girls	77.0%	74.0%	897	-
School Infrastructure				
Difficult to move around school	74.0%	67.0%	150	
Doesn't use drinking water facilities	65.0%	72.0%	212	*
Doesn't use toilet at school	74.0%	71.0%	221	
Doesn't use areas where children play/socialise	77.0%	73.0%	352	
School Resources				
No computers at school	77.0%	75.0%	720	
School does not have learning materials	80.0%	82.0%	178	*
Not enough seats for children at school	72.0%	75.0%	206	
Teaching Quality				
Disagrees teachers make them feel welcome	73.0%	59.0%	48	
Agrees that they are afraid of teacher	73.0%	72.0%	458	*
Agrees teachers treat boys and girls differently in the classroom	73.0%	70.0%	333	
Agrees teacher is often absent from class	71.0%	65.0%	292	*
Teacher punishes students who get things wrong	77.0%	75.0%	608	
Teacher uses corporal punishment	79.0%	76.0%	211	
Carer says principal performance is poor	70.0%	77.0%	47	
Carer says teaching at school is poor	86.0%	64.0%	36	
Gender Equity				
Teacher targets questions by gender	90.0%	75.0%	77	
Teacher targets difficulty of questions by gender	87.0%	86.0%	87	*

Other Barriers				
Agrees she has no choice in schooling decisions	76.0%	74.0%	667	
Over 30 minute travel time to school	67.0%	93.0%	44	
Feels unsafe on way to school	62.0%	66.0%	54	*
Feels unsafe at school	46.0%	78.0%	52	*
Caretaker has never visited school (disengaged)	73.0%	69.0%	113	

In the table above, limited school infrastructure is correlated with a lower rate of transition, and transition rates are lower to a statistically significant extent for girls who reported that they do not use the drinking water facilities at their school.

Schools being poorly resourced (in terms of learning materials) and teachers instructing in ways that are gender-unequal are positively correlated with transition outcomes (to a statistically significant extent for the absence of learning materials and the targeting of question difficulty by gender). These correlations are counterintuitive and are probably spurious.

The predictors of transition outcomes that are most significant and thematically consistent are those related to girls' feelings. Girls who fear their teachers, who feel unsafe at school, and who feel unsafe on their way to school are all significantly less likely than their peers to have successfully advanced to the next grade since the previous year. In light of the subgroup analysis above, this finding provides further evidence that girls' psychosocial health is an important determinant of whether or not they will be able to advance from grade to grade. Girls who reported feeling anxious or depressed, and who also saw school as a source of anxiety (either because of fearing their teacher, the school environment, or the trip to school), have an extremely low likelihood of transitioning as compared with their peers.

The following story was told by an interviewed girl and provides an example of several of the psychosocial issues identified above, contextualizing them in the setting of a pastoralist family facing violence from militants. In the narrative below, a depressed girl who has lost her father drops out of school, and then is resistant to re-enrolling because of anxiety about potential mistreatment at the hands of her teacher:

> *There is a little lady called [omitted], she is from pastoralist family, after a while they meet a big drought, and they moved somewhere near to Kenya border. After a while […] militants killed her father, then the girl got depressed. […] She dropped out after a while. Then her mother informed her to go back to her education. The girl told her mother that she does not want to go back, because the teacher might harass her.*[93]

[93] FGD – Girls.

4.6 Testing the ToC – transition outcomes

Determinants of girls remaining out of school

At the centre of SOMGEP-T interventions are the intended outcomes of increasing enrolment and retention. The project has identified a number of subgroups that may be at high risk of dropping out of school and not being able to re-enroll. In order to investigate the relative risk-level for these subgroups, a regression model was created to use girls' membership in various vulnerable groups to predict their relative likelihood of being out of school – i.e. the transition outcome of *remaining out of school*. All subgroups considered in previous sections were included in the initial analysis, and the model was gradually refined through the removal of variables that were not statistically significant predictors of transition outcomes to produce a model based on the subgroups that are jointly the most significant predictors of girls remaining out of school.

The results of the final logistic regression model indicate that the greatest predictors of girls being out of school are related to migration, early marriage, low levels of carer education, and high levels of household economic distress. Girls with a high chore burden are the most likely of any at-risk subgroup to remain out of school. High chore burden is potentially associated with poorer households and with households that have sent older children away from the household to work (can also be a sign of economic distress). The qualitative data also provides supporting evidence of the degree to which household chores can prohibit girls from attending school. A caretaker described the problem of housework preventing attendance or enrolment: "There are many girls whose parents order them to stay at home and clean the house. They are sometimes told to clean the house and go to school after cleaning the house, which could even be at like 10AM in the morning."[94] Another caretaker provided a similar explanation in which parents keep girls out of school so that they can help around the household. According to the caretaker, girls face "discouragement from their parents, as maybe their mothers ask their daughters to stay and work at the house."[95]

Girls belonging to households that had migrated (or were displaced) within the past year also had a very high likelihood of remaining out of school. Most cases of migration involve some form of involuntary displacement of the household, including migration as a result of drought. The caregivers of girls who were not enrolled at the time of the baseline survey frequently cited migration (cited by approximately 33 percent of caregivers) as a reason for girls dropping out. The qualitative data also supports this finding, as numerous focus group participants cited the drought as a major reason for displacement, and in turn they cited displacement as a reason for girls being out of school. A boy in a focus group explained that dropping out is particularly common, "when the drought happened and the students move with their families. And there are some of the students that cannot afford to [pay] the [school] fee."[96]

Early marriage is also a significant determinant of girls remaining out of school, although not as severe as displacement or high chore burden in terms of the probability of girls remaining out of school. In the qualitative data, early marriage is one of the more frequently cited reasons for girls dropping out or remaining out of school. A teacher stated the problem simply, emphasising the idea that married girls immediately have different priorities and responsibilities: "When a girl gets married she stops her

[94] FGD – Caretaker
[95] FGD – Caretaker
[96] FGD – Boys

education. She cannot work on both her home and her education."[97] Several mothers from focus groups also cited marriage as a cause of girls discontinuing their education. One mother connected early marriage with dropping out of school and also suggested that unsupportive parents might be at the root of the problem of early marriage, explaining that, "If girls don't [have] mothers who are evaluating and motivating them, they can't learn well. They marry early or leave school."[98] From girls' perspectives, marriage is an important cause of their peers discontinuing their education. In particular, girls see themselves as facing a stark choice between getting married or staying in school. As one girl explained, "I would like to reach up to university level. There are a lot of girls who get married when they reach grade 8 and leave the school, but for me it is not my plan to marry until I finish university."[99]

Girls belonging to households that migrate seasonally (which is associated with a pastoralist lifestyle) also had a significantly higher likelihood (than average) of remaining out of school. In the qualitative data, pastoralism is another often-cited reason for girls being out of school. In addition, many pastoralists have lost their livestock as a result of the recent drought, and as they have settled in or near non-pastoralist communities they have placed extra demands on schools. As one CEC member explained the challenge: "The nomadic students, we are not sure of their exact numbers, because they have settled into the villages after their livestock died. There could be hundreds of them. […] The CEC goes to these families and encourages them to send their children to the school."[100] In some cases, as in the example just quoted, communities have made efforts to encourage the incorporation of pastoralist children into schools. In other cases, this has proven more difficult. As a CEC member from a different community explained, "There is no way we can support the pastoralist community in this area, because they are moving from place to place and they take their children wherever they move to, and they only enrol whenever they come back."[101]

Girls whose primary caregiver has no formal education are more likely to remain out of school than their peers. The qualitative data do not speak directly to this issue, but the hypothesis underlying the ToC is that mothers who place a higher level of value on education are more likely to try to keep their girls in school. A mother who participated in a focus group suggested that mothers' attitudes can make a significant difference in determining whether or not their daughters will stay in school. She explained that some "mothers like their daughters to stay at home because she is helping her mother in cooking, cleaning and everything at the home."[102]

Finally, girls belonging to households that were likely to be experiencing economic distress (proxied through the head of household having no wage-earning income) also had a higher probability of remaining out of school than average, albeit a lower probability than girls belonging to the other groups considered above. Cohort-aged girls see poverty as a major reason why they or their peers might leave school in the future and not be able to return. A girl in a focus group provided the following rationale: "If her parents are poor and she is from a poor family, then she cannot afford to progress or go to school till she reaches the level of education she wants."[103]

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[97] FGD – Teacher
[98] FGD – Mothers
[99] FGD – Girls
[100] FGD – CEC
[101] FGD – CEC
[102] FGD – Mothers
[103] FGD – Girls

4.7 Cohort tracking and target setting for the transition outcome

In order to track girls for re-contact during the midline study, the Evaluator created a tracking form for the enumerators, to be used for each girl. Please see the Evaluator's Inception Report for an example of the form. This form records the full name of the girl, caregiver, and head of household, along with all geographic and tracking information that is collected in the household survey. In addition, to facilitate tracking and re-contact of girls in the midline and endline studies, the tracking form provides space for the collection of multiple phone numbers for the purpose of re-contacting households, as well as a description of key landmarks and directions that would be sufficient to allow the household to be located again in the future, and midline transition rates will be calculated on the basis of re-contacted cohort girls across intervention and comparison sites.

The findings above show a baseline transition rate for the benchmark sample of 48.8 percent. Using the estimate of a 48.8 percent transition rate generates the targets presented in the table below (through the Outcomes Spreadsheet).[104] The Outcomes Spreadsheet suggests that appropriate targets would involve an 8 percentage-point increase from the baseline to the midline, and a 10 percentage-point increase from the midline to the endline (which will be a two-year period).[105] The recommended target transition rates are thus summarised in the table below.

Table 46: Target setting

	Midline Evaluation	Endline Evaluation
Target generated by the outcome spreadsheet	**8%**	**10%**

4.8 Sustainability Outcome

This section presents an analysis of project sustainability at each of three levels: community, school, and system. The results of this analysis are presented in narrative form below. The triangulated analysis was used to generate a qualitative sustainability score (ranging from 0 to 4) for each of the key sustainability indicators identified in the SOMGEP-T Logframe. This scoring is summarised for reference in the scorecard table below.

Table 47: Sustainability indicators

	Community	School	System
Indicator 1: Percentage of CECs actively engaged in mobilizing for girls' education through fundraising for payment of additional	Number of CECs providing financial/ in-kind support to schools/ total number of CECs trained:		

[104] Note that national enrollment data for Somalia is sufficiently out of date that it is not a useful guide to the calculation of transition rates for this study.
[105] Note: these percentage-point increases assume a difference-in-differences approach to accounting for change between the baseline and midline, as well as between the midline and the endline.

teachers' salaries and school supplies	**Financial: 17% (Intervention: 25%, Comparison: 7%)** **In-kind: 19.5% (Intervention: 26%, Comparison: 12%)**		
Indicator 2: Percentage of project target schools adhering to implementation standards for ASLP, ESL, Numeracy and Remedial classes.		Number of schools with 80% fidelity score on ASLP, ESL, numeracy and remedial classes/ total number of target schools: **Not applicable because activities not established yet**	
Indicator 3: No. of MOE departments engaged in support of girls' education from National to regional and district levels.			MOEs' departments participating in documented initiatives to promote girls' education: **Interviews reveal a systemic lack of funds. Local schools do not have enough money to maintain facilities and pay their staff partly because CECs do not have the funds to support their schools. The CECs do not have funds because little to no financial support is given to them by the MoE. Some in-kind support from MOEs was provided. 31% of schools had CEC Management plan, taken as proxy of MOE involvement.**
Inclusion of ASLP in the national non-formal education frameworks			**Definition:** ASLP is formally recognised as a valid education track: **Not applicable because activities not established yet**
Baseline Sustainability Score (0-4)	**1**	**N/A**	**0.5**

Overall Sustainability Score (0-4, average of the three level scores)	**0.75**

4.8.1 Community Education Committee Engagement

Community education committees are formed by parents, local women's groups, and community leaders. The CEC's primary function is to improve school quality and access to girls' education. As such, their contributions, both financial and in-kind, to the school are expected to be associated with girls' academic and economic success. Critically for the sustainability of SOMGEP-T's interventions, CECs are expected to provide their material support to schools after the end of SOMGEP-T. In order to obtain the means to support schools, CECs generally fundraise from the community and the diaspora as well as through some contribution from the government. The subsequent analysis finds that CEC contributions either financial or in-kind are uncommon and nearly negligible while the need for such support is extensive.

The level of CEC engagement in a community in this section will primarily focus on the material contributions of CECs. Section 5.2 later in the report will examine CEC engagement in terms of its contribution to school governance.

To triangulate the percentage of CECs actively engaged in mobilizing for girls' education through fundraising for payment of additional teachers' salaries, school supplies, and other contributions, we designed the following list of survey questions for head teachers/principals and classroom teachers:

Teacher Survey Questions
ts_47. Did your school receive financial support from the community education committee during the last school year?
ts_48. Did your school receive in-kind (not cash) support from the community education committee during the last school year?
ts_49. What forms of support did your school receive from the community/ diaspora during the past year?
ts_53. Do you think that this school receives enough support from the community?

School Survey Questions
F13. What percentage of female teacher salaries is raised by the CEC, in cash or in-kind support?
F14. What percentage of male teacher salaries is raised by the CEC, in cash or in-kind support?
F13a. What was the total amount contributed by the CEC to teachers' salaries during the past month? (USD)
F13. What percentage of female teacher salaries is raised by the CEC, in cash or in kind? Please make an estimate if you are not sure.
F14. What percentage of male teacher salaries is raised by the CEC, in cash or in kind? Please make an estimate if you are not sure.

Financial and in-kind support overall, as reported by 411 teachers and as shown in Table 47, is infrequent among surveyed schools: 17 percent of all teachers say that their school has received financial support

from their CEC in the past year, 19.5 percent say that their school has received in-kind support, and only 13.4 percent describe the community's support of the school as sufficient. Nearly a quarter, 23.1 percent, of all teachers said that their school received either financial or in-kind support with a substantial amount of overlap between the two groups. Teachers who said that their school received financial contributions were significantly more likely to also say their school received in-kind contributions in the past year.

There are significant differences between intervention and comparison group teachers, as indicated in the table. Among the teachers in intervention schools, 24.9 percent in the intervention group indicated that their school received CEC financial support. In contrast, the comparison group had significantly less financial support with 7.1 percent of teachers indicating likewise. A similar gap between intervention and comparison groups is found for in-kind support from CECs with 25.8 percent of classroom teachers in the intervention group reporting that their school received non-financial contributions from CECs, while only 11.5 percent of teachers in the comparison group reported the same.

Table 48: Share of Teachers Reporting that Their School Receives Financial or In-Kind Support from CECs (by intervention status)

Teacher Response	Intervention	Comparison	Total
School Receives Financial Support from CEC	57 (24.9%)	13 (7.1%)	70 (17.0%)
School Receives In-kind Support from CEC	59 (25.8%)	21 (11.5%)	80 (19.5%)
Community Provides Enough Support to School	40 (17.5%)	15 (8.2%)	55 (13.4%)

Given the higher proportion of teachers from intervention schools that receive financial support from CECs, it is unsurprising to find that more teachers from intervention schools believe that their community provides enough support to their school: 17.5 percent of classroom teachers in the intervention group believe that their community provides enough support to their school compared to only 8.2 percent of teachers indicating the same in the comparison group.

It is important to note here that the CEC analysis above and going forward includes not only teachers who report being in a school that have a CEC but takes into account those teachers from schools without a CEC. For example, in attempting to calculate the percent of teachers who report their school receiving a financial contribution, we calculate the number of teachers who report such a contribution out of *all* teachers surveyed, not just out of those teachers who report having a CEC.

Interviews with REOs corroborate the findings of low levels of financial support described above, particularly with regard to teacher salaries. One of the roles of CECs is to raise money for teacher salaries. However, interviews with CEC members and REOs reveal that CECs frequently have not been able to meet school funding gaps, and teachers are unpaid for extended periods of time. When asked to describe the greatest challenges facing their schools, a number of CEC members cited financial

constraints that limit the pay of teachers, reducing teacher morale and reducing the incentives for good teachers to continue in the profession.[106] While some CEC members cited the need for better teacher training, the overwhelming consensus focused on higher and more consistent pay for teachers.[107]

Education officers also reported that the government recently announced that it would transfer the responsibility of paying local teachers to the World Bank (WB), and although payments have been received from the WB for a period of six months, payments have now ceased and "regional and district teachers"[108] have not "received anything."[109]

A lack of CEC financial support to help fill the education funding gap can spell a variety of problems for a school. Besides teacher retention, it also leaves schools without sufficient teaching materials for its students.[110] Furthermore, interviews indicate that schools with no funds are often left vulnerable to unforeseen natural disasters and acts of vandalism. According to an education officer, "Sometimes in the villages, wind and rain can start and remove the roofs of classrooms or the office itself", [111] "Other times, terrible things used to be done by the people in the area," and people have taken "the school's roof and sold it in the village market…".[112]

Finally, the percentage of sampled classroom teachers who feel their community is doing enough to support schools among all teachers is low, with just 13.4 percent describing community support as such. Aligning with foregoing findings on the greater levels of contribution of CECs in intervention school vis-à-vis comparison schools, intervention school teachers (17.5%) are significantly more likely to have responded that community support was adequate than comparison school teachers (8.2%).

To understand the CECs' support of teacher salaries in cash or in-kind, the study asked head teachers to estimate the total value donated by CECs for teacher salaries in the past month and the percent of female and male teacher salaries raised by CECs for their schools. The head teachers' responses revealed CEC contributions totalled $1,279 or an average of $18.01 across the 71 schools surveyed. In addition, vanishingly few CECs contributed at all to salaries for either female or male teachers, and when they did, contributions more frequently reached male teachers than female teachers and amounted to a greater share of male teachers' salaries. Indeed, only 2 of the 71 head teachers surveyed said that CECs contributed any amount for female teachers' salaries, while 6 head teachers said the same of male teachers' salaries. For the two schools who paid female teacher salaries with financial support from CECs, CEC contributions amounted to an average of 8.5 percent of those schools' salaries for female teachers. In contrast, the 6 CEC contributions to male teacher salaries averaged 18.3 percent of total male salaries.

Table 48 presents the percent of schools in which CECs made contributions to female and male teacher salaries by intervention status and shows that none of the head teachers in comparison schools reported any CEC support for teacher salaries, female or male. CEC support of female and male teachers' salaries was infrequent among intervention schools as well, but frequency of CEC contribution to male teachers in

[106] FGD – CECs
[107] FGD – CEC
[108] KII with REO
[109] KII with REO
[110] KII REO
[111] KII REO
[112] KII REO

intervention schools was statistically different from the zero contributions made to male teachers in comparison schools.

Table 49: Schools with CEC Contributions to Female and Male Teacher Salaries (%)

Response	Intervention	Comparison
Schools that with CEC contribution to female teachers' salaries (%)	2 (5.3%)	0 (0%)
Schools that with CEC contribution to male teachers' salaries (%)	6 (15.8%)	0 (0%)

Conclusion

CEC's are expected to provide continued material support to schools after the end of SOMGEP-T's interventions, but the current low levels of CEC support pose a substantial obstacle to that goal. Across all surveyed schools, 17 percent of teachers say that their school has received financial support from their CEC in the past year, 19.5 percent say that their school has received in-kind support, and only 13.4 percent describe the community's support of the school as sufficient. Almost a quarter, 23.1 percent, of all teachers said that their received either financial or in-kind support. A substantial number of REOs describe the inability of CECs to meet school funding gaps and of teachers who have not received their salaries for extended periods of time. These REOs warn of issues in retaining teachers, obtaining teaching materials, and school infrastructure problems that arise due to a lack of funding. CEC contributions to teacher salaries were found to be exceedingly rare, occurring in only 6 of 71 surveyed schools.

Regarding comparability between intervention and comparison groups, intervention schools were found to be significantly more likely than comparison schools to receive contributions in the form of financial support, in-kind support, and in the payment of salaries for male teachers. Annex 11 will address the evaluation challenges posed by differences between intervention and comparison groups.

4.8.2 Ministries of Education Engagement

The MoEs exist to increase the quality and accessibility of education. Their responsibilities include training CECs, recruiting teachers, monitoring classrooms and fundraising.[113] Somali culture has generally preferred sending boys to schools while girls remain at home to help their family with chores. Current cultural obstacles to girls' education include the perception that girls will end up working in the kitchen and/or become a housewife after marriage regardless of her academic training. As such, there is no

[113] KII with REO

incentive to support her education. Because the MoEs are a state-level institution, they are in a unique position to raise awareness and promote the importance of girls' education.

SOMGEP-T's intervention aims to support MoEs' staff (local education officers) in improving transition and retention rates among girls in addition to monitoring the establishment of education quality standards and data management systems (EMIS). SOMGEP-T's objective is also to support MoEs' staff in identifying and addressing barriers to education through a gendered perspective. As such, this section highlights MoEs' support of girls across multiple dimensions and geographic and system levels.

To triangulate the number of MoEs' departments engaged in support of girls' education from national to regional and district levels, we conducted KIIs with regional education officers (REOs) across project locations. To increase the likelihood that MoEs' support is systemic (rather than isolated to only one project location), we focused on REOs' responses that overlapped across four dimensions: (1) MoEs' financial support, (2) MoEs' in-kind contributions, (3) the establishment of dedicated gender/child protection units, and (4) the MoEs' usage of the Education Management Information System (EMIS).

MoEs' activities vary across these dimensions. While MoEs are responsible for teacher remuneration, salary payments are often late. In certain locations, NGOs and multilateral institutions often offer short-term financial support. MoEs provide in-kind support more often, but more progress can be made. Teachers currently working in local schools require more training and schools need to be better supplied with learning materials. MoEs do not have a formal gender/child protection unit. Among all of the interviews conducted, REO responses confirming the existence of these units/departments were few and far in between.

MoEs' Financial Support

One of the main functions of the MoEs is to provide timely financial support to local schools; however, interviews with REOs indicate that the ministry requires external support in this matter. In his location, "[the] government doesn't pay regular salaries."[114] One of the respondents stated that, "district teachers and staff didn't receive [their] salary for around 21 months."[115] Funding is crucial for both staff retention and department expansion. If offices do not have access to "sanitation, equipment, light, [and] internet…no one will accept [to work under such conditions]"[116]. REOs reported that the "government used to pay teacher salary;"[117] however, that responsibility has been "taken over" by the WB. Interviews indicate that the WB agreed to provide teacher salaries for a total of eight months but "regional and district teachers"[118] have not received anything after six. Responses from other REOs agree with interview findings; while "the Ministry helps with many things…some of them [teachers] do not receive any salary."[119]

Interviews reveal a systemic lack of funds. Local schools do not have enough money to maintain facilities and pay their staff partly because CECs do not have the funds to support their schools. The CECs do not have funds because little to no financial support is given to them by the MoE ("No, there are no plans [to

[114] KII with REO
[115] KII with REO
[116] KII with REO
[117] KII with REO
[118] KII with REO
[119] KII with REO

support CECs in the future]"[120]). Finally, the MoE, which also faces challenges to funding, is left to seek financial assistance from NGOs and multilaterals ("…the Ministry does not have the funds…what NGOs donate is delivered to the regions and districts according to their [schools'] needs"[121]). The current dynamic is not sustainable. Funds from multilateral institutions are meant to be a catalyst for economic initiatives rather than a source of perpetual cash-flow. The policy prescriptions and economic development initiatives necessary to tackle this issue may be beyond the scope of this project.

MoEs' In-Kind Support

Interviews with REOs indicate that though the MoEs understand their mission and goals, there is much room for improvement. While the MoEs have "trained…teachers, principals, and the CEC,"[122] more "teachers need support including training".[123] In "other countries," teachers that work in "secondary school…will have a diploma, degree and master's…,"[124] but that is not the case in Somalia/ Somaliland. REOs believe that these issues can be addressed via "awareness campaigns about education."[125] If the community acknowledges the benefits of girls' education, they will be more likely to enrol their girls to school, thereby "generating income for [teachers]."[126] The provision of school materials is also variable across project locations. Though some REOs reported that the MoE "helps…schools with equipment, books, desks and chairs,"[127] others did not indicate the same: "Schools do not have… computer labs or scientific laboratories and libraries,"[128] let alone "playgrounds or sports equipment."[129]

Furthermore, interview responses disclosed that while a structured strategy for monitoring schools is emerging, whereby MoE staff speak to principals and examine school registers to gauge staff attendance and homework assigned,[130] this monitoring approach is not prevalent across all project locations. Some REOs reported that they "don't visit schools regularly," and only "if there is a problem in some area" do they "go on a spontaneous trip to fix it."[131] REOs recognize that more support should be channelled towards "monitoring how teachers …are teaching their lesson…to know their weaknesses…"[132] However, a major barrier to monitoring is the distance between schools. In one case, the school located nearest to the REO is "120km away…so if you want to monitor schools, you will be in need of a car…that can cross through rough roads and hilly streets."[133] When more funds are made available for "transportation and fuel,"[134] the frequency of monitoring visits can increase and "accurate data will be collected."[135]

A major contribution is the creation of academic curricula. REOs report that their MoE has set "up a school curriculum"[136] and created "standardized exams"[137] for both "secondary and primary school[s]."[138]

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[120] KII with REO
[121] KII with REO
[122] KII with REO
[123] KII with REO
[124] KII with REO
[125] KII with REO
[126] KII with REO
[127] KII with REO
[128] KII with REO
[129] KII with REO
[130] KII with REO
[131] KII with REO
[132] KII with REO
[133] KII with REO
[134] KII with REO
[135] KII with REO
[136] KII with REO
[137] KII with REO
[138] KII with REO

Students "who pass exams"[139] are given certificates[140] and scholarships are awarded to "top students…regardless of their clan and region."[141] In one of the locations, the respective Ministry enrolled the highest performing girls in top universities. According to REOs, the Ministry has been "responsible for" enrolling "up to 300 female students over the course of five years."[142] Going forward, the Ministry believes that curriculum improvements can be paired with awareness raising by illustrating the importance of girls' education in "books…stories…pictures/graphs."[143]

Raising awareness is where the MoEs excel. REOs reported that the ministry "take[s] part in educational motivation activities within the community,"[144] where it "provides special education (awareness) to female students to discourage [them] from dropping out from school."[145] Ministries employed the use of media such as "TV and radio"[146] to promote girls' schooling, and held community meetings to emphasize the idea that "a girl who learns something does not learn alone…she will teach the whole family [and] the whole community."[147] Additionally, "parents and families…are told that"[148] schools are "for them [for their benefit]"[149]…"education is for them…it is their asset."[150] The MoE inspires a sense of community ownership when "[families] are told to contribute at least something, like helping to build the school toilet,"[151] or taking "care of the school's environment by planting trees."[152]

MoEs' Engagement for Girls' Education by System Level (Community/School Level):

School Level:

Sampled Schools with CEC Management Plan/Sampled Schools that Received CEC Monitoring Visits in Past Year

School has a CEC Management Plan	Member of the CEC has Visited the School in the Past Year to Monitor Facilities
22 (30.9%)	33 (46.5%)

Community Level:

Sampled Primary Caregivers' Perception of CEC Support and Sampled Caregiver's Participation in CECs

[139] KII with REO
[140] KII with REO
[141] KII with REO
[142] KII with REO
[143] KII with REO
[144] KII with REO
[145] KII with REO
[146] KII with REO
[147] KII with REO
[148] KII with REO
[149] KII with REO
[150] KII with REO
[151] KII with REO
[152] KII with REO

School has a CEC that Helps with School-Related Matters	Caregiver or Member of Caregiver's Family is Involved in the CEC
603 (66.1%)	117 (19.4%)

Conclusion: Interviews with REOs across project locations and survey data[153] indicate an apparent state-wide effort to promoting girls' education and the quality of education in general; however, the lack of funds in grassroots communities and federal level institutions inhibit the sustainability of initiatives. Local beneficiaries and institutions do not seem to have a sustainable means of generating revenue which leads to dependency. Local schools depend on CECs for financial support which, in turn, depend on the MoE for funds, but when the MoE cannot provide the needed cash, it reaches out to NGOs and multilaterals. International institutions frequently offer limited financial support designed to jump-start economic empowerment rather than serve as a source of life-time financial support. Interviews show that when foreign engagement is rescinded, project progress often comes to a halt.

Project Input – Sustainability

	Community	School	System
Change: what change should happen by the end of the implementation period	Increased ability to fundraise with community members/ diaspora, based on the school improvement plan	Teachers have incorporated key practices in ESL and numeracy	80% of MoEs' departments engaged in activities to support girls' education ASLP incorporated in NFE framework
Activities: What activities are aimed at this change?	CEC training	Teacher training and follow-up coaching	Capacity building of MoEs staff through embedded advisors, co-creation of activities and joint monitoring visits; use of project evidence in advocacy for addressing specific gaps
Stakeholders: Who are the relevant stakeholders?	CECs	Teachers; quality assurance staff; REOs and DEOs	Gender units, quality assurance officers
Factors: what factors are hindering or helping achieve changes? Think of people, systems, social norms etc.	Positive: Strong support for charity in Somali/ Islamic culture; large diaspora contribution to education in Somalia Negative: Severe, ongoing drought; internal migration and displacement; charity largely directed to clan members	Positive: Strong ESSP focus on learning outcomes; interest of teachers on numeracy boost Negative: Limited capacity and resources at regional/	Positive: Strong support for girls' education in ESSP; gender units have been active in shaping MoEs activities to address issues related to girls' education

[153] School and Household Surveys

		district level to follow up on teaching practices	Negative: High staff turnover at MoEs

At community level, the CEC is the key actor; the majority of the schools where the project operates were started by CECs, and community contributions to schools are still a key source of education financing in Somalia and Somaliland. The ability of CECs to mobilize the community and the diaspora to provide support to the school is a key condition for sustainability, at least in the short term, given the limited tax base and the expansion of the school system, which pose serious challenges to the government to support schools to the extent needed. The project synchronizes capacity building of the CECs on fundraising, with activities with parents and influential community actors to enhance support for education and shift social norms (literacy courses for mothers, engagement of religious leaders), and with financial empowerment of parents through Village Savings and Loans Associations, enabling them to source capital to diversify livelihoods, and ultimately to be able to contribute not only to their families, but also to the community in general. At the moment, 25% of the intervention schools are receiving financial contributions from CECs (down from 34% in SOMGEP's final evaluation), potentially as a result of the ongoing drought and its negative impact on likelihoods. This situation is likely to persist as a major barrier in the short-term. Another reason for concern is the inactivity of a proportion of the CECs – 28% of the parents indicated that the school did not have a CEC, and so did 58% of the teachers. It is necessary for the project to follow up on the situation to clarify which CECs are still active, and the reasons why others are not.

At school level, the adherence of a large cadre of teachers to new pedagogical practices in numeracy and ESL is critical to increase learning outcomes in a sustainable manner. At the moment, major gaps are observed in numeracy, with learning plateauing at Grade 4; it is important to note, for example, that school attendance is a predictor of improved reading scores, but not of numeracy scores, indicating that children are not learning basic numeracy when attending school. Teacher training and coaching play a key role to shift this situation in a sustainable manner, along with capacity building of MoEs' Quality Assurance staff, REOs and DEOs through joint monitoring visits. This level of sustainability is not assessed at the moment, given that the activities had not yet started at the time when the baseline was conducted.

At system level, the project considers two key changes for sustainability, one of which could be assessed at the baseline – MoEs units actively involved in promoting girls' education. The second change – the incorporation of ASLP in non-formal regulatory frameworks – will only be assessed at midline and endline.

The engagement of MoEs' units in girls' education will express itself mostly through the incorporation of actions to address specific gaps in girls' education in planning and activities conducted by these units; it is expected that these actions will translate into increased support to schools to identify and address challenges to girls' access, retention, learning and transition. While this study has identified some instances of MoEs' support to girls' education, the results also clearly indicate the need for strengthening the relationship between gender/ child protection officers at MoE level, and REOs/DEOs/ schools. The ESSPs express strong support for girls' education. On the other hand, the limited availability of resources at MoEs' level and the high turnover of senior staff pose serious barriers to sustainability, respectively

limiting the capacity to engage directly with schools in rural/ remote areas and resulting in shifts in MoEs' priorities.

5. Key Intermediate Outcome Findings

5.1 Attendance

Improving attendance of girls at school is a key intermediate outcome of the SOMGEP-T project and is an important step in improving the learning outcomes of girls. The evaluation establishes the baseline attendance rates and the percent of girls who have had limited exposure to education since starting school. This section will present attendance rate findings from the three surveys in which survey respondents are asked about school attendance: (1) the school survey, (2) the headcount survey, and (3) the household survey. These findings are then triangulated and compared for consistency.

5.1.1 Attendance from Headcount Survey

Survey teams went to schools and recorded student attendance from the attendance register for the day before the visit, the day of the visit, and through a direct headcount of students. The teams arrived at the school approximately an hour after the beginning of classes and up to one hour before the lunch break in order to allow teachers the time to record attendance and to collect data on students who may only attend half of the day. A headcount was conducted for all classes of the school except for pre-kindergarten and kindergarten classes.

Enumerators recorded, if attendance registers were available from the teacher, the attendance rates of boys and girls the day before the visit, the day of the visit, and conducted a headcount themselves of the students present in class against the students enrolled in the class.

Headcount Survey Questions

B3. Enter the number of GIRLS enrolled in this class

B4. Teacher count on record: Number of girls marked in class YESTERDAY

B5. Teacher count on record: Number of girls marked in class TODAY.

B6. Girls HEAD COUNT in class (done by Enumerator): Enter the total number of GIRLS present in the class by counting

B8. Enter the number of BOYS enrolled in this class

B9. Teacher count on record: Number of boys marked in class YESTERDAY

B10. Teacher count on record: Number of boys marked in class TODAY

B11. Boys HEAD COUNT in class (done by Enumerator): Enter the total number of BOYS present in the class by counting

On average, the headcount attendance rates conducted by the survey team were lower than those gathered from the attendance registers from the day of the visit, which in turn were lower than those from the attendance registers of the day before the visit. The average attendance rate of all girls was 88.3% the day before the visit, 86.3 percent the day of the visit, and 83.1 percent when the headcount was conducted. The average attendance rate of all boys was 89.5 percent the day before the visit, 86 percent the day of, and 83 percent for the headcount. This decline of attendance rates as the data collected becomes more immediate of a measure of attendance rates suggests at a minimum that attendance rate collection was irregular and may have been done selectively to improve perceptions of the school.

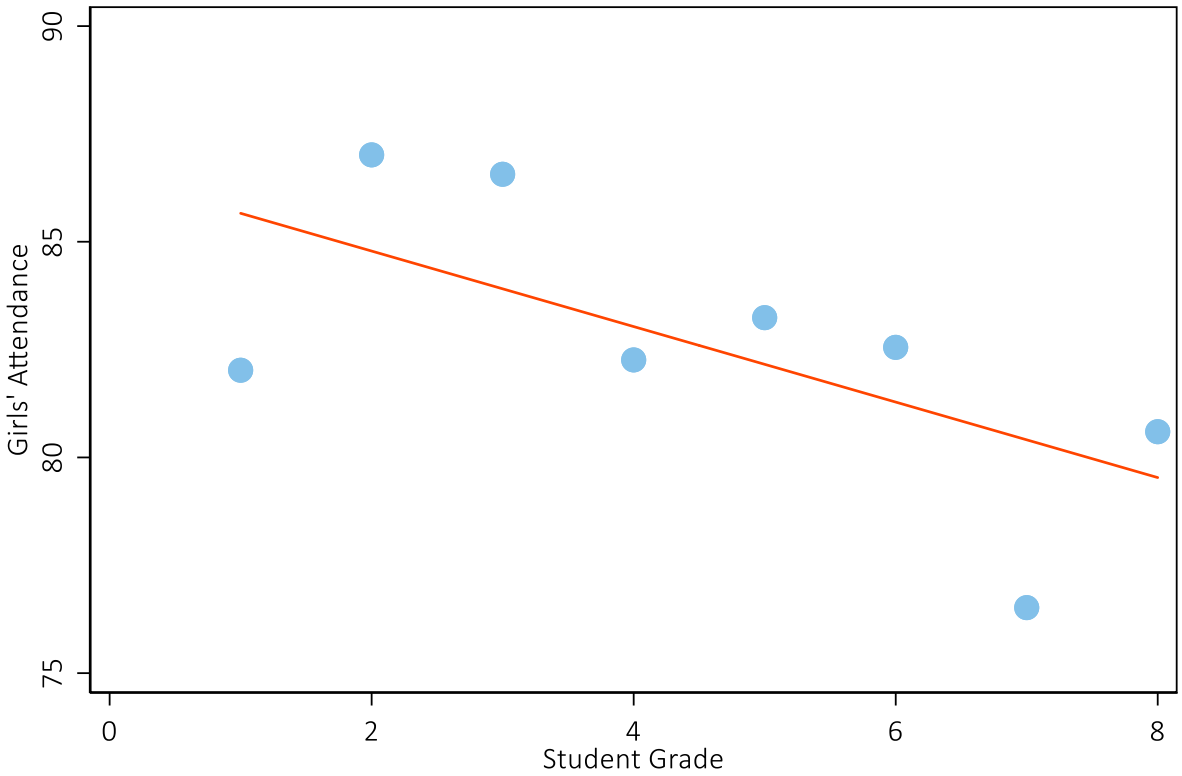
Table 50 Attendance Yesterday, Today, and of Headcount for Girls and Boys – Headcount Survey

Attendance	Girls	Boys
Yesterday (%)	88.3	89.5
Today (%)	86.3	86.0
Headcount today (%)	83.1	83.0

The attendance rates of girls in intervention schools was 82.4 percent, and that of girls in comparison schools was 84.1 percent. These differences in attendance between intervention and comparison schools was not found to be statistically significant.

The headcount data from the survey does not reveal a significant difference in attendance by grade, but there is a negative relationship between attendance and grade level, as shown in Figure 29, which presents the attendance rate of all students in a given grade. The attendance rate peaks at 87 percent in grade 2 and declines to 80.6 percent in grade 8. The higher level of absence in the upper grade levels may be due to the higher chore burdens that girls as they grow older which in turn more frequently leads them to be absent from class. Older girls may be missing days due to menstruation as well, but the data collected does not speak to that as a cause of missing school.

Figure 25: Headcount by Grade – Headcount Survey

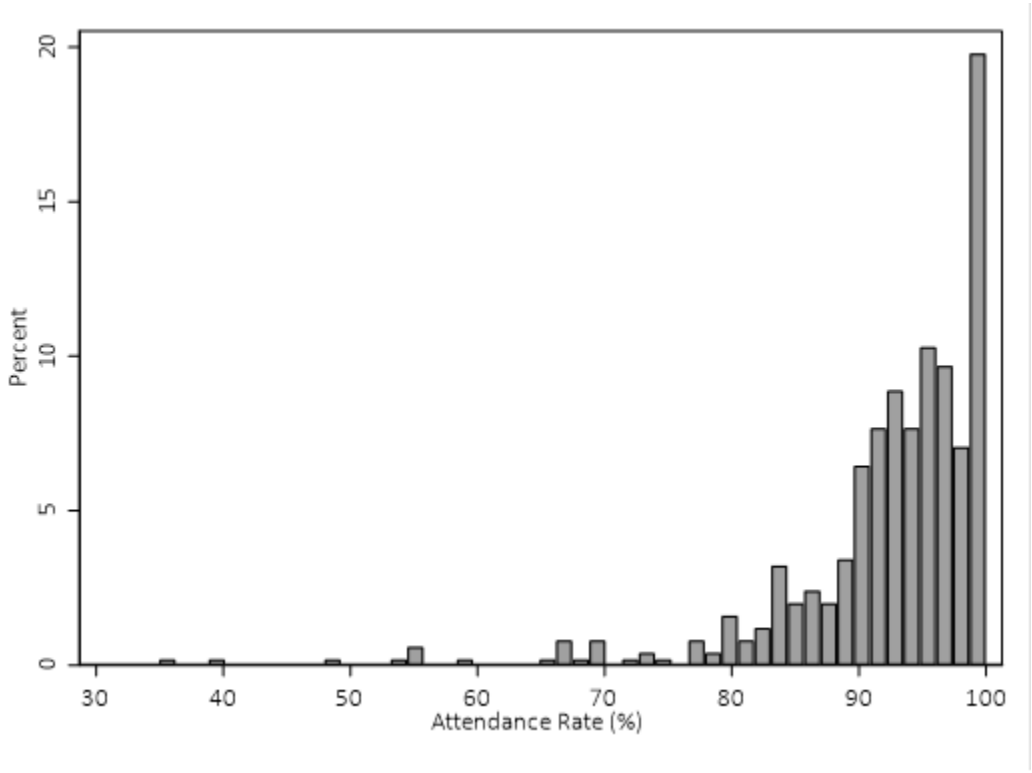


N = 471 classroom headcounts collapsed to grades
Source: Headcount survey

5.1.2 Attendance from School Survey

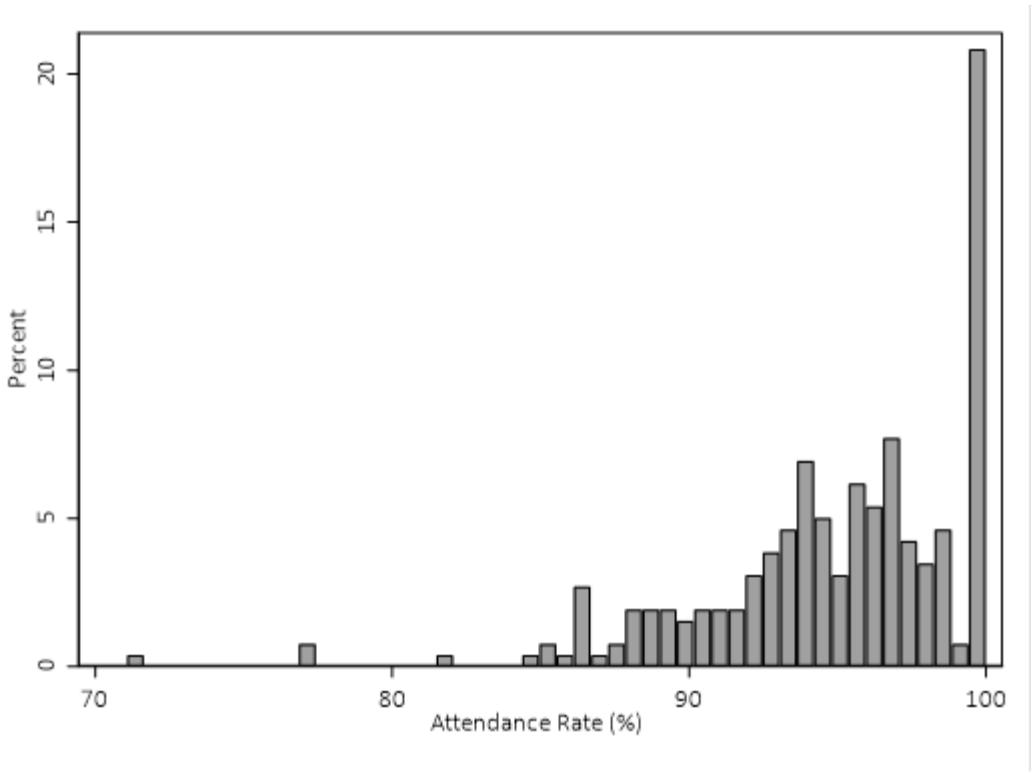
The mean attendance rate for the 495 girls for whom schools had school attendance records this year is 92.3 percent. The 495 girls who had attendance records represent only 28.3 percent of the total cohort girls sampled. The histogram below illustrates the percent of the sample who had a given rate of attendance this year. While the majority of girls have high levels of attendance as seen in the left-tailed histogram below, there are nevertheless substantial proportions of girls who have missed sizable portions of their school year. Slightly over a quarter, 26.4 percent, of girls have attended school less than 90 percent of their school year. That proportion is nearly halved to 13.9 percent when considering girls who attended school less than 85 percent of the school year thus far, and the share of the sample drops to 6.5 percent for girls who attended less than 80 percent of the time.

Figure 26: Girls' Attendance This Year – School Survey



For the 259 girls who had school attendance records the previous year, the mean attendance rate was 94.8 percent, slightly higher than that of girls this year. In addition, the attendance of girls this year, the attendance last year is also left-tailed but is more densely clustered, and this is reflected in the percent of girls who have had limited exposure to education. A total of 14.8 percent of the girls attended less than 90 percent of the time, but only 1.9 percent of the girls attended less than 85 percent of the year, and 1.2 percent of girls attended less than 80 percent of the school year.

Figure 27: Girls' Attendance Last Year – School Survey



5.1.3 Attendance from Household Survey

In the interview with primary caregivers within the larger household survey, primary caregivers are asked a number of questions about their cohort girls' school attendance.

Household Survey Questions

PCG_5enr. Since the start of the most recent school year, has GIRL attended her (main) school on most days that the school was open?

PCG_6enr. Has she attended more than half the time, about half the time, or less than half the time?

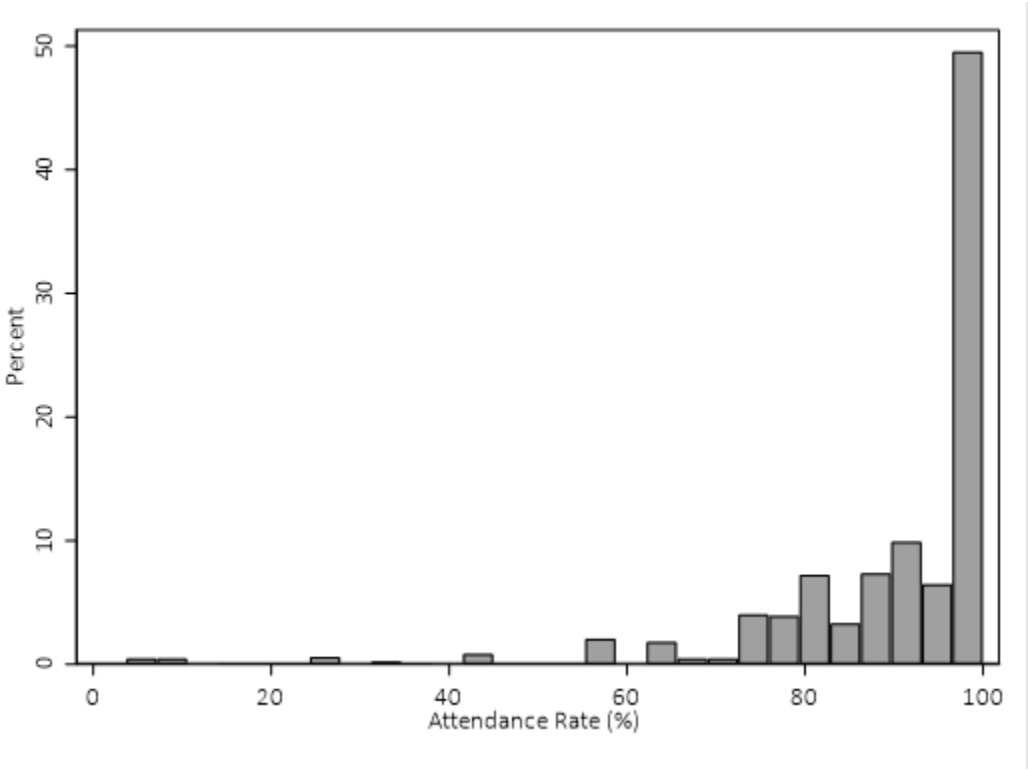
PCG_6enr_na. How many days of schooling did she miss last month?

Of the 927 primary caregivers of in-school girls asked these questions, 92.2 percent said that their cohort girl attended most days since the start of this school year. Among those who said that that their cohort girl did not attend most days, 60 percent said she attended more than half the time, 17.1 percent said she attended about half the time, and 12.9 percent attended less than half the time.

Based on how many days of schooling the caregiver said that the cohort girl missed in the last month, a rough estimate of her attendance rate was estimated, and the estimated average attendance rate of all in-

school girls is 90.2 percent.[154] As with the attendance rates calculated through the headcount survey and the school survey, attendance rates estimated from the household survey are left-tailed, but are less densely clustered, as shown in the figure below. Girls who were estimated to have attended less than 90 percent of school days last month composed 33.7 percent of the sample of in-school cohort girls, 22.8 percent attended less than 85 percent of the time, and 15.9 percent attended less than 80 percent of school days last month.

Figure 28: Girls' Attendance – Household Survey

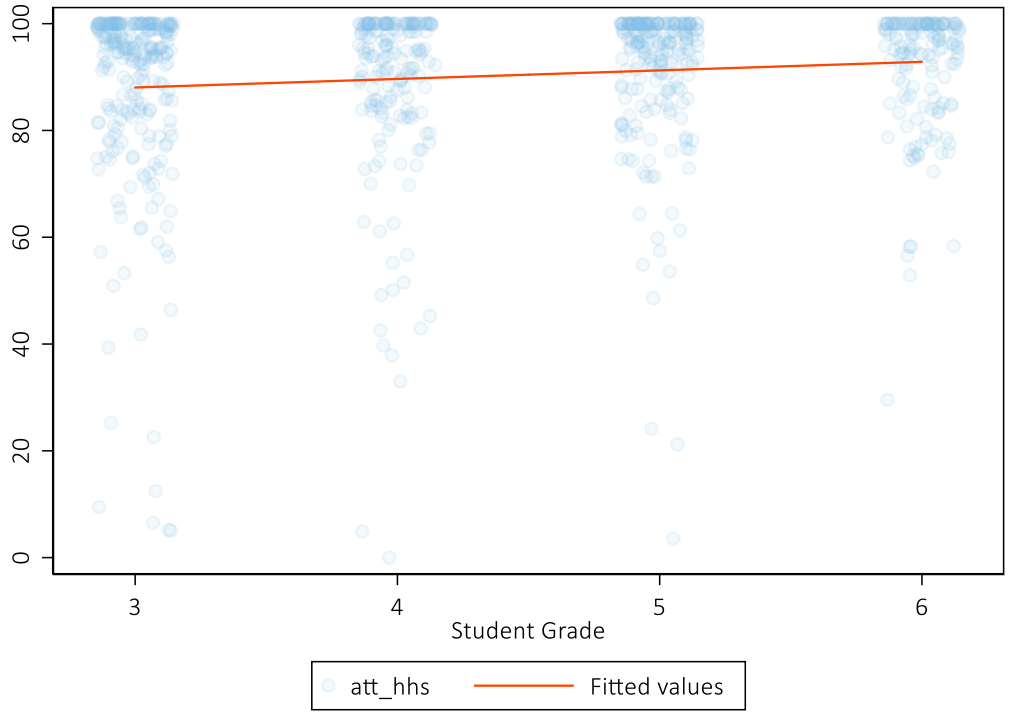


Significant differences in school attendance are observed by grade with attendance increasing with each additional grade. The average attendance rate of third graders was 88.1 percent and rose to 92.4 percent among sixth graders. This rise in attendance rate may be due to the dropping out of girls who infrequently attended. As shown in the scatter plot below, the percent of girls with low attendance rates decreases with every higher grade. The percent of in-school cohort girls who were estimated to have attended school less than 70 percent of the time decreased from 10.7 percent of third graders, 9.8 percent of fourth graders, 5.2 percent of fifth graders, to finally 4 percent of sixth graders. This hypothesis that lower

[154] The number of days missed was subtracted from 27 and then divided by 27 to arrive at the estimated attendance rate. Somali girls go to school except for every Friday of the month. Given that there are 4 Friday's each month and the maximum number of days is 31, 27 was assumed to be the maximum number of days a girl could attend school. This estimate will slightly underestimate the attendance rates if the primary caregiver assumed a total number of days less than 31 when she was thinking back to last month.

attendance rates will predict dropout will be tested in future evaluations but makes intuitive sense; those who are not using school services are more likely to stop participating in them.

Figure 29: Girls' Attendance by Grade – Household Survey



Attendance rates were also disaggregated by pastoralist versus non-pastoralist cohort girls, but no statistically significant differences were observed.

5.1.4 Triangulation of Attendance Rate Findings

From the above analysis, three baseline attendance rates are collected which reflect findings for three time frames. The attendance rate gathered from the headcount conducted by the enumerator in the headcount survey reflects the most accurate attendance rate since it was collected by a third party in the classroom, but it is the most limited in terms of generalizability, because it only offers a snapshot of attendance on the day the survey team visited a school. The attendance rate from the household is gathered over the past month, but it is reported in terms of the number of days the girls were absent in the past month and relies on the memory of the primary caregiver being interviewed. The attendance rate of the school survey covers the broadest period of time, the academic year thus far (approximately two months at the beginning of fieldwork), but the data is frequently incomplete with 25 of the 71 schools in the study missing attendance records that could be used to calculate the attendance rate.

The table below shows that, in similar fashion to the data collected from headcount survey, the less immediate a measure of girl school attendance is, the higher the average attendance rate tends to be. The most proximate measure of attendance, based on headcount of students in class on the day of the visit, is 83.3 percent. The next most proximate measure of attendance, that of the household survey,

produced an average attendance rate of 90.3 percent, and the least immediate measure of attendance gathered from school records resulted in an average attendance rate of 92.4 percent.

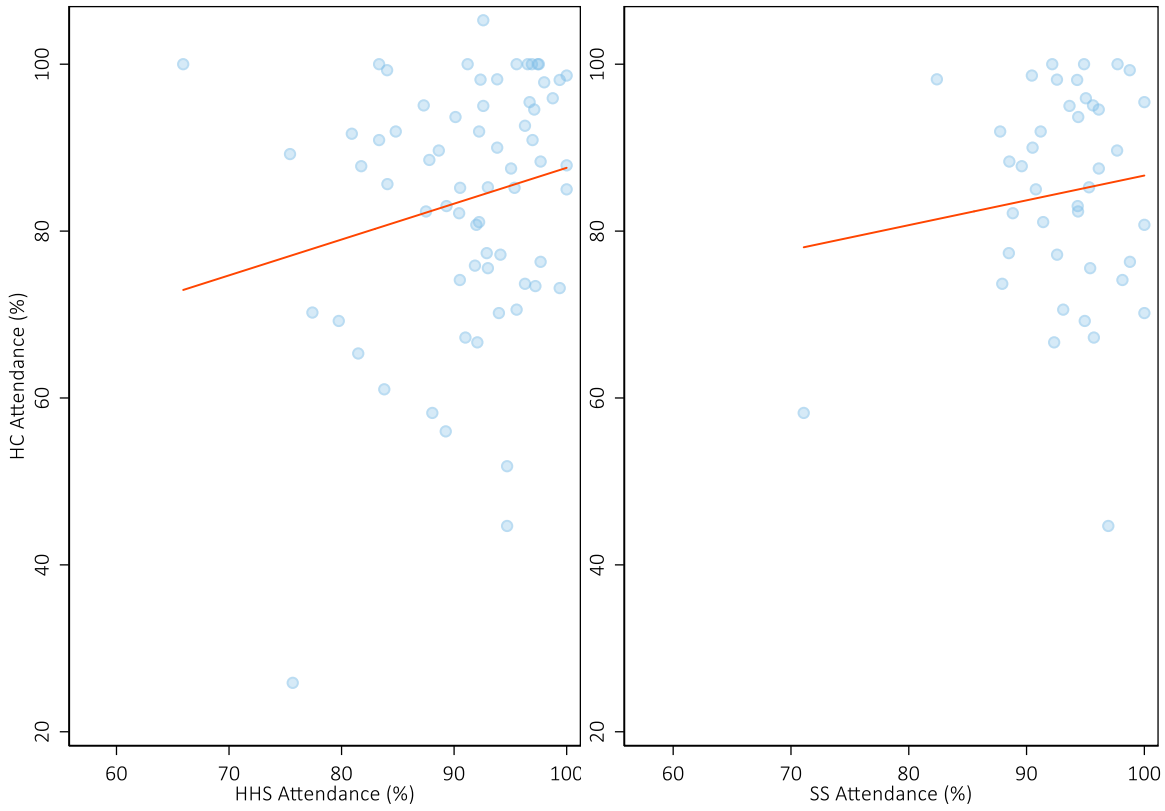
Table 51: Comparison of Attendance Rates

Time frame	Survey	Attendance (%)	95% Confidence Interval
Today	Headcount	83.3	81.2 – 85.6
Past month	Household	90.3	89.2 – 91.4
This year	School	92.4	91.6 – 93.2

Also shown in the table, the confidence intervals of each measure of attendance do not overlap with one another and show that the attendance rates measured through one survey are significantly different from the others. Despite the lack of convergence in attendance rates, given that the headcount attendance rate was taken independently by a third party, for the purposes of the baseline evaluation, the headcount attendance rate will be considered the baseline value.

The relationship between either the household survey or the school survey attendance rates with the headcount attendance rate may not be significant, but it is positive, as shown in the figure below, presenting average attendance rates of the headcount survey for a given school against the average attendance rate of the household survey and the school survey of the same school.

Figure 30: HH and SS Attendance Rates by HC Attendance Rate



As can be seen, the attendance rates of the sampled schools the household survey and the school survey tended to be higher than that of the attendance rates of the headcount survey. While the relationship is not statistically significant, the attendance rates co-vary in the same direction, providing a degree of support for the accuracy of the household and school survey attendance rates findings.

5.1.7 Relationship between Corporal Punishment and Attendance

The ToC hypothesizes that improving teaching quality will lead to higher student attendance. One measure of better teaching quality, among others such as the use of group work, gender equitable practices, and remedial support, is less frequent use of corporal punishment. In-school cohort girls were asked about the use of corporal punishment at their school. These answers were then compared with measures of the girl's school attendance as recorded by the school survey and by the household survey.

Household Survey Questions

TQ_7sa. How do the teachers punish students? Physical punishment?

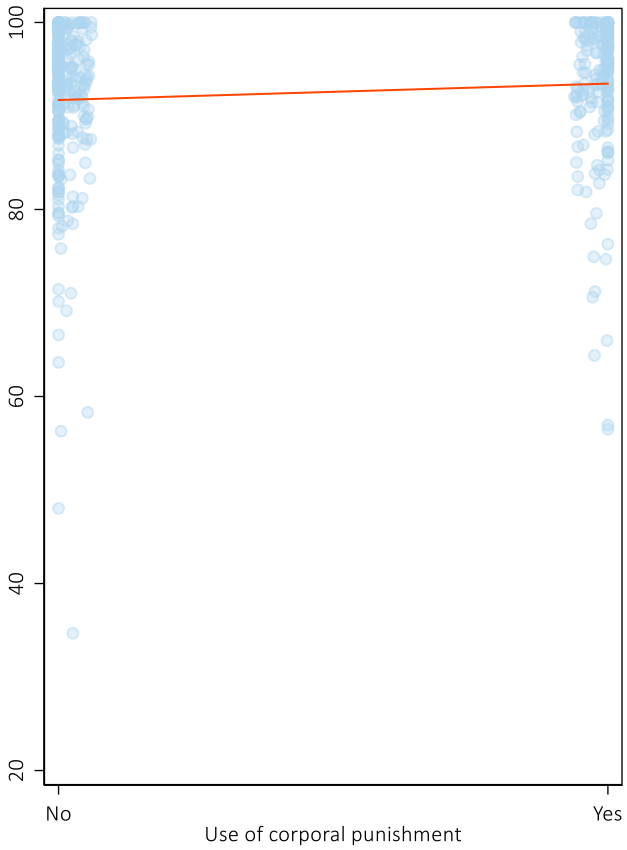
TQ_8s. Think about the past week at school, or the last week you were in school. In that week, did you see a teacher use physical punishment on other students?

TQ_9s. Think about the past week at school, or the last week you were in school. In that week, did the teacher use physical punishment on you?

Comparison with School Survey Attendance Rates

When girls' school survey attendance rates are compared with whether their teacher used corporal punishment, the girls who attended classes in which the teacher has used corporal punishment on students had higher rates of attendance. The mean attendance rates of girls were 91.7 percent among girls who said that their teacher did not use corporal punishment and 93.5 percent among girls who said their teacher did use corporal punishment. This finding is contrary to the ToC; however, while this relationship between the use of corporal punishment and school register attendance rates is significant, the relationship is slight as seen in the figure below.[155]

Figure 31: School Survey Attendance by Teacher's Use of Corporal Punishment



Moreover, there is not a significant relationship observed between school survey attendance rates and the girls' responses about the use of corporal punishment by the teacher on other students or the girls themselves in the past school week.

[155] The coefficient of the use of corporal punishment variable is only 1.76 in a bivariate regression with a P-value of 0.03

Comparison with Household Survey Attendance Rates

The household survey attendance measures support the finding that a teacher's use of corporal punishment in the classroom corresponds with higher attendance rates found in comparison with school survey attendance rates. Indeed, a smaller proportion of girls who said that their teacher did not use corporal punishment (91.2%) attended school on most days than girls who said that their teacher used corporal punishment (95.2%).

However, the relationship between corporal punishment and attendance is reversed significantly when the cohort girl faces corporal punishment. There is a significant negative relationship between the use of corporal punishment against a cohort girl in the past week and her attendance behaviour as reported by the primary caregiver. As presented below, the proportion of girls who attend most school days decreases as the frequency of physical punishment in the last school week increases. The vast majority of girls, 96.8 percent of girls who were not punished at all in the past school week attended most days according to her primary caregiver. This proportion drops to 85.7 percent among girls who said that they faced corporal punishment almost every day in the past school week.

Table 52: Attendance Most Days by Corporal Punishment

	In the last school week, did the teacher use physical punishment on you?			
Attended most days?	Never (%)	Once or twice (%)	Almost every day (%)	Total (%)
No	3.2	5.7	14.3	4.6
Yes	96.8	94.3	85.7	95.4
Total	100.0	100.0	100.0	100.0

No relationship is observed between the calculated attendance rate based on the caregiver's response to how many days the girls missed last month and corporal punishment.

These findings across the school survey and household survey suggest that the use of corporal punishment as a disciplinary tool in the classroom only marginally increases overall school attendance among girls, but its use against any particular girl may decrease her attendance dramatically.

5.1.8 Girls' Characteristics Analysis of Attendance

This section provides analysis on the determinants of attendance rates by subgroups of girls who have key characteristics that may be expected to be related to educational marginalisation. The analysis will be based on the data gathered from in-school girls who are not from outlier English-instruction schools. The key subgroups of girls presented here includes those of the subgroup analysis of learning outcomes which are strongly associated with attendance rates of in-school girls. As with subgroup analysis of learning outcomes, there are few critical subgroupings that identify girls who are likely to attend school significantly less frequently than their peers.

Table 53 below summarizes the attendance rates for each of the major subgroups and shows that very few subgroups of head of household or caregiver characteristics are significant determinants of

attendance. Significant differences in attendance rates between those within the subgroup and those without are noted in the right-most column. Having a head of household who did not hold a wage-earning occupation did not significantly decrease the attendance rates of in-school girls suggesting that in-school girls were not obliged to take time off from school either due to the lack of payment of tuition fees or to earn income for their family. A lack of education of both the head of household and the primary caregiver did not significantly adversely affect attendance rates and neither did a primary caregiver who is not literate.

Poverty characteristics of the in-school girl similarly did not correlate significantly with attendance. Proxies for poverty such as living in an informal or temporary structure did not predict attendance. Even indicators of economic distress such as going without clean water, medicine, or cash income most days were not significant predictors of attendance. The primary caregiver's participation was significantly correlated with attendance, but in the opposite direction one might expect: having a caregiver who participates in a savings group was associated with lower rates of attendance. The mean attendance of a girl with a caregiver who participated in a savings group was 86.2 percent and of a girl whose caregiver did not was 90.3 percent.

Table 53: Attendance Rate of Subgroups with Key Characteristics (all in-school girls, excluding outlier schools)[156]

	Treatment Attendance (%)	Comparison Attendance (%)	Number of observations for subgroup	Significance with 95% confidence level
Characteristics				
All in-school girls	90.2	89.7	771	
HOH and Caregiver Characteristics				
HOH no wage-earning occupation	91.0	90.2	345	
HOH no education	90.1	88.9	481	
HOH female	89.5	89.7	345	
Caregiver no education	90.4	90.2	549	
Caregiver is not literate	89.1	89.1	365	
Poverty				
House is informal/temporary structure	66.8	92.0	36	
Gone without enough clean water most days	93.5	91.6	85	
Gone without medicines or medical treatment most days	93.4	87.4	154	
Gone without cash income most days	93.2	89.0	139	
Participation in savings group	82.3	85.5	102	*

[156] Statistically significant results are marked with an asterisk* ($p<0.05$ in a bivariate regression with cluster-robust standard errors).

Additional analysis was also conducted to identify girls' characteristics which are predictive of the 15.9% of all in-school cohort girls who attended school less than 80% of the time last month, but few characteristics were significantly correlated.

5.1.9 Barriers Analysis of Attendance

Table 54 summarizes the subgroup analysis by barriers of school infrastructure, school resources, teaching quality, and gender equity. As in the subgroup analysis of girls' characteristics above, significant determinants of attendance rates are noted in the right-most column.

Several indicators of school infrastructure were significant predictors of school attendance. Schools that did not have drinking water facilities or areas for children to play/socialise, as reported by the primary caregiver, had significantly lower attendance rates. However, neither mobility around the school nor the lack of toilets for girls were significant predictors of attendance.

None of the indicators of school resources, which include computers at school, the presence of learning materials at schools, sufficient seats, and the CEC's monitoring of attendance, have any consistent or significant effect on attendance rates.

With regard to indicators of teacher quality, the girl's fear of the teacher, her assessment of differential intervention of boys and girls by the teacher, her assessment of teacher absenteeism, and poor principal performance as reported by the caregiver are all predictors of lower school attendance rates. This is parallel to subgroup analysis of barriers on learning outcomes, in which fear of the teacher and poor principal performance were predictors of lower learning outcomes. These findings support the notion that teaching quality is a fundamental limitation to attendance in addition to learning outcomes.

Table 54: Attendance Rate of Subgroups with Key Barriers (all in-school girls, excluding outlier schools)[157]

	Intervention Attendance (%)	Comparison Attendance (%)	Number of observations for barrier	Significance with 95% confidence level
Barriers				
All in-school girls	90.2	89.7	771	
School Infrastructure				
Difficult to move around school	84.7	89.9	136	
Doesn't use drinking water facilities	86.3	88.0	179	*
Doesn't use toilet at school	88.8	90.6	198	
Doesn't use areas where children play/socialise	85.7	88.8	310	*
School Resources				
No computers at school	90.0	89.7	643	
School does not have learning materials	91.9	87.4	165	

[157] Statistically significant results are marked with an asterisk* ($p<0.05$ in a bivariate regression with cluster-robust standard errors).

Not enough seats for children at school	90.6	90.7	174	
CEC monitors attendance	92.3	89.0	254	
Teaching Quality				
Disagrees teachers make them feel welcome	90.1	94.6	46	
Agrees that they are afraid of teacher	89.4	87.3	413	*
Agrees teachers treat boys and girls differently in the classroom	88.1	86.8	274	*
Agrees teacher is often absent from class	87.5	86.3	261	*
Teacher punishes students who get things wrong	90.6	89.9	545	
Teacher uses corporal punishment	90.1	88.0	183	
Caregiver says principal performance is poor	84.4	75.7	44	*
Caregiver says teaching at school is poor	81.0	78.6	34	
Gender Equity				
Teacher targets questions by gender	87.8	82.8	67	
Teacher targets difficulty of questions by gender	88.5	90.0	79	
Other Barriers				
Agrees she has no choice in schooling decisions	89.9	89.1	591	
Over 30-minute travel time to school	93.3	88.9	40	
Feels unsafe on way to school	68.5	91.6	41	
Feels unsafe at school	77.6	94.1	45	
Caregiver has never visited school (disengaged)	89.7	87.7	100	
Works on family business or outside home	84.7	90.4	213.0	*

Gender equity indicators measuring whether the teachers target their questions to boys and girls differently and whether the teacher targets harder questions to students based on their gender do not predict attendance rates.

Other barriers, such as the sense of agency the girl feels about her schooling decisions, having a long distance to walk to school and back home, feeling unsafe either at school or in school, and a proxy for parent engagement, such as the caregiver not having visited the school before, are not significantly correlated with the attendance rate of the school. Only one barrier, working for a family business or outside a home, is a significant predictor of attendance rates.

5.2 School Governance and Management

The second intermediate outcome utilized by the SOMGEP-T project is improved school governance. School governance is a critical outcome for improvements in learning and transition to be generated over the project's life-cycle, but it is also an important avenue through which sustainability of the project's gains can be ensured. This section of the report establishes baseline values of several key indicators of the quality of school governance. Indicators are drawn from three disparate sources: a survey of head teachers, a survey of teachers more generally, and the household survey, completed by caregivers.

The results presented below fall into three primary categories. The first set of results focus on the baseline existence of CECs, the bare minimum requirement for effective school governance. The second set of results builds on the first by investigating the level of engagement of the CECs, in terms of school monitoring, communication of plans to parents and community members, and the provision of financial and in-kind support to the school. The third set of results evaluates CECs and school governance in more subjective terms, by asking community members to rate the management of the school and the performance of the school's head teacher. Establishing baseline values for this diverse set of indicators will allow the midline and endline evaluations to track progress in terms of the establishment of CECs, their engagement levels, and community perceptions regarding the quality of school management.

5.1.1 Establishment of Community Education Committees

In Somalia, schools are typically governed at the local level by CECs, whose members are tasked with monitoring aspects of school and pupil performance, supporting the school financially, and acting as a liaison between the school and the community it serves, among other duties. CECs are an important conduit through which educational interventions flow: CEC members may lead back-to-school campaigns that encourage enrolment, engage in efforts to change community attitudes, and exercise critical oversight of school policies and teaching quality. Crucially, CECs are expected to provide financial and non-financial support to schools after the end of the SOMGEP-T project and help ensure that project gains are sustained over the long-term, as discussed in Section 4.8 above.

At the most basic level, a well-governed school requires oversight from and interaction with an established and institutionalized CEC. Before CECs can provide financial support to students or engage in other aspects of school management, they must be established and active, meeting regularly.

Table 55: **Share of Teachers and Parents Reporting the Presence of a CEC, by Treatment Status**

Establishment of CECs	Treatment	Comparison
School has CEC, according to teachers	42.3%	34.6%
School has CEC, according to parents	72.0%	58.7%

To assess the baseline level of CEC activity, the evaluation asked two groups of survey respondents about the presence of a CEC at their schools: teachers, and the parents of in-school children sampled from the communities surrounding each school. Among the 411 teachers surveyed, 34.6 percent indicated that their school had a CEC. Table 47 highlights the gap between treatment and comparison schools on this metric: 42.3 percent of teachers in treatment schools report that their school had a CEC at the time of the survey, compared to just 32.4 percent of teachers in comparison schools.

A similar gap is found among parents of in-school children in treatment and comparison communities. Parents in treatment communities are much more likely to report that their child's school is run by an established CEC than their counterparts in comparison communities.

It is important to note that these indicators are imperfect measures of how many CECs have actually been established. It is possible that some teachers and parents are unaware of the CEC – in spite of its existence – while others might assume the CEC does not actually exist. Indeed, responses at a number of schools show that confusion of this kind occurs in practice. Out of 71 sampled schools, teachers lacked consensus on the existence of a CEC in 42 schools (55.3 percent). That is, in 55.3 percent of schools, there was disagreement between teachers *in the same school* regarding whether a CEC exists to serve their school. For this reason, we suggest conceptualizing this measure not as a precise measure of the rate at which CECs have been established; rather, we suggest that this indicator measures both the establishment and activity level of CECs. Parents and teachers are less likely to be aware of inactive CECs; as such, assessing awareness among these groups is a joint indicator simultaneously capturing both establishment and activity levels.[158]

In addition to the establishment of a CEC, a second basic aspect of school governance is the promulgation of a school management plan. As with the establishment of CECs, the share of schools with an established school management plan varied dramatically across treatment and comparison groups. Among treatment schools, 44.7 percent of head teachers indicated that their school had a management plan, compared to just 15.2 percent of head teachers in comparison schools.

5.1.2 CEC Engagement

As discussed above, CECs play a wide range of roles in support of local schools. In order to evaluate the extent to which CECs are engaged in actively managing their schools, this section brings to bear data from a variety of respondents reporting on the activities undertaken by their CEC.

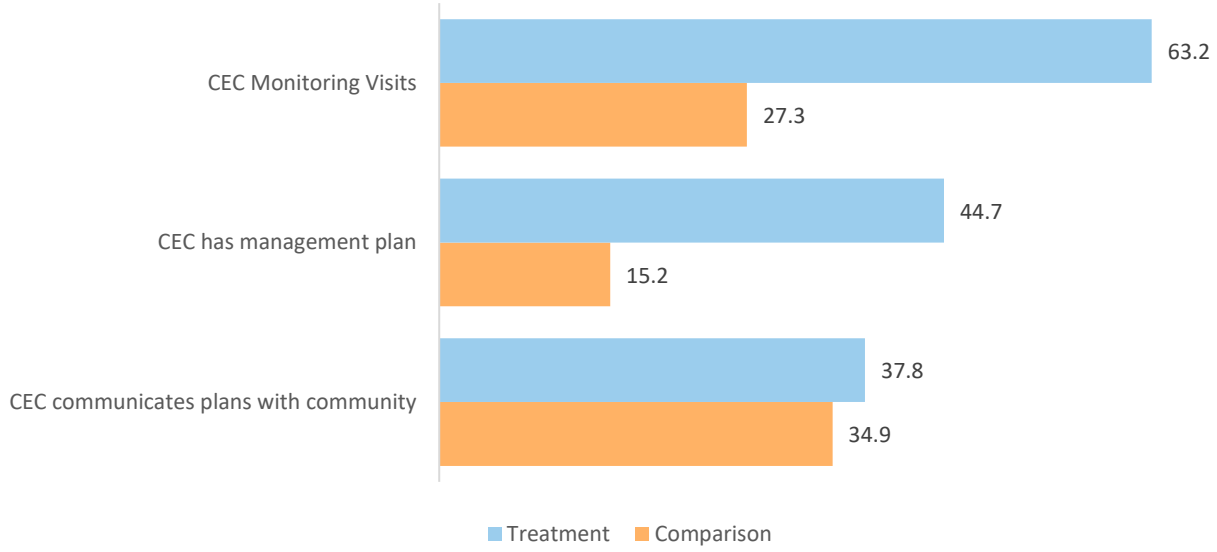
Figure 36 describes the activity levels of CECs across treatment and comparison groups on three key metrics. The first concerns CEC monitoring visits to schools, as reported by school head teachers. Across all sampled schools, 47.5 percent of head teachers indicated that a member of the CEC had visited the school during the previous year to monitor the facilities, teaching quality, or teacher attendance. Note that this is a relatively lax standard, as it requires just a single visit by one CEC member to be satisfied. As the graph demonstrates, treatment schools are much more likely to report such a visit, at 63.2 percent, than their comparison counterparts, at just 27.3 percent.

The gap between treatment and comparison schools is borne out across the three indicators, though with varying magnitudes of difference. Teachers in treatment schools were much more likely to report that the CEC has a management plan, when compared to control schools. And parents of children enrolled in

[158] The data also show that a significant share of parents are involved in, or know someone who is involved in, the CEC. Of the respondents who indicated that their child's school had an established CEC, 19.4 percent reported that they or a family member was involved in the CEC.

treatment schools are somewhat more likely to report that the CEC communicates their plans to parents on at least a monthly basis.[159]

Figure 32: **Engagement Levels of CECs, by Treatment Status**

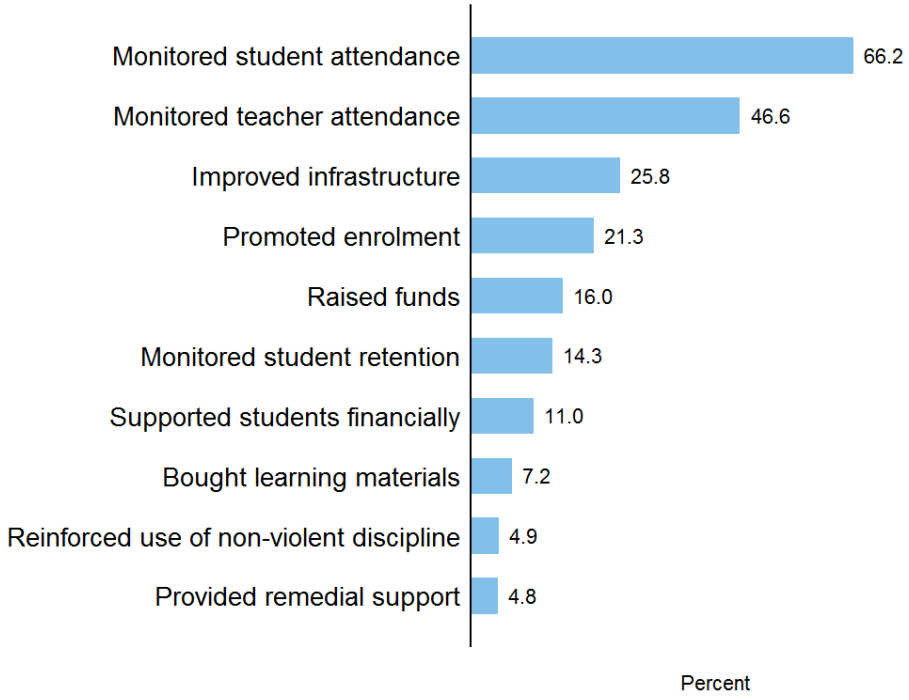


Importantly, our analysis of CEC engagement takes into account the schools in which CECs are entirely inactive or non-existent. That is, we include schools without active CECs in the baseline indicators of CEC activity levels. For instance, when calculating the share of teachers who report that their CEC provides the school financial support, we include those respondents who indicated that no CEC existed for their school. Our reasoning is straightforward: if we wish to assess the engagement levels of CECs over time, we must account for those that are entirely inactive. A non-existent CEC cannot provide financial support, of course; however, a CEC that exists can still fail to do so. As such, we consider it useful to code non-existent CECs as *not* providing the service or support assessed, so that – at the midline and endline – when a newly-established CEC is engaged on one or more of these indicators, this positive shift will be measured against an accurate and fair baseline. Even so, if we exclude respondents that report no CEC is active in their community, the primary findings regarding CEC engagement levels generally remain the same – treatment schools are still more likely to report CEC monitoring visits and teachers are still more likely to report support from the CEC in terms of financial and in-kind assistance, even among only those respondents who report the existence of a CEC.

[159] Parents of in-school children were asked how often the CEC communicates their plans for the school to members of the community. Respondents were given four substantive options to select among: weekly communication, monthly communication, annual communication, or "never", a complete lack of communication. Respondents were also able to indicate that they did not know how regularly the CEC communicated its planned activities. We re-coded the responses to this question to a binary variable, in order to capture the share of respondents who report that the CEC communicates its activities at least monthly. While effective CECs do not necessarily need to broadcast their efforts more often than monthly, we consider an annual effort to be insufficiently consistent to keep the community informed.

The largest gap in activity levels between treatment and comparison schools – and the activity that CECs engage in most frequently, overall – concerns monitoring visits to schools by CEC members. Any act of monitoring is valuable, to the extent that it demonstrates oversight and enhances the accountability of school staff to the CEC. However, some types of visits are arguably more important for the purposes of promoting well-run schools. When head teachers were asked to identify the purpose of monitoring visits by CEC members, the vast majority (84.8 percent) indicated that they monitored teacher attendance, while a further 63.6 percent reported that they monitored teaching quality.[160] At the same time, these figures represent the purpose of monitoring visits among the select group of CECs that actually visited schools. In practice, just 35.9 percent and 26.9 percent of CECs monitored teacher attendance and teaching quality, respectively, out of all schools sampled.

Figure 33: Initiatives undertaken by CEC members



The priority given to teacher absenteeism and quality by CEC members, as reported by head teachers, was also reflected by responses from community members. When asked to describe initiatives undertaken by CEC members, the two most frequently-cited activities were monitoring of student attendance and teacher attendance, respectively. As shown in Figure 37, 66.2 percent of caregiver

[160] The most common purposes cited for monitoring visits were to monitor teacher attendance, teaching quality, student attendance, and school facilities, in that order.

respondents report that their school's CEC monitors student attendance, while a further 46.6 percent report that they monitor teacher attendance.[161]

The most common aspects of CEC engagement appear to be routine monitoring of attendance rates; the next most common way in which CEC members are engaged with their schools is the improvement of school infrastructure and promoting school enrolment. CECs are primarily engaged in low-cost activities is borne out by qualitative interviews with CEC members. In addition to teacher pay, interviewees focused on the financial needs of families, which prevent them from enrolling their female children in school.[162] Yet this is the area where the CECs appear to struggle the most to help, because financial constraints affect them and their households as well. As one CEC member in South Central put it when discussing the need to support teachers financially, "the community has no money, so there is minimal they can do."[163] Other interviewees noted the financial constraints in their own households and the lack of support they receive from external sources, when describing why they cannot increase teacher pay or can support teachers only in the short-term.[164] In one case, a CEC member listed the areas where they have been successful – especially raising awareness – before listing goals they had set but struggled to achieve, all of which required financial inputs of kind.[165]

The pattern of engagement described by CEC members in interviews reflected those found in the quantitative data in a broader sense as well. For instance, school monitoring, especially of student attendance, was consistently cited by CEC members when asked how they attempt to improve the performance of their schools.[166] Just as respondents to the household survey noted moderate levels of engagement by CECs in their community in the areas of fundraising and raising awareness, a number of CECs also reported these same activities.[167] Others noted their efforts to improve school infrastructure by, for instance, building a fence around the school.[168]

A few types of engagement discussed in FGDs with CEC members – most notably, efforts to assist marginalized groups – were not addressed directly in the quantitative data. In general, FGDs with CEC members yielded little consistent evidence that CECs sought to reach marginalized groups, such as disabled children, children in pastoralist families, or displaced children, specifically. In some cases, their responses were blunt, indicating that "there is nothing more we can do to support disabled children in this area."[169] Several interviewees concurred with this assessment, while others noted that they do not discriminate against members of marginalized groups, but are unable to provide them any explicit support.[170]

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[161] Again, it is important to note that these figures refer only to respondents who reported that their child's school had an established CEC. Since only 65.6 percent of in-school students attend schools with an established CEC, these results overstate the extent of initiatives undertaken by CECs in the overall population of schools, but accurately represent the types and frequency of initiatives undertaken in schools with established CECs.
[162] FGD – CEC
[163] FGD – CEC
[164] FGD – CECs
[165] FGD – CEC
[166] FGD – CEC.
[167] FGD – CECs.
[168] FGD – CEC
[169] FGD – CEC
[170] FGD – CECs

There were more positive signs of engagement in a few cases. For instance, some CEC members described efforts to pay school fees for members of pastoralist communities that had been displaced by the drought, but the extent of these efforts was not clear; in one case, the CEC provides remedial courses for students who have been displaced and need to catch up to their level in school.[171] On the other hand, CEC members in at least two communities seemed unaware even of the scope of the problem, with one claiming that no marginalized groups reside in their area, and the other suggesting that there are few, if any, disabled children in their community.[172] To the extent that CECs specifically attempt to support members of marginalized communities, their efforts appear to be ad hoc and relatively limited, focused primarily on awareness-raising or enrolment-promotion campaigns and, to a small degree, financial support.

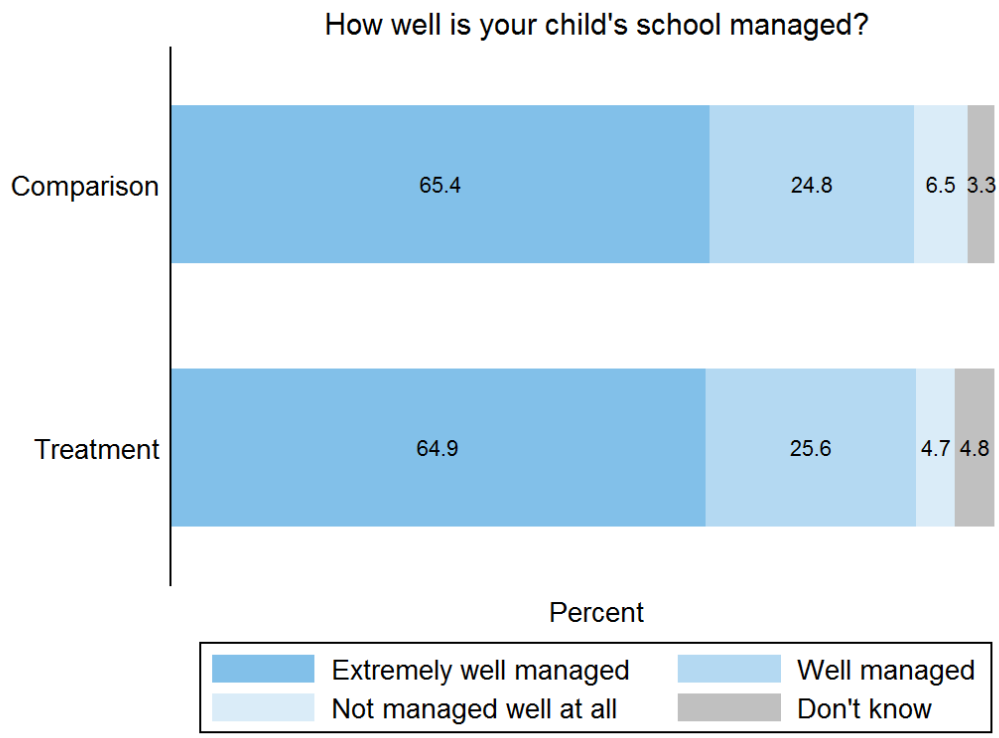
5.1.3 Community Perceptions of School Management

The analysis of school governance, to this point, has focused on tangible actions that CECs and their members can take to effectively manage schools. At its most fundamental, this involves establishing a CEC in the first place, and developing a school management plan. Beyond those first steps, well-managed schools should be monitored by the CEC and CEC members should take action to improve school infrastructure, attendance and retention rates, and other aspects of school performance.

But schools that are well-managed should also find this fact reflected in local public opinion. While public opinion is imperfect, community members generally take an interest in issues that affect them, especially the education of their children. For this reason, we believe that public perceptions regarding the quality of school governance are relevant, if secondary, indicators of this outcome.

Figure 34: Quality of school management, according to parents

[171] FGD – CECs
[172] FGD – CECs

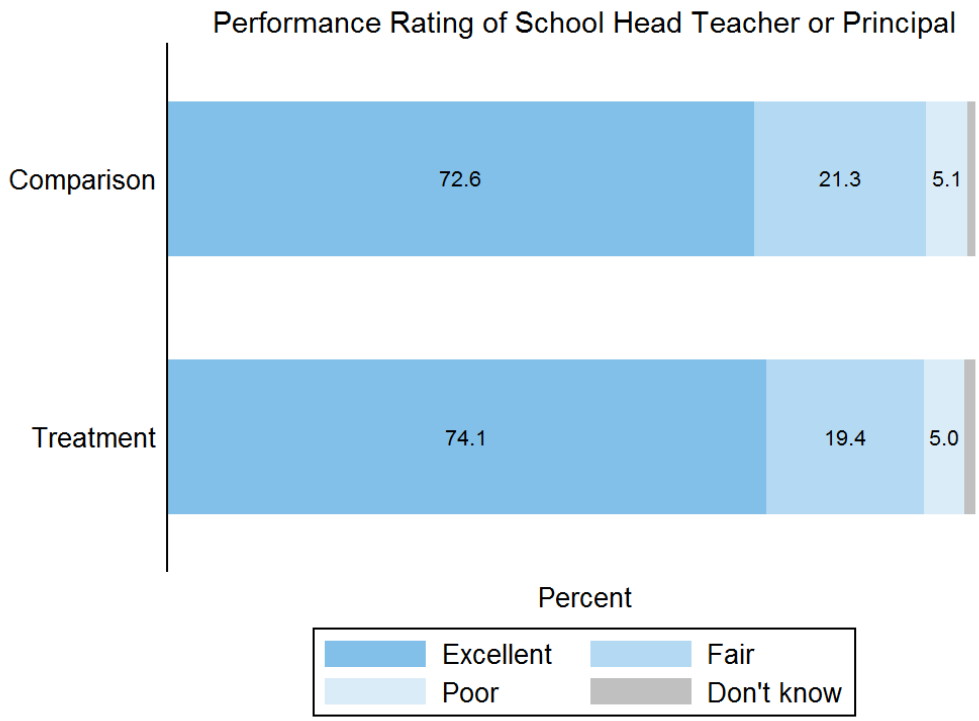


As part of the household survey, caregivers of enrolled students were asked to rate the management of their children's school. It is important to note that this question was not asked in the context of a specific level of management or a specific individual or organization. In other words, the questions preceding it did not ask respondents to discuss the school's head teacher, the CEC, or the MoEs. As a result, responses to the question reflect an overall assessment of the school's management.

Overall, respondents express positive opinions of the management of their schools. Nearly two-thirds of respondents (65.2 percent) describe their school as being "extremely well-managed," and a further 25.2 percent state that their school is well-managed. As illustrated in Figure 35, these ratings do not differ appreciably across treatment and comparison schools.

Respondents were also asked to more specifically assess the performance of their school's head teacher or principal. Again, public confidence in the performance of school officials is high across the board, with 73.4 percent of respondents stating that their school's head teacher is "excellent." As with more general management, the ratings of head teachers do not vary significantly between treatment and comparison schools: in both, over 93 percent of respondents report that their head teacher is doing an excellent or fair job.

Figure 35: Performing of school head teachers, according to parents



5.1.4 Conclusions

The schools studied in this section have impressive public approval with respect to their management. Given the relatively low standard of CEC engagement, high public opinion may reflect the relatively low expectations of most community members regarding their local schools. Although community members view their local schools positively, a significant share of schools lack a CEC altogether, and the extent of CEC engagement is low and largely limited to important, but relatively costless, tasks such as attendance monitoring.

At the baseline, there is a dramatic gap between treatment and comparison schools in terms of the institutionalization and engagement of CECs, which needs to be factored into later evaluation waves. While public opinion of school management is not sharply divided between treatment and comparison communities, the former are much more likely to have an established CEC and a CEC that engages in monitoring visits, communicates regularly with the community at-large, and provides material support to students and schools.

5.3 Teaching Quality

The third intermediate outcome that SOMGEP-T hopes to impact is the quality of teaching at project schools. SOMGEP-T will engage directly with teachers, providing them with training on a wide range of subject matter and pedagogical topics, such as remedial education. The project also seeks to enhance oversight and management of schools by CECs, which should have knock-on effects on the quality of teaching.

The importance of effective teachers for learning outcomes cannot be overstated. An effective teacher has the potential to improve learning outcomes across the board in their schools, especially when they teach core subjects – such as Somali or English – which affect students' ability to consume learning materials in other subjects. Moreover, a good teacher, with a positive classroom presence, can encourage students to continue attending school when they otherwise would not.

To establish baseline quality levels of teachers in SOMGEP-T treatment and comparison schools, the evaluation uses a number of distinct indicators, tailored to the focus of the project's teacher-oriented interventions. At a relatively broad level, we assess general teaching performance in terms of classroom demeanour, the use of corporal punishment, teacher absenteeism, and gender equality in a teachers' classroom. Focusing more precisely on pedagogical approaches, we then evaluate teachers' use of formative assessments, the extent to which they use participatory methods in their classrooms, and their utilization of student-centred approaches, such as the use of highly relevant examples from students' daily lives, in their teaching.

General Teaching Performance

The broadest assessment of teaching quality that we utilize focuses on the extent to which teachers make classrooms welcoming for students. As we discuss in greater detail below, this includes an assessment of the use of corporal punishment; but a welcoming environment is multifaceted, and undoubtedly includes other aspects of teacher conduct. To provide insight on the general nature of teachers' classrooms, in-school girls participating in the household survey were asked to rate how welcoming their teacher made them feel at school and in the classroom.

Survey results for this question are provided in Table 57, which disaggregates a number of outcomes across intervention and comparison schools. In the top row, we report the share of in-school girls who agreed strongly with the statement "my teacher makes me feel welcome." Overall, rates of agreement are relatively high, at 75.6 percent. Just 3.1 percent of respondents disagreed strongly with the statement.

The relatively high levels of students who say that their teacher is welcoming is somewhat unexpected given the approximately equally high levels of punitive discipline that students and teachers reported and which survey teams observed in classrooms. Learning often requires students to fail to grasp new ideas and try again. This is why one of the indicators for teacher quality is whether the teacher disciplines students who get things in the lessons wrong. Unfortunately, for the majority of in-school cohort girls, misunderstanding lessons can lead to disciplining or punishment, as shown in the table below.

Table 56: Classroom Demeanour and Punishment of Students

Overall Classroom Demeanour	Intervention	Comparison	Overall
My teacher makes me feel welcome (agree a lot)	74.8%	76.7%	75.6%

My teacher disciplines students who get lessons wrong	76.6%	75.2%	76.1%
My teacher uses verbal discipline	33.0%	31.3%	32.3%
My teacher uses physical discipline	43.6%	52.5%	47.4%
Teacher self-reports use of verbal discipline	88.7%	87.4%	88.1%
Teacher self-reports use of physical discipline	50.7%	40.7%	46.2%
Classroom observation of physical disciplining of girls	67.5%	84.9%	75.5%
Classroom observation of physical disciplining of boys	64.9%	84.9%	74.3%

Table 57 also documents and triangulates the use of corporal punishment by teachers and classroom observation conducted by survey teams. The third and fourth row of the table indicates the extent to which punishment is used, as reported by students themselves.[173] Just under one-third of respondents (32.3 percent) report that their teacher uses verbal discipline in the form of shouting, and just under half (47.4 percent) report that their teacher uses physical punishment.

Regarding the frequency with which their teacher used physical punishment, 5.2 percent of students say that their teacher uses physical punishment almost every day, while a further 18.3 percent put the frequency at once or twice per week.

The information provided by students aligns, loosely, with that provided by teachers themselves. Teachers were asked which students they verbally and physically discipline and were given an option to indicate that they do not use verbal or physical discipline on either gender. The vast majority of teachers report using verbal discipline in this, while just 46.2 percent admit to using physical discipline. While fewer teachers report using physical discipline than do students, this difference is sufficiently small that it may be explained by sampling variance between the two groups of respondents. Finally, as Table 56 shows, teachers in comparison schools tend to use physical discipline less frequently; their students also feel slightly more welcome by their teacher, though we cannot determine whether these two outcomes are linked by a causal relationship.

Classroom observations conducted by survey teams support reports from students and teachers on corporal punishment but points to corporal punishment being even more commonplace than reported by either group. Classes were sampled randomly within schools, and a researcher observed the selected classrooms for approximately 30 minutes in total. Observation time was divided into three blocks of 10 minutes, during which the researcher recorded structured observations about what happened in the classroom, including noting physical disciplining, teaching methods, who was called on by the teacher, and so forth. Physical disciplining of girls was observed in 75.5% of classrooms visited and the physical disciplining of boys was observed in 74.3% of classrooms. It should be noted that the prevalence of physical disciplining of boys in comparison schools (84.9%) was significantly higher than that of boys in treatment schools (64.9%).

[173] Note that these questions asked students whether their teacher ever using “shouting” or “physical punishment” as disciplinary methods generally, not whether they have personally been subject to these types of punishment.

During focus group discussions, when asked how teachers punish students, boys and girls described a variety of physical punishments that are used in schools, including murga punishment (in which children are forced to assume a painful stress position, often by squatting with knees close to the chest), beatings with sticks, canes, and belts on the back and fingers, being ordered to stand in the sun without shade, and being ordered to do work around the school, such as irrigating plants. Other commonly mentioned punishments mentioned were being told to leave the classroom, told to go to the office, ordered to lie down, ordered to sit in a dark, empty classroom, and ordered to put their heads down on their desks. Girls explained that teachers beat students who create conflict in the classroom and one girl said that when a girl does not know the answer to a specific question, “She keeps silent, and she does not ask the teacher anything, and he beats her when she does not know the answer."

It would be expected that the girls who say that their teacher disciplines students who get lessons wrong would also be more likely to say that the teacher uses physical punishment, and that is in fact what the data reveals. Among girls who say that their teacher punishes students, significantly more, 57.4%, say that their teacher uses physical punishment. The reverse is also true: those teachers who do not punish students when they get a lesson wrong are significantly less likely to use physical punishment. Among girls who say that their teacher did not punish their students when the students get the lesson wrong, 84% say that their teachers do not use physical punishment.

Table 57: Teacher Discipline by Use of Corporal Punishment

	Teacher physically punishes					
Teacher punishes/disciplines	**No**		**Yes**		**Total**	
No	168	84.0%	32	16.0%	200	100.0%
Yes	260	42.6%	351	57.4%	611	100.0%

This finding suggests that the use of corporal punishment is bound up with the inability to provide feedback to students in a productive way. Punishment and discipline is used instead of trying to use other approaches to explain the concept to students such as explaining the lesson in another way or by using an example that may improve student learning and engagement.

When it comes to doling out verbal and physical discipline, teachers tend to report that they discipline boys more than girls, however classroom observations do not bear this out. The responses of teacher surveys reveal that for the majority of teachers, disciplinary action did not differ between boys and girls: disciplinary action was either meted out to boys and girls equally or disciplinary was not taken at all. Among teachers who said their disciplinary action was unequal, these teachers tended to have reported that they discipline boys more than girls.

Asked who they verbally discipline, 50.6% of teachers said boys and girls equally, 29.0% said boys more than girls, 12% said neither, and only 8.5% said girls more than boys. With regard to differences by the gender of the teacher, significantly more male teachers (31%) said they verbally discipline boys more than girls than female teachers (15.1%).

Teachers were also asked who they physically disciplined. Slightly over half of all teachers, 53.7%, said that they physically discipline neither boys nor girls, 21.7% said boys more than girls, 21.4% said boys and girls equally, and 3.2% said boys and girls equally. Significant differences are not observed by the gender of the teacher. This finding aligns with qualitative evidence gathered during FGDs with CEC members and teachers, where some noted that teachers – especially male teachers – are concerned about disciplining female students.[174] Indeed, female teachers tend to treat girls and boys more equally in terms of the punishment they administer, consistent with the possibility that male teachers focus their discipline on male students due to discomfort with or concern about disciplining female students.

Key Statistic

Baseline percentage of teachers not using corporal punishment from teacher survey: **53.7%**

For both verbal and disciplinary action, the majority of teachers said that their disciplinary action did not differ by the gender of the student, and they either reported that disciplinary action was given equally or not at all. However, when teachers said that punishment differed between boys and girls, boys tended to face more punishment than girls. This corresponds with findings from focus group discussions in which the majority of boys reported that punishment is the same for boys and girls, but a number of boys reported that girls are either not beaten as much as boys or are not beaten at all.

Data from classroom observations are at odds with the findings from teachers which suggest that boys tend to receive more corporal punishment than girls. As mentioned above, in 75.5% of classrooms observed, girls received some form of corporal punishment and in 74.3% of classrooms observed, boys did. Not only are these rates substantially higher than the rates of corporal punishment suggested by students and teachers, but they suggest that physical discipline is dispensed with equal frequency between boys and girls. What may account for the discrepancy between the classroom observations and the teacher surveys is that the severity of the punishment may be greater for boys. This would correspond with findings from focus group discussions in which although the majority of boys reported that punishment is the same for boys and girls, a number of boys reported that girls are either not beaten as much as boys or are not beaten at all. As such, teachers when recalling whether they physically discipline boys or girls more frequently may be calling to mind only those male students who they punish more severely.

Our second indicator of general teaching performance focuses on absenteeism among the teaching corps. In order to be effective, teachers must show up consistently, leading by example with regard to attendance at school. At the baseline, teacher absenteeism was considerable, as shown in Table 58. Almost one-quarter (23.7 percent) of teachers are absent at least one day per week, according to reports from school head teachers. Given the relatively low number of instructional hours per day in many of the schools sampled – just 4.8 hours on average, with over one-quarter of schools completing just four hours of instruction daily – high rates of absenteeism are especially problematic from the perspective of ensuring sufficient instructional time for students to learn. Student reports of teacher absenteeism confirm these high rates, with 36.7 percent of students agreeing with the statement that “my teachers are often absent.”

Table 58: Teacher absenteeism by treatment status

[174] FGD – CEC

Treatment Status	My teachers are often absent (agree a little/a lot)	Teachers are absent more than once or twice per month
Treatment	36.0%	26.3%
Comparison	37.4%	21.1%
Overall	36.7%	23.7%

Disaggregating absenteeism by treatment status shows that treatment schools experience higher numbers of teacher absences, in general, than comparison schools. Our preferred indicator of teacher absenteeism is drawn from surveys of head teachers: 26.3% of head teachers in treatment schools report that teachers in their school are absent more than once or twice per month, compared to just 21.1% of head teachers in comparison schools. Data collected from students themselves appears to contradict these findings, as there is no substantive difference in the share of students who indicate that their teachers are often absent between treatment and comparison schools.

Our final indicator of general teaching performance focuses on gender equity in the classroom. Girls should be treated equally in the classroom, enjoying equal access to learning materials, and equal attention from the teacher. Our primary measures of gender equity are drawn from classroom observations conducted by field researchers during school visits.

Table 59 reports measures of gender equity derived from these classroom observations. The first two columns summarize the mean number of times that teachers called on boys and girls, respectively, during a 10-minute observation block.[175] Notably, teachers in treatment schools appear to call on students of either gender more often than their counterparts in comparison schools, a point which we return to in the discussion of participatory teaching methods. While there is a difference in the frequency with which teachers call on boys and girls, it appears to favour girls: teachers call on girls 1.3 times, on average, per block, compared to just 1.06 times for boys. A second set of observations focused on the number of times that teachers offered encouragement to male and female students, respectively – on this metric, there was no observable difference between boys and girls in the aggregate.

Table 59: Gender Equity in Classroom Participation by Treatment Status

Gender Equity in the Classroom	Treatment	Comparison	Overall
Times teacher called on a boy	1.19	0.93	1.06
Times teacher called on a girl	1.13	0.92	1.3
Times teacher encouraged a boy	1.26	1.33	1.30
Times teacher encouraged a girl	1.23	1.35	1.29

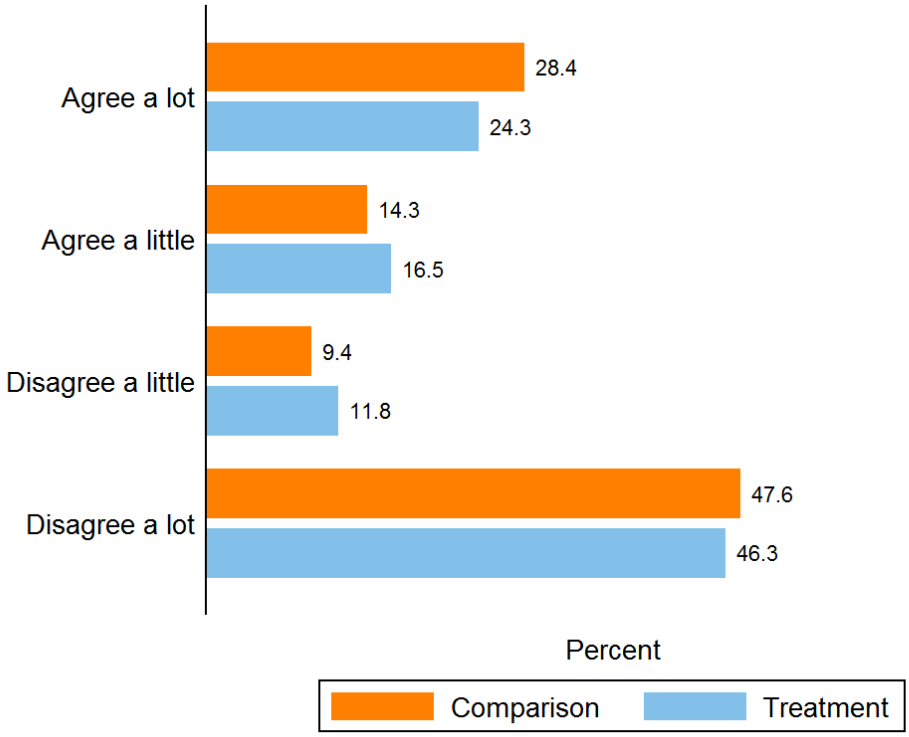
We also disaggregated these measures of gender-favouritism by the subject matter of the classes being taught, under the assumption that gender-favouritism might be more pronounced in male-dominated

[175] Researchers tallied up the number of times teachers called on either a boy or a girl during each block. For each teacher, an average was calculated across their three observation blocks. The figures reported in this table represent the average across all teachers observed.

subjects such as mathematics. Note that all classes observed were teaching English, Somali, or mathematics. While the sample size for any of the three subject areas is relatively small – the total number of classrooms observed was 152 – the data do paint a compelling picture of differentiation across subjects. In Somali courses, girls are marginally more involved, being called on by the teacher 1.0 times per 10-minute observation block, versus 0.92 times for boys. However, in mathematics classes, the opposite finding holds – girls are significantly less likely to be called on, at 1.03 times per block, compared to 1.22 times for boys. Unfortunately, the set of female teachers observed is too small (n = 19) to reasonably draw conclusions about the impact female teachers might have on preferences for or against female students.

Aside from classroom observation, teachers were also asked direct questions regarding their views on gender and education. When asked whether there are certain subjects that girls should not learn in school, 4.6 percent of teachers replied affirmatively. However, 3.9 percent replied similarly for boys, so it is unclear whether these responses indicate gender bias or some other phenomenon.

Figure 36: Do teachers treat boys and girls differently?



While the results of the classroom observations above highlight differences in the treatment of girls and boys, the magnitude of those differences are relatively small. This contrasts with the perspective of girls themselves; when asked whether they are treated differently from boys in school, a surprising share of girls indicated that they are. Figure 38 reports girls' levels of agreement with the statement "my teachers treat boys and girls differently in the classroom." In general, the data collected from students suggests that they tend to be somewhat deferential toward their teachers, hesitating to criticize them or their schools in their survey responses. Therefore, the number of girls agreeing with this statement regarding

gender disparity is fairly surprising – overall, 41.8 percent of girls agreed with the statement, either strongly or weakly.[176]

The qualitative findings suggest that teachers may use corporal punishment more readily against boys, but that they may be more encouraging toward boys with regard to their participation in the classroom. Disparities in the use of corporal punishment were cited frequently by the boy students: "I would like to add, they don't beat girls. They give them different oral warnings. After they give a lot of warnings, they suspend girls from school."[177] Another boy explains, "No, teachers are kind to them even if they commit a big mistake. They will be beaten with a stick but they will not be punished as boys."[178] There are schools in which students report that teachers do not use corporal punishment or that teachers use corporal punishment on both boys and girls, but there appear to be some instances in which corporal punishment is reserved mostly for the boy students.

However, teachers may not be encouraging boys and girls to the same degree. When asked whether teachers ask boys or girls the more difficult questions, there are differing accounts. Within the same FGD, one girl explains that teachers always give boys and girls an equal chance to answer questions whereas another explains, "The teacher asks the boys the most difficult questions, and the boys are cleverer than the girls."[179] It should be noted that the vast majority of both girl and boy students expressed a liking for their teachers and reported that they are treated equally in the classroom in the FGDs. The majority of girls and boys also report that girls feel comfortable asking teachers for help if they need it.

It is unclear whether the idea that boys have greater intellectual abilities than girls originates with teachers, parents, or both, but encouraging boys' participation more than girls' may be reinforcing girls' beliefs that they are less clever than boys. In the interviews, many teachers expressed a preference for girls and claimed that girls perform better in school than boys, whereas a few mothers were forthcoming with their opinion that boys are generally smarter than girls. However, some of the teachers' claims are not supported by the quantitative evidence, introducing the possibility that teachers may at times be exaggerating their positive opinions toward girls in the presence of interviewers – teachers claim that girls perform better on exams and that there are more girls in school than boys, both points which contradict the quantitative findings.

Additionally, the unique dynamic that exists between male teachers and female students in the context of Somali culture may be having an effect on the treatment of girls in the classroom. It is clear from the qualitative data across FGD groups that girl students do not feel comfortable discussing sensitive topics with male teachers and that some girls feel shy about participating in class, but it is less clear to what degree these phenomena are driven by the teachers' treatment of girl students versus other factors. Further examination of these topics in the future may require more targeted questioning.

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[176] It is important to note that the wording of the question does not necessarily indicate bias *against* female students. The statement indicates that girls and boys are treated *differently,* without clarifying how they are treated differently or making a value judgment about whether it is right or wrong that they be treated differently. It is possible that girls have observed that they are treated differently in terms of in-school punishment and are thinking of this disparity when answering the question.
[177] FGD – Boys
[178] FGD – Boys
[179] FGD – Girls

Teaching Strategies and Methods

Narrowing our focus, this section investigates the extent to which teachers used specific teaching methods and strategies at the time of the baseline evaluation. SOMGEP-T pedagogical training will encourage teachers to begin using formative assessments to drive their teaching decisions; utilize teaching methods that encourage classroom participation in all its diverse forms; and incorporate the use of student-centred approaches in their teaching. We see to evaluate the extent to which teachers are currently engaged in these practices.

To determine the current use of formative assessments, teachers selected for classroom observation were asked whether they make use of formative assessments. Those who indicated that they do were asked to show records of such assessments completed in the past. Overall, 51.3 percent of surveyed teachers claim that they use formative assessments, but a smaller share – 38.2 percent – were able to produce records of such assessments when asked. Use was lower among treatment schools, with 33.8 percent of teachers in such schools able to produce evidence of formative assessments, compared to 42.7 percent among comparison schools.[180]

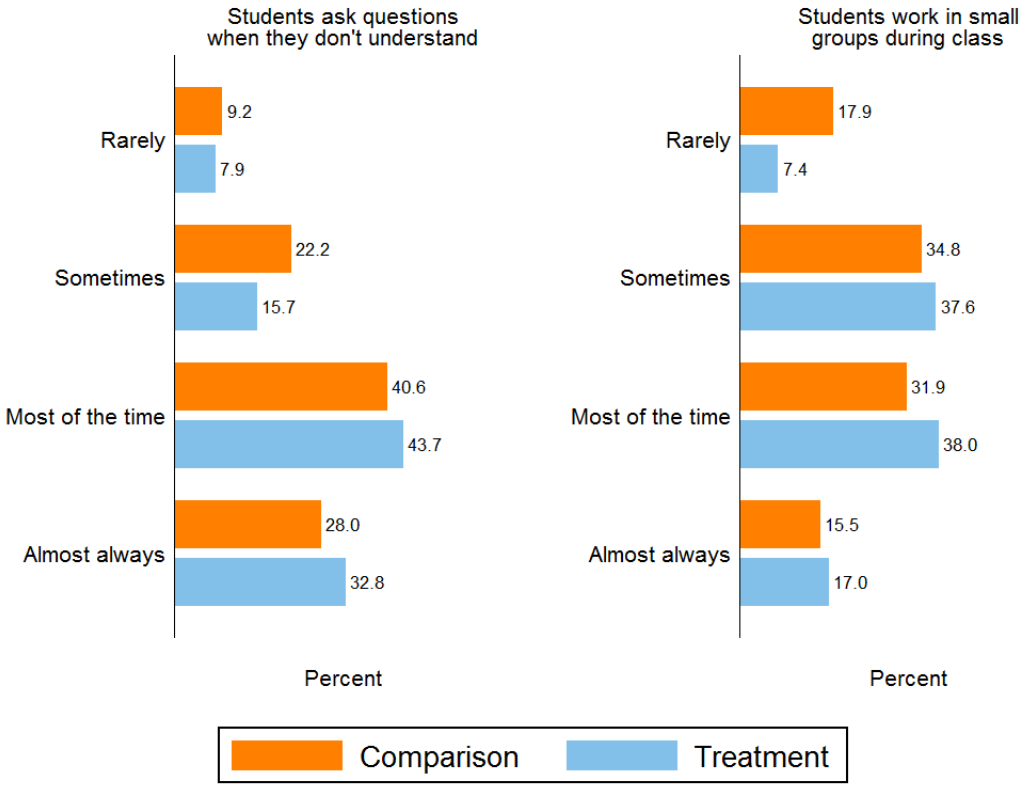
Rates of usage are also dramatically different across subject areas. Confirmed usage rates were highest in English classes (55.6 percent), followed distantly by Somali classes (37.7 percent) and mathematics (28.6 percent). This gap may reflect differences in the ease with which formative assessments can be developed and incorporated into classes on different topics. More likely, however, is the possibility that disparities stem from differences in training levels between teachers of different subjects, with English teachers perhaps having benefited from additional education and training than their Somali-teaching peers.

The evaluation also collected data on the use of participatory methods and the extent of participation within classrooms. We define participatory methods somewhat broadly, evaluating the rate at which students ask questions of their teacher, the use of group-work in class, and the efforts of teachers to encourage participation among disengaged students, among other things.

The first set of results is drawn from a survey of teachers, who were asked to assess their own students and classrooms. Teachers were asked whether students in their classes ask questions when they do not understand a topic. As shown in Figure 43, the modal teacher indicated that students ask questions most of the time when they do not understand something. Students' willingness to ask questions is slightly higher among treatment schools than comparison schools, as shown in the left panel of Figure 39. The right panel of the same graph reports the frequency with which students engage in group-work during class. Group work is not altogether common, with responses evenly split between "sometimes" and "most of the time." In total, 12.4 percent of teachers stated that their students rarely work in small groups during class, though this rate was significantly higher among comparison schools.

Figure 37: Frequency of participatory methods used by teachers

[180] The same pattern holds when we use a more generous approach, using teachers' self-reported use of formative assessments, without proof of their use. Using self-reports that were either confirmed or uncomfirmed, 46.8 percent of teachers in treatment schools use formative assessments, compared to 56.0 percent in comparison schools.



The second set of measures of participation and participatory methods were collected through direct classroom observation. As described above, researchers sat in on class sessions and recorded observations over three 10-minute blocks. During each block, they indicated whether they observed each of the following participatory methods in use:

- The use of student-centred activities or games
- Students instructing each other by, for instance, coming to the board to explain a concept, or answering another student's question
- Students working in groups
- The teacher calling on a student who was not participating, to foster their participation

Few teachers would employ student-centred games in each of three distinct blocks of time. As a result, we consider a teacher to have used each of these methods if they were observed *once* during any of the three blocks.

Table 60 reports the frequency of each method's use across different types of classes. Unsurprisingly, student-centred activities and group-work were the least commonly observed within classrooms, likely due to the pre-planning that these activities require from teachers. In contrast, students engaging with and instructing one another can be accomplished without significant planning, as it may flow naturally from the pace and structure of classroom discussion. Such activities were observed at least once in 44.1 percent of classes studied.

Table 60: Frequency of participatory method use, by course subject

Participatory Methods in the Classroom	Somali	English	Math	Overall
Used student-centred activities or games	34.0%	33.3%	39.7%	36.2%
Students instructed each other	47.2%	44.4%	41.3%	44.1%
Students worked in groups	32.1%	41.7%	44.4%	39.5%
Called on student who was not participating	64.2%	72.2%	69.8%	68.4%

The most common outcome observed, however, was teachers' efforts to encourage participation among an otherwise disengaged student. In just over two-thirds (68.4 percent) of classrooms, researchers observed teachers making efforts to engage with quiet or withdrawn students.

Disaggregating these results by course subject does not reveal any clear patterns. For instance, while more students instructed one another in Somali classes than in other subjects, the rate of group-work was lowest in Somali classes. In the aggregate, the use of participatory methods appears to be similar across class types.

One concern that arises when analysing data from classroom observations is the possibility that the observer's presence changed the teacher's behaviour. Such Hawthorne Effects are theoretically more likely to affect particularly controversial or socially-stigmatized behaviours – in the context of teaching, this might include the use of corporal punishment. As such, we might expect teachers to avoid doling out physical punishment in the presence of an observer. We are less concerned about Hawthorne Effects in the context of classroom methods; nonetheless, it is possible that the presence of the observer motivated teachers to ask more questions and engage more fully with their students.

In order to guard against such threats to inference, it is necessary to triangulate findings regarding teacher behaviour. The baseline evaluation also collected data from students regarding their teachers' encouragement of classroom participation. Overall, 63.5 percent of students indicated that their teacher frequently encourages their participation, while another 29.2 percent said they sometimes do so. Such overwhelmingly affirmative responses may not reflect the true nature of classroom participation, however; the survey did not specify what types of questions teachers encouraged their students to answer or the nature of the participation they encourage. It is common, for instance, for teachers to continually solicit answers from students during a lesson, but to focus on extremely simple questions, such as repetition of words the teacher just spoke. Participation of this kind has limited value as a pedagogical practice.

Indeed, the data suggest that many of the questions teachers ask of their students require simple, straightforward responses, which fails to encourage engagement and critical thinking among students. During classroom observations, only 56.6 percent of teachers asked an open-ended or otherwise complex, thought-provoking question during *any* of their three 10-minute observation blocks, *combined*. To the extent that classroom participation is limited to relatively superficial questioning from teachers, it may not have the desired impact on student learning and engagement.

The final indicator of teaching quality we study focuses on the use of student-centred approaches to teaching. In contrast to participatory methods, student-centred methods may or may not encourage students to speak up or participate. Rather, student-centred methods focus on addressing the distinct

learning needs of different student populations. To illustrate, teachers who employ alternative explanations to help students understand a difficult concept are engaged in student-centred teaching, as are teachers who allow flexibility in their lesson plans to meet the different capabilities of their students.

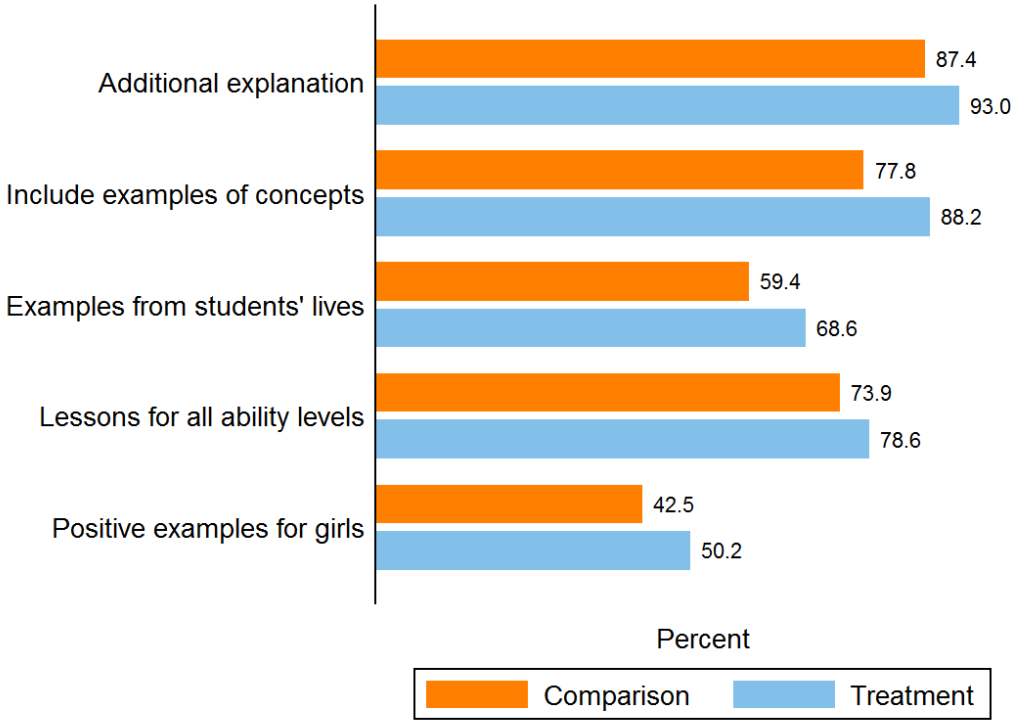
Teachers in SOMGEP-T treatment and comparison schools were asked to evaluate their own teaching methods and styles, including a number of student-centred approaches. Specifically, the evaluation collected data on the frequency with which teachers:

- Offered additional explanation to help students struggling to understand
- Included examples in their lessons to help students understand concepts
- Utilized examples relevant to students' daily lives, rather than textbook or boilerplate options
- Matched their lessons to the varied ability levels of all their students
- Used examples that illustrate girls or women in a positive light

Teachers were asked how often their teaching met these standards, on a 4-point scale from "rarely" to "almost always." We collapsed this scale to identify teachers who indicated that they met each standard "most of the time" or "almost always." Figure 40 plots the share of teachers in treatment and comparison schools that meet each standard most of the time or more often.

As Figure 40 shows, the vast majority of teachers employ additional explanation if and when necessary to help a student understand, and most also include examples to illustrate key concepts. It is surprising, however, that so few teachers use relevant examples, drawn from students' everyday lives. Just 64.2 percent of teachers used such relevant examples; this is surprising, because most Somali teachers share cultural understanding with their students and should not face any major barriers to generating relevant examples. This is, arguably, the teaching practice that would be easiest to instil in teachers. By comparison, tailoring lesson plans to fit the needs of students from widely varying backgrounds is just as important but imposes larger potential costs on teachers in terms of time invested in lesson plan development.

Figure 38: Use of student-centred teaching approaches, by treatment status



A final aspect of teaching methods that is readily apparent from Figure 44 is the relative over-performance of treatment schools. On every metric studied, teachers in treatment schools are more likely to engage in student-centred practices than their counterparts in comparison schools, sometimes by wide margins. In contrast, we do not observe large gaps between project locations in terms of the reach of student-centred teaching practices.

As with participatory methods in the classroom, the data collected from students allows us to triangulate, to some extent, our findings regarding student-centred teaching. In-school students were asked whether their teachers use a different language to explain concepts, in cases where a student is unable to understand. Overall, 43.5 percent of students indicated that their teacher does this frequently, while a further 25.5 percent said their teacher does this sometimes. While these rates are relatively high, they are lower than the share of teachers who claim to explain difficult concepts in multiple ways. In total, 69.0 percent of students state that their teacher explains concepts in multiple ways, while 90.4 percent of teachers claim the same, suggesting that teachers may be overestimating the extent to which they have adopted student-centred teaching practices.

Conclusions

Teachers in SOMGEP-T schools are effective in many ways but have almost universal room for improvement. Among the various indicators brought to bear to assess teaching quality, teachers performed best with respect to gender equality. In some aspects, teachers do not appear to be biased in on the basis of gender, and equitable treatment was observed: teachers encouraged equal classroom participation and, generally, treated male and female students similarly. However, there were differences in the treatment in relation to specific subjects such as mathematics in which girls were significantly less likely to be called on.

But other aspects of teaching performance are less impressive. Corporal punishment was observed in approximately three-quarters of classrooms visited by survey teams. Teacher absenteeism is high, with nearly one-quarter of teachers missing one day of school per week or more. A shocking 5.25 percent of school head teachers report that their teachers miss school half the time or more frequently.

Many teachers make an effort to encourage participation, utilize formative assessments in the development of their lesson plans, and centre their instructions on students and their needs. But uptake is slow, and many teachers may be overstating the extent to which they actually incorporate these techniques into their teaching on a day-to-day basis. Here there is significant upside potential from teacher training, stemming from the introduction of new methods to teachers and the reinforcement of existing, positive habits.

5.4 Community-based attitudes and behaviour change

Information gained through the qualitative interviews suggests that there are a number of important shifts in community attitudes and behaviours occurring in Somalia and Somaliland today. Interviews with mothers, CEC members, and teachers reveal that community attitudes on the importance of education, and girls' education in particular, have changed drastically within the span of a single generation as a result of the efforts of international organizations, community members, government initiatives, and others. Simultaneously, evidence from interviews with girl and boy students suggests that this positive shift will have lasting effects, as girls and boys overwhelmingly express positive attitudes toward education and understand its importance for their futures. However, the qualitative interviews also revealed that some old stereotypes are still prevalent and that social norms continue to hinder girls' access to and success in school. This section of the report will discuss the two competing narratives that currently exist in Somalia and Somaliland in regards to the importance of education, and girls' education in particular.

Data across FGD groups suggests that mothers play a vital role in girls' education. As the number of women-led households rises in Somalia and Somaliland,[181] mothers are increasingly responsible for deciding which children to send to school and when. Mothers consider a number of factors when making decisions on whether or not to send their children to school. One of the main factors mothers consider when deciding whether or not to send their girls to school is the amount of housework they will need to manage alone once daughters are in school. Although this is still a major consideration of mothers, the responses from the qualitative interview suggest that the majority of mothers today consider the benefits of educating their girls to outweigh the personal costs. Findings from the girls' FGDs suggest that mothers are willing to take on their daughter's household chores so that the girls can attend school. This appears to be indicative of a broader trend—an increasing appreciation for the importance of education, a trend that is likely brought about not only by the efforts of international organizations and others, but also on the population shifts taking place in the country. Whereas in the past, families may have been able to survive on physical labour alone, today, the ability to use only physical strength is seen as a significant hindrance to gaining employment. As one mother explains, "The people use what they study so the people depend on the knowledge they learn, because the educated person will use what he learns to work while the uneducated person can only use his physical power (blue collar jobs)."[182]

When asked about the importance of education, mothers unanimously agreed that education is important. Across locations, a number of themes emerged from respondents' explanations of why they find education to be important. First, respondents described how education has benefits at the personal, family, community, national, and global levels. Education is seen as individuals' sole means of empowerment, or the mechanism through which individuals can take control over their lives. Respondents spoke about how education can help individuals develop, support, and improve themselves. Second, education can be applied to extend these personal benefits to others; children who receive an education can teach their children, help support their families, and improve their communities, all of which are seen as having benefits at the national and global levels as well. Education is seen as a means of contributing to the economy through the attainment of better jobs, which respondents considered to be jobs that do not solely require physical strength or brute force. Across locations, a number of metaphors

[181] In the SOMGEP endline survey, 43% of households were headed by women in the sample, whereas 48% of households in the SOMGEP-T baseline survey sample are headed by women.
[182] FGD, Mothers

for education were used repeatedly, the most common of which was describing education as light, or day, and lack of education as dark, or night. Respondents also commonly described uneducated individuals as blind. These metaphors were part of a larger theme: a heavy focus on the dangers of not receiving an education. In addition to likening uneducated individuals to people without sight, respondents described uneducated individuals as 'useless,' 'nothing,' unable to 'help anyone,' and emphasized the importance of avoiding ignorance. As one respondent explained, "An uneducated person is nothing. He or she is almost like livestock, while an educated person is someone who is ready to develop and achieve goals."[183] Another mother expanded on this, adding, "Livestock does not know whether it is going to be slaughtered or not. Put simply, an uneducated person is like that, not knowing where to go or what to do."[184]

The strong attitudes mothers hold toward education appear to be new, as many mothers described themselves as ignorant and uneducated and expressed how important it is for them to see their children build better futures and have access to better opportunities. One respondent explains, "For example, I am ignorant and never went to school. I was herding goats and am even now. I think I would be lost if I were taken to a big town, because I cannot even write my name. I just keep livestock, although drought has killed most of them. So I don't do that much. I just cook for my children. If I were educated, I could have been someone who can see things from afar and even work, like you. Your parents have taken you to school. That is why you are here working. And that is the difference between us. We are both women, but you are better than me because of education. So, education is very important."[185]

Mothers discussed these same general benefits of education when asked about the importance of girls' education vs. boys' education. However, a number of important differences emerged in their perceptions of the importance of girls' education vs. boys' education. Across all FGDs, respondents agreed that girls' education is important and boys' education is important, but were split on whether they are equally important or not. Most respondents expressed that educating boys and girls is equally important, representing an important cultural shift, but others felt it is more important to educate one over the other. Those who felt it is more important to educate girls described how girls will teach others, thereby spreading the benefits of their education to others, and will always support their families. A few respondents contrasted this with how boys forget about their families once they grow up and marry; they think first of their spouses and children, then their wives' families, and last about their own parents and siblings. However, a number of mothers disagreed and expressed that boys' education is more important due to the level of responsibility men assume once they grow up, in addition to their perceived roles as leaders. One respondent explained, "The boys are more useful than the girls because they will be more responsible for themselves, their parents, children, and others."[186] Another explained, "Boys' education has the main value, as Somali boys are the leaders."[187] One boy challenges the view that boys' education is more important. "When it comes to education, the boys and girls are the same, and they receive the same lessons from teachers. But girls and boys are different in house because girls might do all work in the house. But educated parents never send girls to do work in the home. They support them to read for their lessons."[188]

[183] FGD, Mothers
[184] FGD, Mothers
[185] FGD, Mothers
[186] FGD, Mothers
[187] FGD, Mothers
[188] FGD, Boys

Respondents gave more general responses about the value of boys' education, but focused on benefits specific to girls when speaking about the value of girls' education. In particular, respondents emphasized that educated girls will be able to teach others what they have learned, including their children and members of their communities. "An educated girl is an educated community."[189] These findings were echoed across FGD groups. Teachers and CEC members also emphasized the important role girls will play in educating future generations. "The girl of today is the mother of tomorrow, so teaching girls is very important. In the past, only boys use to go to school or learn, but now it seems more girls are learning so to support girls' education is very important."[190] Some even discussed how the attention should now be turned to boys' enrolment, because girls are present in high numbers in schools. "All organizations believe that girls don't study anything and they stay their houses, but I want you to assure you that the majority of the people who enrol and learn some are the girls. But there are many boys who dropped out or never enrolled, but now all girls study at the school. So, now we just need to discuss how we can enrol the boys, also to maintain girls' education in the school."[191]

The majority of mothers across locations claim that girls and boys are enrolled equally, at the same age and time. This was largely attributed to a shift in social norms—mothers described how they, and others in their community, now understand the value of girls' education. A number of respondents said that now, girls are actually enrolled in higher numbers in their communities. Again, these results were triangulated with findings from CEC members' and teachers' interviews. When the interviewer used a prompt that describes how there are more boys enrolled in Somalia than girls, respondents across FGD groups responded that the reverse is true in their communities. "In this school there are more girls than boys. Previously girls used to remain at their homes. Now girls are in the schools after they became aware of the importance of the education."[192] Respondents attribute this to a shift in attitudes toward girls' education. "Parents are not the same between the previous time and right now. Before, they sent the boys to school and they keep the girls at the house to do the tasks of the house. But right now, they understand that education is valuable for boys and girls."[193]

However, others described that there are still a number of barriers to girls' enrolment and attendance, a number of which indicate that social norms still restrict girls' access to and success in school. The most commonly mentioned barrier was cost—parents in poor communities, such as refugee communities, cannot afford to send all their children to school. As outlined above, others also mentioned that girls are needed for housework. Early marriage was also mentioned as a barrier to girls' education, particularly continued enrolment, and one mother explained that some mothers will consider it a waste of resources to send their girl to school if she will soon be married. Menstruation appears to affect attendance only when the girls do not have access to pads or feel too ill to attend class. The mothers emphasized that it is now normal to send girls to school when they are on their period, although some girls still feel ashamed. Other factors that can affect attendance include teacher quality, low morale, pregnancy, lack of materials (e.g. uniforms, body oil/cream), and the attitude of the girl toward school.

Importantly, boys also reported that education is important for girls, and seem to accept without question the idea that girls should hold similar work roles to them. They mention that girls can become teachers,

[189] FGD, Mothers
[190] FGD, CEC
[191] FGD, Teachers
[192] FGD, CEC
[193] FGD, CEC

doctors, work for NGOs, and serve in political office (e.g. as chairwomen, or as president). Boys also mention that girls will be able to help their parents in the future, and that their education will enable them to teach their children when they have families. However, some boys did not express as much confidence in girls continuing their education as boys. One explains, “It is possible that the majority of girls, 70% to 100%, get married after they finish secondary school, so their numbers will be less."[194] Another echoes this viewpoint, explaining, “Boys continue learning until university level while girls get married and stop learning.”[195] Girls also reported that early marriage does cause some girls to drop out, but the vast majority of girls that participated in the FGDs expressed a desire to continue their education. One stereotype that has persisted despite evidence to the contrary is that boys are cleverer than girls. Respondents across FGD groups mentioned this, including some girl students. However, teachers emphasize how girls actually receive better examination results and excel over boys. “In our school female students are better. Even they are superior in the examination results. There has been a large number of female students that have been enrolled recently, and, numerically, there are more female students than male students in this school.”[196] Another teacher explains, “The girls are cleverer than the boys in school. I myself, if I checked who is cleverer in this year 2017, in terms of education, girls are cleverer than the boys.”[197]

The qualitative data suggests that the debate on the importance of girls’ education in itself and in relation to boys’ education is alive in Somalia today. The data shows that although enrolment of girls is rising, mothers’ attitudes toward girls’ education is positive, and teachers recognize the value of girls’ education, some individuals still hold negative stereotypes toward girls’ education that actively discourage girls from attending and excelling in school. Nonetheless, the fact that the debate is alive between and within the project’s FGDs marks an important shift and provides evidence that the efforts of advocates of girls’ education have had a positive, lasting effect on Somalia and Somaliland.

[194] FGD, Boys
[195] FGD, Boys
[196] FGD, Teachers
[197] FGD, Teachers

5.5 School-related, gender-based violence

Measuring gender-based violence is notoriously difficult because of the extremely sensitive and often stigmatised nature of the subject. Underreporting of gender-based violence is common in most cultural settings, so it is likely that the quantitative estimates offered here are also under-estimations of the degree of the problem. In the household survey, 1.8 percent of caregivers reported children facing problems of gender-based violence on their way to school. This is a very indirect measure of school-related gender-based violence, but it nonetheless helps to establish a baseline rate that can provide the basis for longitudinal comparison. However, because the estimated rate is already so low at the baseline (due at least in part to under-reporting), it is unlikely that any future reduction in gender-based violence would be detectable at a statistically significant level.

There was no concrete evidence of gender-based school-related violence in the qualitative interviews. However, a few respondents did mention the topic of violence in relation to education. One respondent explains why girls might stop going to school: “Financial challenges, and sometimes the teachers harass [in the sense of yelling or using corporal punishment] the girls and there might be some conflict at school.”[198] There are other allusions to conflict in schools, although it is unclear whether these conflicts are between students or teachers and students. In describing how CEC members encourage girls to stay in school, one respondent explains, “We advise them to come back to their school for those where there is a conflict between them we try to solve it by doing our best, and we work to negotiate between the teachers and the students.”[199] When asked what challenges she faces in sending her children to school, one mother responds, “Yes, for them to fight each other.”[200] Additionally, one respondent outlines how mistreatment of girls in schools was once a concern: “In the past, they believed that if a girl was sent to school she would become a bad girl, or be mistreated, or would mix with men, and that boys do better than girls.”[201] Although there is some evidence of conflict in schools, the data does not provide a clear picture of the nature of these conflicts or whether girls are specifically targeted. In the last example provided, it is unclear whether fears of girls being mistreated were due to actual instances of mistreatment or simply arose from general fears of mixing boys and girls in school, something which the qualitative interviews suggest is still not done in all schools.

Respondents also mentioned worries over the safety of girls in the home or on the way to school. One mother explains, “Today’s girls are not the same as before. Maybe they will not tell the truth. The only thing we focus on is if she comes back safely. When a girl goes out, anything can happen, and we always pray for her to come back peacefully.”[202] One teacher describes how girls always have to leave school if their families migrate: “For example, girls will leave school if their families migrate from their location. Somali people say, ‘It’s not possible to leave a girl alone in a house’ because the bad men in the village can rape her, so they take her wherever they go. So she would have to go with her family, but the boys can remain in the home if they are fed at the school.”[203] Lastly, when asked what might keep girls from school, one respondent explains that, “Sometimes parents want girls to stay at home for security reasons.”[204] However, this may be referring to general insecurity, which was mentioned by boys as being

[198] FGD, Mothers
[199] FGD, CEC
[200] FGD, Mothers
[201] FGD, Teachers
[202] FGD, Mothers
[203] FGD, Teachers
[204] FGD, Girls

a concern on the way to school – in this particular location, they describe how the border is sometimes closed, blocking their normal path to school. "It's when there's distribution, or corruption goes on, or a breakout of clashes. Sometimes they cut off the road in the early morning or afternoon."[205] The only concrete example of gender-based violence above, in which the respondent describes parents' fears that their girls will be raped, refers to men in the village and not teachers or other students at school. The evidence from the qualitative interviews does not necessarily mean that gender-based violence is not a problem in Somali schools, but the data currently available does not allow for a useful analysis of the topic.

Project Response

Although SOMGEP-T does not include an intermediate outcome on school-related gender-based violence – largely due to the difficulties in demonstrating quantitative changes in a severely under-reported area – CARE considers that this is a key area of work in any intervention related to girls' education. It is expected, however, that changes in this area will be detectable through proxy indicators rather than actual reporting of cases. Some progress has been observed in recent years in addressing GBV in Somalia and Somaliland, including the introduction of regulatory frameworks[206], and shifts in perceptions are occurring (as demonstrated by some of the cases of child abuse noted under the previous phase of SOMGEP); nonetheless, the risk of exposing those who report cases to violence and stigmatization remain high, given the volatile context, the dependency on clan-based mechanisms for redress, and the prevalence of traditional norms.

The baseline provides interesting insight on girls' perception of safety, and how those affect attendance and transition. The following tables are excerpted from the attendance and transition sections of this report.

Intersection of girls' attendance and perceptions of safety

	Intervention Attendance (%)	Comparison Attendance (%)	Number of observations for barrier	Significance with 95% confidence level
Barriers				
All in-school girls	90.2	89.7	771	
Feels unsafe on way to school	68.5	91.6	41	
Feels unsafe at school	77.6	94.1	45	

While the number of girls reporting that they feel unsafe on the way to school/ in school is rather small, thus precluding statistically significant differences, their attendance rates in the intervention group differ dramatically from the global average. A similar pattern was observed in transition rates, with girls who report feeling unsafe in school/ on the way to school having significantly lower transition rates.

Girls' transition rates and perceptions of safety

[205] FGD, Boys
[206] Somaliland is in the process of approving laws criminalizing sexual violence.

	Intervention transition rate	Comparison transition rate	Number of observations for intervention + comparison	Significance with 95% confidence level
Characteristics:				
All in-school girls	77.0%	74.0%	897	-
Feels unsafe on way to school	62.0%	66.0%	54	*
Feels unsafe at school	46.0%	78.0%	52	*

SOMGEP-T will continue to track these variables as potential proxies for gender-based violence, and will bring the findings to the attention of MoEs' officials (gender units) as well as CECs and GEFs/BEFs. While the results are not surprising, the quantification of the impact of safety concerns on education outcomes is new in the Somali context, and can be leveraged by MoEs staff, local and international advocates to seek a stronger regulatory framework on GBV, as well as response mechanisms that allow for disclosure and redress of cases.

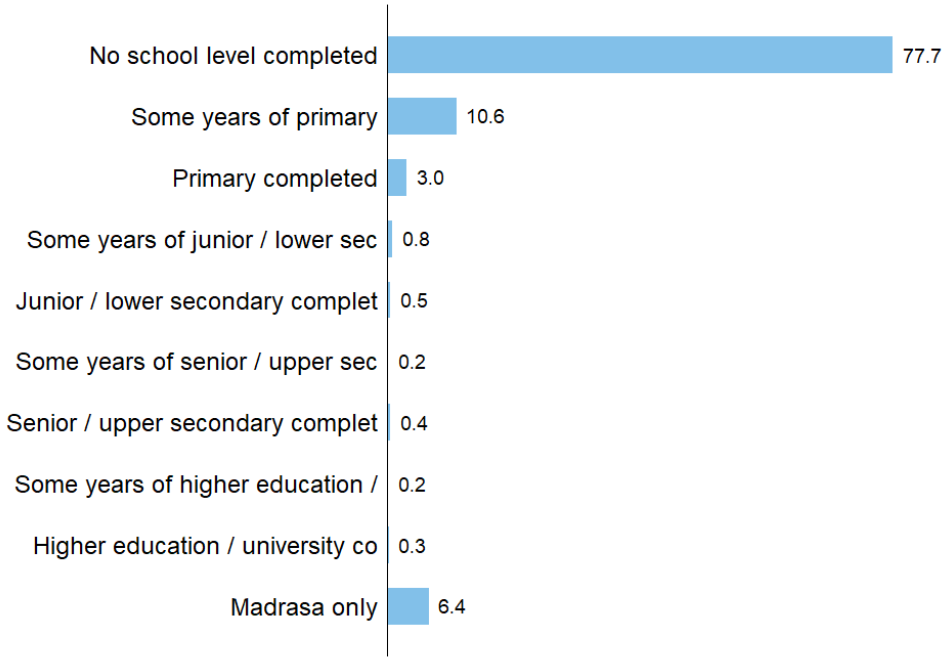
5.6 Economic empowerment

Stimulating positive shifts on gender and social norms is one of the key domains of change that SOMGEP-T aims to target in addressing barriers to girls' education in Somalia. SOMGEP-T will achieve this through the provision of adult education and financial literacy classes for mothers and supporting their financial independence through saving groups (VSLA), business selection, and business coaching and mentoring. This section will present findings related to empowerment, measured through caregivers' education levels, literacy rates, and VSLA participation.

Output 3.2: Caregivers' Literacy

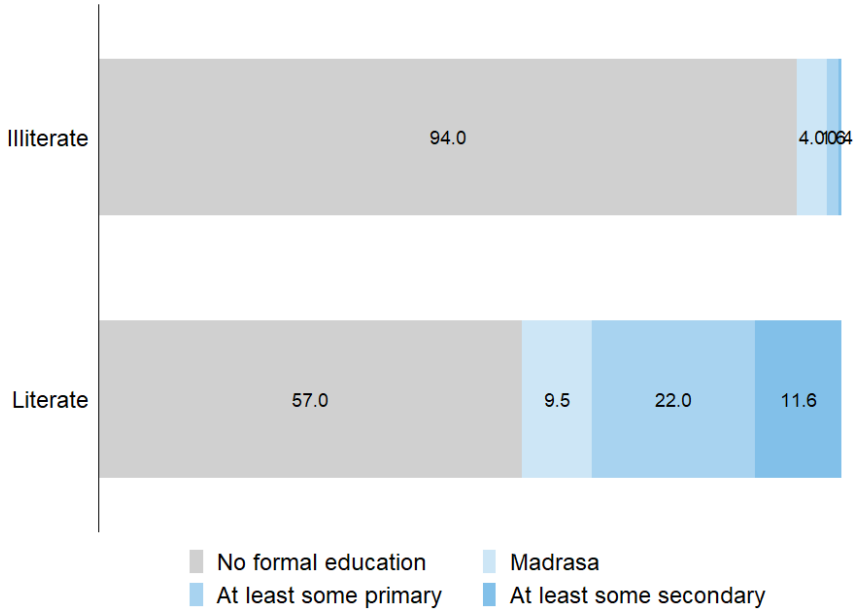
Two indicators have been used to assess caregivers' education: 1) the highest school grade or class they completed when they were in school, and 2) their literacy, measured as their self-reported ability to read a short-written message. The percentage of caregivers who self-report being literate is 44.2 percent. The graph below summarises caregivers' education levels, showing that a majority of caregivers (77.7%) have no formal schooling at all, while 13.6 percent of caregivers have at least some primary education, or had completed primary education.

Figure 39. Caregivers' educational attainment (percent)



As might be expected, there is a high level of correlation between the two indicators of educational empowerment, with literate caregivers also tending to have much higher levels of education, on average.[207] The graph below visualizes this relationship.

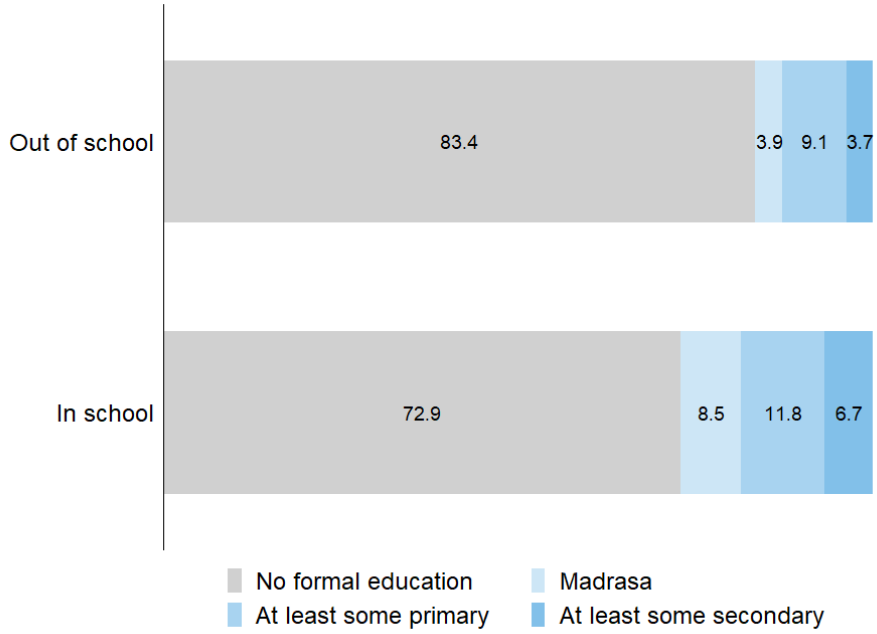
Figure 40. Caregiver's educational attainment by literacy level



The caregivers of in-school girls tend to have attained higher levels of education than the caregivers of out-of-school girls.[208] As shown in the graph below, higher levels of caregiver education tend to be associated with girls being enrolled in school. According to the program's ToC, it is expected that literacy programs for mothers will potentially have a positive impact on girls' education and retention outcomes because educated mothers are more likely to support their daughters' education by helping them with their schoolwork at home. Similarly, educated mothers may tend to have a better understanding of the importance of enrolling their daughters in education and encouraging them to remain in school. The relationship between caregiver literacy and girls' educational outcomes has also been affirmed in the analysis in Section 4 above, which shows that caregiver literacy is positively correlated with girls' literacy scores.

Figure 41. Caregiver's educational attainment by girl's enrolment status (percent)

[207] -0.31, <0.001
[208] Coefficient 0.2, P-value=0.001



The findings above are consistent with the qualitative evidence gathered during FGDs with the mothers of in-school girls. When asked about the importance of education, almost all mothers of in-school girls reiterated the importance of education for boys and girls. Mothers also spoke about how education can help individuals develop, support, and improve themselves as well as their communities and people around the globe. For example, one mother stated that "an educated girl is an educated community. Therefore, she can help herself, family and relatives. Also, it is very important to teach something to girls and to put effort."[209]

		Girl's status	
		OOS	**In school**
Caregiver literate	**No**	63.4%	49.4%
	Yes	36.6%	50.6%
	Total	**100%**	**100%**

Output 3.3: VSLA Participation

[209] FGD, Mothers, Galkacayo, Galmudug

As of the baseline, 10.8 percent of caregivers report that they have savings, and 9.6 percent of caregivers report participating in VSLAs. There are no significant differences between intervention and comparison groups in terms of the proportions of caregivers who participate in VSLAs.

The primary caregivers are more active in VSLA participation among in-school girls as compared with out-of-school girls.[210] The caregivers of the in-school girls have reported themselves twice (12.5%) as active as the caregivers of the out-of-school girls (6.2%), which is shown in the table below. As stated in the program's ToC and affirmed by the analysis of transition outcomes above, girls' attendance and retention can be affected by economic distress at the household level. It is expected that encouraging mothers to engage in VSLA activities may further promote their financial independence and ultimately enable them to support and invest in their children's' educations. This finding is further supported by qualitative evidence from focus groups with mothers. For example, when mothers of primary school girls were asked whether their daughters would be able to continue their studies up to secondary level, the majority of mothers said that they would let their daughters pursue their studies, provided that they did not face major financial constraints. In some cases, such financial hardships cause mothers and heads of household to face difficult tradeoffs in terms of if, and how many, of their children to support in school. Sometimes mothers choose keeping boys in school over girls because of some of the patrimonial viewpoints noted earlier. As one mother explained, "When the family does not have enough money to enroll school both of the children, they put their efforts into enrolling the boy."[211]

		Girl's status	
		OOS	**In school**
VSLA participation	**No**	93.80%	87.50%
	Yes	6.20%	12.50%
	Total	**100%**	**100%**

In conclusion, the caregivers of in-school girls tend to be more educated, more literate, and generally more economically empowered than the caregivers of out-of-school girls. It is also worth noting that there are no statistically significant differences between the intervention and comparison groups in terms of caregivers' levels of educational attainment, literacy, or VSLA participation.

[210] 0.06, <0.01
[211] FGD – Mothers

5.7 Life skills

The project aims to help girls develop life skills including leadership skills, financial literacy, and improved capacities in business selection and management of income generation activities. This section presents an analysis of girls' life skills, operationalized as sets of questions designed to assess girls' leadership abilities, as well as their self-esteem and sense of self-efficacy. Two sets of indicators are used to explore leadership skills: 1) questions based on the CARE International Youth Leadership Index; and 2) questions based on the life-skills module from the standard household survey template.

Youth Leadership Index (YLI)

This section presents findings based on the CARE International YLI. This index is created on the basis of 21 items, where each question asks girls to rate themselves on a four-point Likert scale in terms of how rarely or how often they engage in the following items:

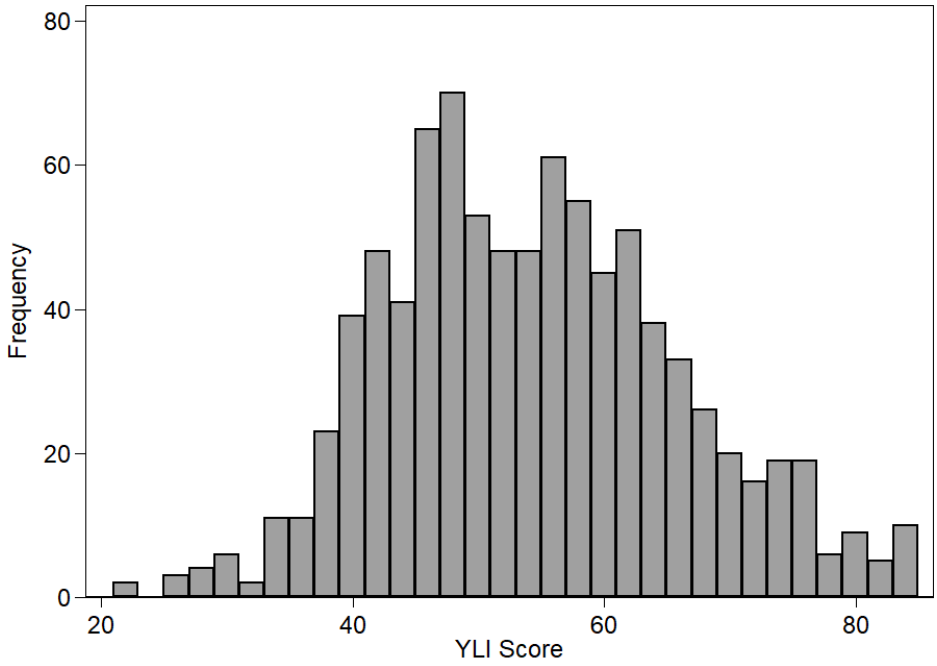
YLI Questions:

q_1 I like to try new activities that I may not know how to do.
q_2 My friends ask me for advice.
q_3 I recognize when people have different skills to contribute to a task.
q_4 I am comfortable when my teacher calls on me to answer a question.
q_5 I contribute ideas to discussions at home even if they are different from others' ideas.
q_6 I ask questions at school when I don't understand something.
q_7 I can describe my thoughts to others.
q_8 The things I do set a good example for my peers.
q_9 I consider possible outcomes of my decisions before making them.
q_10 I accept responsibility for the outcomes of my decisions.
q_11 I recognize when choices I make today can affect my life in the future.
q_12 I can show what is important to me with my actions.
q_13 If someone does not understand me, I try to find a different way of saying what is on my mind.
q_14 I encourage others to join together to help my community.
q_15 I cooperate with others to get things done at home.
q_16 If someone treats me unfairly at school, I am comfortable telling an adult.
q_17 I am willing to work hard to achieve my dreams.
q_18 I am better able to finish a task when I plan ahead.
q_19 When I have the opportunity, I can organize my peers to do an activity.
q_20 I am interested in being a leader at my school.
q_21 I try to understand the cause of a problem before trying to solve it.

All in-school cohort girls were asked to answer the YLI questions, as they are expected to participate in GEFs.[212] The YLI score for a given girl is derived by summing each of the YLI items (which range from 1 to 4), and the total score can potentially range between 21 (lowest possible score) and 84 (highest possible score), with 52.5 being at the midpoint of the possible score-range. A higher YLI score indicates that girls have engaged in more of the positive activities on the scale more frequently.

Excluding girls from the five outlier schools, a total of 887 in-school girls responded to the YLI portion of the household survey. The histogram below describes the distribution of YLI scores for all girls, showing that the scores generally approximate a normal distribution, suggesting that the score is well-constructed and adequately differentiates cohort girls according to their leadership aptitude.[213] The score has a Cronbach's alpha of 0.90, indicating that the index also has a very high level of internal consistency.

Figure 42. Histogram of YLI Scores (in-school girls)

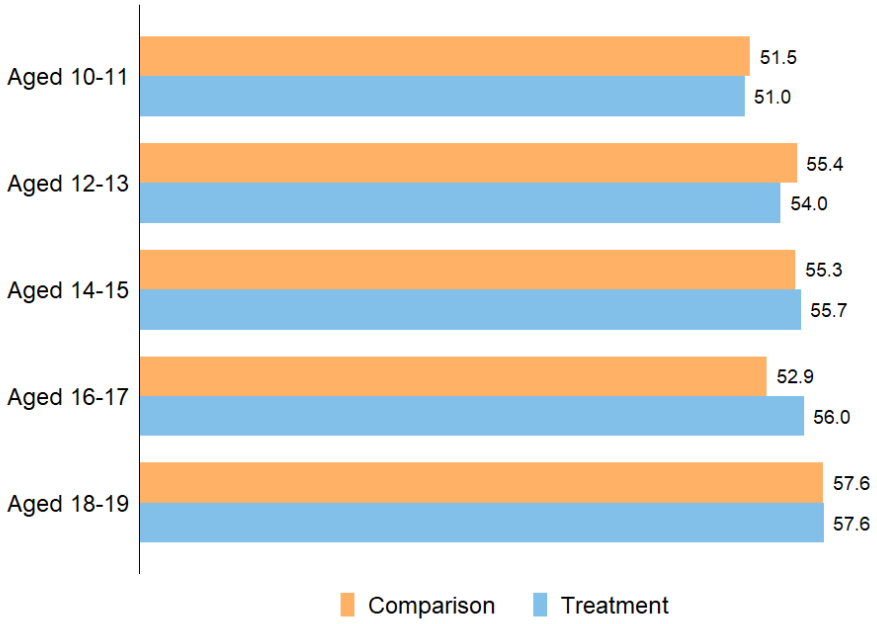


The table below summarises the mean YLI score by intervention versus comparison. The average score for in-school girls (including intervention and comparison) is 54.7, which is just above the middle of the possible scoring range (of 52.5). The differences between intervention and comparison are minimal (and not statistically significant), as shown in the table below.

[212] Since the membership of OOSG will be conditional to their exposure to the project's activities, OOSG would only be assessed once engaged in a GEF.
[213] The skewness and Kurtosis of the girls' YLI scores are 0.25 and 2.86, respectively.

	Intervention mean score	Number of observations
Intervention	54.4	503
Comparison	55.1	384
Total	**54.7**	**887**

Figure 43: YLI scores by age-group, and intervention versus comparison



Finally, there are no significant differences in average YLI score between girls who have or have not participated in the GEF. The average YLI score for girls who participated in GEF is 53.6, and the average for girls who had not participated is 55.3, and that difference is not statistically significant.[214]

The mean YLI scores established here allow for establishment of baseline values for Intermediate Outcome 4 (Life Skills), enabling the longitudinal tracking of progress in this Intermediate Outcome. These scores also provide an opportunity to test some of the assumptions in the Theory of Change, as will be explored in the sub-section below.

Testing the ToC – YLI score

Learning outcomes

[214] YLI score and GEF participation are negatively correlated at p=0.234 in a regression with cluster-robust standard errors.

The ToC suggests that if girls improve their life skills in terms of leadership skills, self-confidence and self-efficacy, that they may perform better in school as a result of being more confident in their abilities and being able to participate more actively in the classroom. Section 4.3 presented a full analysis of the relationship between YLI score and learning outcomes, concluding that the hypothesised relationship between life skills and learning receives moderate support. Girls' YLI scores are positively correlated with both numeracy and literacy outcomes, and that relationship is statistically significant for literacy outcomes.

Attendance

Another hypothesis implied by the ToC is that an increase in leadership skills may lead to increased attendance and participation while at school. To test this hypothesis, the primary caretaker's report of girls' attendance (in terms of the number of days attended during the past month) is regressed against YLI score. Based on this test, attendance and YLI score are not correlated.[215]

The finding that YLI score and attendance are not correlated is consistent with other findings regarding the relationship between determinants of attendance and determinants of learning outcomes. Most of the findings in this study suggest that the strongest predictors of learning outcomes tend to be distinct from the strongest predictors of attendance, even though attendance and learning outcomes are positively correlated (and to a statistically significant extent for literacy).

Life Skills Module

The SOMGEP-T project aims to help girls develop life skills including leadership skills, financial literacy, and business selection and management of income generation activities. This section presents an analysis of girls' life skills, operationalized as sets of age-appropriate questions designed to assess girls' leadership abilities, as well as their self-esteem and sense of agency. Questions differ by age (over 12 and under 12) and by in-school versus out-of-school status. Questions are also divided into three categories by their topic: 1) learning to learn; 2) learning for life; and 3) agency.[216] The full set of questions is presented here for reference:

	Questions	Respondents
Learning to Learn	I am able to do things as well as my friends	Everyone
	I want to do well in school	Only in-school girls
	I get nervous when I have to read in front of others	
	I get nervous when I have to do maths in front of others	
	I feel confident answering questions in class/ group of people	Everyone
	I can stay focused on a goal despite things getting in the way	Only girls over 12
Learning for Life	I would like to continue studying/ attending school after this year	Everyone
	I can put a plan in place and stick with it	Only girls over 12
	I recognize when choices I make today about my studies can affect my life in the future.	
	I can describe my thoughts to others when I speak	Everyone

[215] YLI score and caretaker-reported attendance are negatively correlated at p=0.385 in a regression with cluster-robust standard errors.
[216] These categories and questions were highlighted by DFID as the life skills indicators of concern.

	If someone does not understand me I try to find a different way of saying what is on my mind	Only girls over 12
	When others talk I pay attention to their body language, gestures and facial expressions	
	I can work well in a group with other people	Everyone
	When I have the opportunity, I can organize my peers or friends to do an activity.	
	I often feel lonely at school	Only girls over 12
	I ask the teacher/someone if I don't understand something	Everyone
	When I succeed at school/a task it is because I worked hard	
	If I do well in a test/a task it is because I am lucky	
Agency	Whether or not you will go/back to school	
	Whether or not you will continue in school past this year	Only in-school girls
	When/ at what age you will get married	Everyone
	If you will work after you finish your studies	Only in-school girls
	What type of work you will do / after you finish your studies	Everyone
	How you spend your free time	Only girls over 12
	How often you spend time with your friends	Everyone

These questions are analysed primarily through the examination of key indicators of life-skills attainment and the presentation of results disaggregated by intervention versus comparison, age, and in-school versus out-of-school. Following the analysis of indicators, factor analysis is used to construct an index from the questions asked of each of the four subset of girls. This index is used to analyse the correlates of life-skills with other subgroups of interest.

The sampled girls were divided into four groups depending on their school status (in or out of school) and age (<12 or ≥ 12). Each girl was presented with a set of life-skills questions, with a subset of questions that were common across groups, and a subset of unique questions tailored to the characteristics of each group. The number of questions for each group ranges from 16 to 24 questions and these sets of items are used to examine girls' self-confidence, decision making, organizational and communication skills. Most of the variables are ordinal with Likert-style responses ranging between "strongly agree" with a score of 1 to "strongly disagree" with a score of 5. Table 62 and Table 63 indicate percentages of the girls stating "strongly agree" and "agree" to questions on life skills related to learning and transition, while Table 64 illustrates the percentages of girls stating "I decide" and "I decide jointly with my family" to questions on agency.

Most girls show high levels of confidence across Learning to Learn and Learning for Life indicators. However, there are some notable exceptions related to performance-anxiety: 42.1 percent of girls reported feeling lonely at school; 43.1 percent of girls reported being nervous when they have to read in front of others; and 41.0 percent of girls said that they felt nervous when doing math in front of others.

Girls' characteristics were examined to determine whether or not some subgroups of girls were more likely to report the types of performance anxiety summarised above. Girls who were described by their primary caregiver as seeming very anxious or nervous once a month or more as well as girls who come from households in which the head of household has no education were more likely to be nervous doing academic work in front of others. This finding speaks to the persistence of the effects of generations of poor educational service as well as how mental health impairments may hinder educational engagement.

Table 61. Reported as percentage stating 'strongly agree' & 'agree'

Summary table	**Learning to learn**					
	I am able to do things as well as my friends	**I want to do well in school**	**I get nervous when I have to read in front of others**	**I get nervous when I have to do maths in front of others**	**I feel confident answering questions in class/ group of people**	**I can stay focused on a goal despite things getting in the way**
Intervention	96%	85%	45%	42%	92%	91%
Comparison	95%	82%	41%	39%	93%	89%
Under 12's	93%	86%	45%	43%	90%	NA
12 and over	97%	83%	42%	40%	93%	90%
In school girls	95%	84%	43%	41%	88%	93%
Out of school girls	96%	NA	NA	NA	100%	87%
Sample size (valid responses)	**1626**	**915**	**905**	**904**	**1502**	**1180**

Table 62. Reported as percentage stating 'strongly agree' & 'agree'

Summary table	**Learning for life (Transition)**											
	I would like to continue studying/ attending school after this year	**I can put a plan in place and stick with it**	**I recognize when choices I make today about my studies can affect my life in the future.**	**I can describe my thoughts to others when I speak**	**If someone does not understand me I try to find a different way of saying what is on my mind**	**When others talk I pay attention to their body language, gestures and facial expressions**	**I can work well in a group with other people**	**When I have the opportunity, I can organize my peers or friends to do an activity.**	**I often feel lonely at school**	**I ask the teacher/someone if I don't understand something**	**When I succeed at school/a task it is because I worked hard**	**If I do well in a test/a task it is because I am lucky**
Intervention	92%	86%	91%	91%	92%	86%	85%	88%	45%	87%	89%	83%
Comparison	91%	88%	89%	87%	89%	86%	81%	85%	39%	86%	85%	82%
Under 12's	91%	NA	NA	84%	NA	NA	80%	79%	NA	84%	84%	81%
12 and over	92%	87%	90%	91%	91%	86%	84%	90%	42%	88%	88%	84%
in school girls	93%	87%	92%	91%	91%	86%	85%	89%	41%	89%	90%	85%
Out of school girls	89%	87%	89%	87%	90%	87%	81%	84%	43%	84%	83%	80%
Sample size (valid responses)	**1626**	**1180**	**1181**	**1626**	**1181**	**1181**	**1626**	**1626**	**1179**	**1626**	**1626**	**1626**

For indicators relating to transition outcomes, namely deciding whether to go back to school, continuing in school past this year, whether to work, and what type of work to do, a minority of girls feel that that they decide. Girls more frequently in nearly every case that they make these decisions on transitions jointly with their family. Concerning decisions that relate more to the personal than to education or career, most of the girls have indicated that they feel they have decision-making power regarding when to get married and how to spend their free time. These findings are supported by the qualitative data, which suggests that girls have low levels of agency in making the decision to enrol in school initially, but that (barring economic constraints) their agency increases as they age. The consensus from the qualitative interviews is that economic constraints are the main barrier to the enrolment of children in school, and it appears that gender is still a primary factor for some in deciding which children to send to school first. A mother explains how decisions are made for households that are forced to choose between children: "Yes, the reason is their parents. For example, if they have two boys and one girl, they send the two boys to school and tell the girl to work in the kitchen, to cook food and wash the dishes. They even tell her that education is just useless for her. So, I can say that the biggest reason why many girls do not get the

chance to go to school is housework."[217] Teachers and CEC members mention providing scholarships to girls and carrying out awareness training with parents to encourage girls' enrolment. However, there is some evidence to suggest that once girls reach the age of marriage, around 15 or 16 years of age, the decision to continue or drop out of school is their own. This is well-documented among mothers in other sections of the report, but it should be noted that the agency of girls in making the decision to drop out was also mentioned in the teachers' FGDs: "There are many girls who drop out of school after they are 15 to 16 years old, and they prefer to stay home. We visit them in their home and we ask them all the challenges they face and support to pay their school fee."[218]

Table 63. Reported as percentage stating 'I decide' or 'I decide jointly with my family'

Summary table		**Agency**						
		Whether or not you will go/back to school	**Whether or not you will continue in school past this year**	**When/at what age you will get married**	**If you will work after you finish your studies**	**What type of work you will do /after you finish your studies**	**How you spend your free time**	**How often you spend time with your friends**
Intervention	I decide	38%	27%	29%	29%	39%	40%	37%
	Decide jointly	37%	45%	44%	42%	41%	42%	42%
Comparison	I decide	36%	25%	28%	29%	39%	44%	40%
	Decide jointly	37%	42%	39%	39%	36%	36%	37%
Under 12's	I decide	27%	22%	81%	22%	32%	NA	31%
	Decide jointly	37%	40%	39%	43%	37%	NA	40%
12 and over	I decide	41%	28%	84%	32%	41%	84%	41%
	Decide jointly	37%	45%	43%	40%	40%	39%	40%
In school girls	I decide	37%	25%	85%	29%	39%	85%	33%
	Decide jointly	39%	43%	45%	41%	40%	43%	45%
Out of school girls	I decide	37%	NA	80%	NA	38%	80%	45%
	Decide jointly	35%	NA	38%	NA	37%	35%	34%

[217] FGD – Mothers
[218] FGD – Teachers

Sample size (valid responses)	I Decide	**1626**	**902**	**1626**	**1179**	**902**	**1626**	**1626**
	Decide jointly	**1626**	**906**	**1626**	**902**	**1626**	**1626**	**1626**

According to the project Theory of Change, if girls improve their life skills, they may perform better in school because of more confidence and participations they have in the classroom. Thus, in this method, only three indicators are chosen to examine girls' level of confidence (these indicators are the same indicators were used in the index method). More specifically, these three indicators evaluate girls' ability to speak in front of others and their confidence answering questions when they are in class or in a group of people. Primarily, the following indicators for each group of girls were used (Table 64):

Table 64: Indicators based on school enrolment and age

Out of school and <12 or ≥ 12	
1	I get nervous when I have to speak in front of an adult
2	I get nervous when I have to speak in front of a group of people my age
3	I feel confident answering questions when I'm in a group of people
In school and <12 or ≥ 12	
1	I get nervous when I have to read in front of others
2	I get nervous when I have to do math in front of others
3	I feel confident answering questions in class

Similar to the index method, bivariate regression is used to examine whether girls' indicator score differ across group, school attendance, and GEF membership. The coefficients and p-values of the regressions are reported in Table 65 for out-of-school girls and Table 66 for in-school girls.

Intervention

As shown in Table 65 and Table 66, there were no significant differences between the treatment and comparison group across any of the group of the girls (p-value >0.05).

Table 65: Regression Table of Life Skills against Intervention/Comparison and Previous Attendance for Out-of-School Girls

Out of School	**Intervention** **Comparison**	**Attended school before?**

I get nervous when I have to speak in front of an adult		
12 years old or above	0.07	-0.17
Under 12	0.15	-0.73**
I get nervous when I have to speak in front of a group of people my age		
12 years old or above	-0.01	-0.17
Under 12	0.29	-1.16***
I feel confident answering questions when I'm in a group of people		
12 years old or above	0.09	-0.10
Under 12	-0.21	-0.07

GEF Membership

Being a member of GEF did not show any statistically significant differences (p-value > 0.05) in the responses provided by the students (Table 68).

Table 66: Regression Table of Life Skills against Intervention/Comparison and Previous Attendance for In-School Girls

In School	**Intervention Comparison**	**GEF member?**
I get nervous when I have to read in front of others		
12 years old or above	-0.09	0.90
Under 12	-0.09	
I get nervous when I have to do math in front of others		
12 years old or above	-0.06	0.73
Under 12	0.15	

I feel confident answering questions in class		
12 years old or above	0.14	0.21
Under 12	0.03	

Previous School Attendance

Among the out-of-school girls 12 or older, there is no significant difference between the scores of those who had previous school attendance versus the scores of those who did not have any school attendance (Table 67). However, the girls who are under 12 and attended school in the past provided significantly different scores compared to their counterparts in terms of getting nervous when having to speak in front of an adult as well as in front of a group of people at their age. Surprisingly, most of the girls with school attendance (86%) agree that speaking in front of an adult make them nervous while this is true only among 62% of the girls with no school attendance. Similarly, the girls with school attendance (86%) feel less confident speaking in front of people at their age than their counterparts (55%). This may suggest that the girls who are under 12 and have previous school attendance tend to have less self-confidence when having to speak in public compared to their counterparts with no school attendance.

Girl's Characteristics

When a regression is run of self-confidence variables, getting nervous when having to read or do math in front of others, on the girl's characteristics, it appears that the girls who are reported to have mental health disability (on daily, weekly, and monthly basis) and anxiety as well as those whose caregivers have no education are significantly less confident in reading and doing math compared to their counterparts. Also, the girls who do chores become more nervous when they are in similar situation in classroom than the girls who do not have chores. The self-confidence variables are not significantly correlated with the poverty indicators. Girls' mental health, anxiety, caregivers' lack of education, and chores have negative correlations with girls' confidence in reading and doing math.

Life Skills Index

In order to form a life-skills score for each girl, an index score was constructed using factor analysis to combine the indicators or items considered in the analysis above.[219] Given the four discrete sub-groups formed by the characteristics of in-school versus out-of-school and under 12 versus 12 and up, four separate scores were created, each having its own distributional properties, which are reviewed briefly below. These scores then form the basis for exploration of correlations between life skills and key characteristics of girls, including whether they belong to intervention versus comparison schools, their GEF membership status, their location, and (for out-of-school girls) whether or not they had previously attended school.

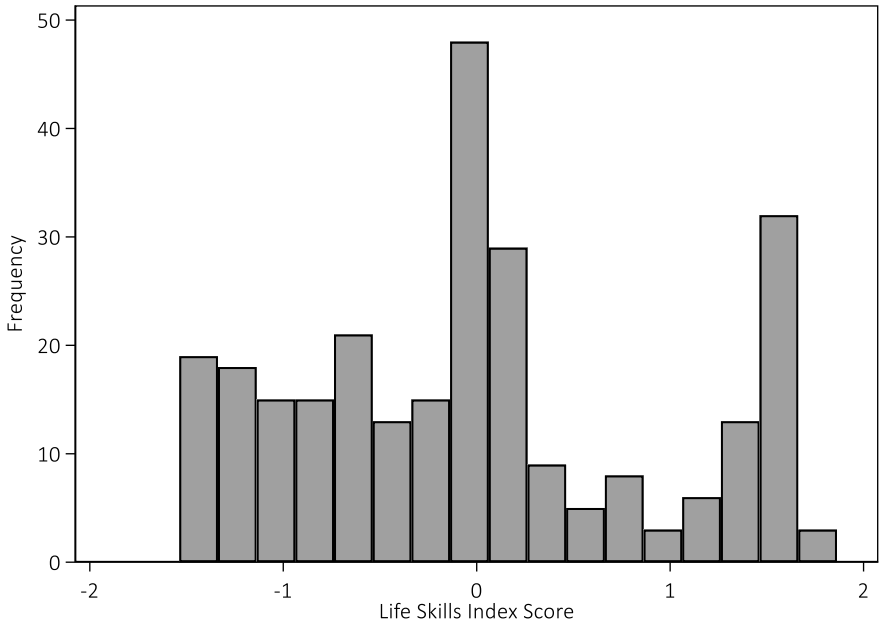
[219] Factor analysis was performed using Stata's *factor* command to produce rotated factor loadings on the basis of life-skills items for each subgroup of girls. These factor loadings were then used as the basis for generating a weighted index score using the *predict* to extract the weighted score based on the rotated factor loadings.

The distributions of these scores are summarised below for each subpopulation, with a brief description of the properties of the score.

In-school Girls Under 12

The scores of the in-school girls under 12 ranges between -1.54 and 1.67 (n= 272) and the most common scores is around zero (Figure 46). The interquartile range (IQR) of girls' score appears to be 1.33 meaning 50% of the girls' scores fall between -0.71 (first quartile) and 0.62 (third quartile).[220] The results of regression show that the only statistically significant difference between the life skills scores of treatment and comparison group can be seen among the girls who are in school and under 12 (β -0.27, p-value <0.05). The negative coefficient means that being in treatment group decreases girls' life skills score by 0.27 points. These girls are not eligible to have GEF membership due to age requirement.

Figure 44. Index Scores of In-School Girls Under 12 Years Old

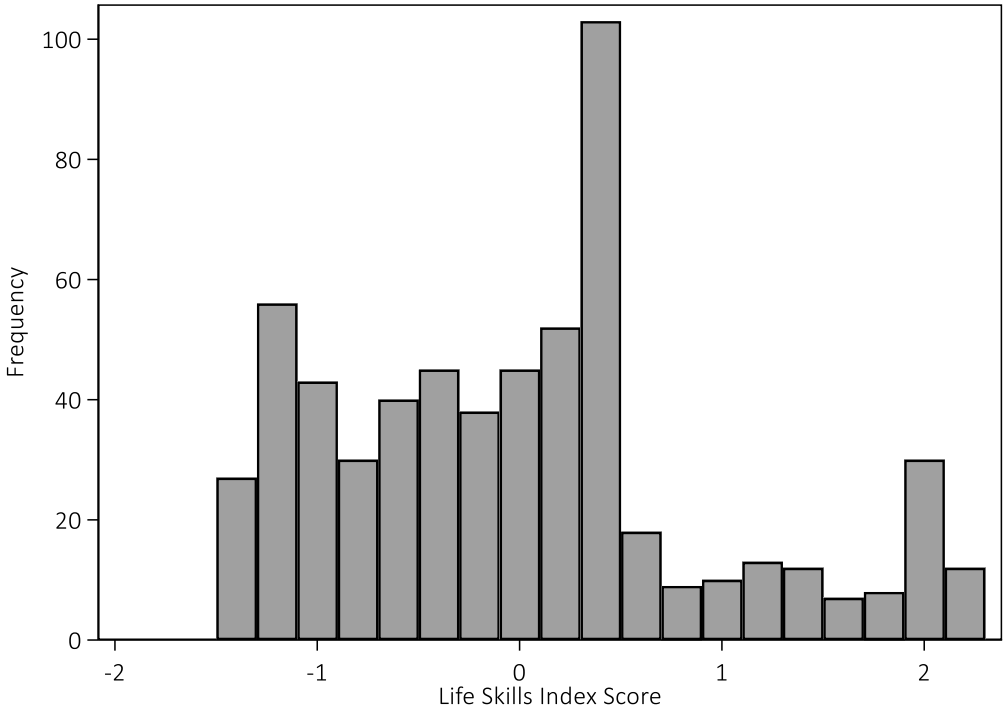


In-school Girls Over or Equal to 12

The lowest and highest life skills scores among this group of girls ranges between -1.49 and 2.16 (n= 598). While the most common score is around 0.5, the IQR is 1.17 with the first (Q1) and third quartile (Q3) of -0.76 and 0.41, respectively.[221] No significant differences were found among the scores of the GEF members and non-GEF members.

[220] The skewness and Kurtosis are 0.31 and 2.12, respectively.
[221] The skewness and Kurtosis are 0.55 and 2.74, respectively.

Figure 45. Index Scores of In-School Girls Over or Equal to 12 Years Old

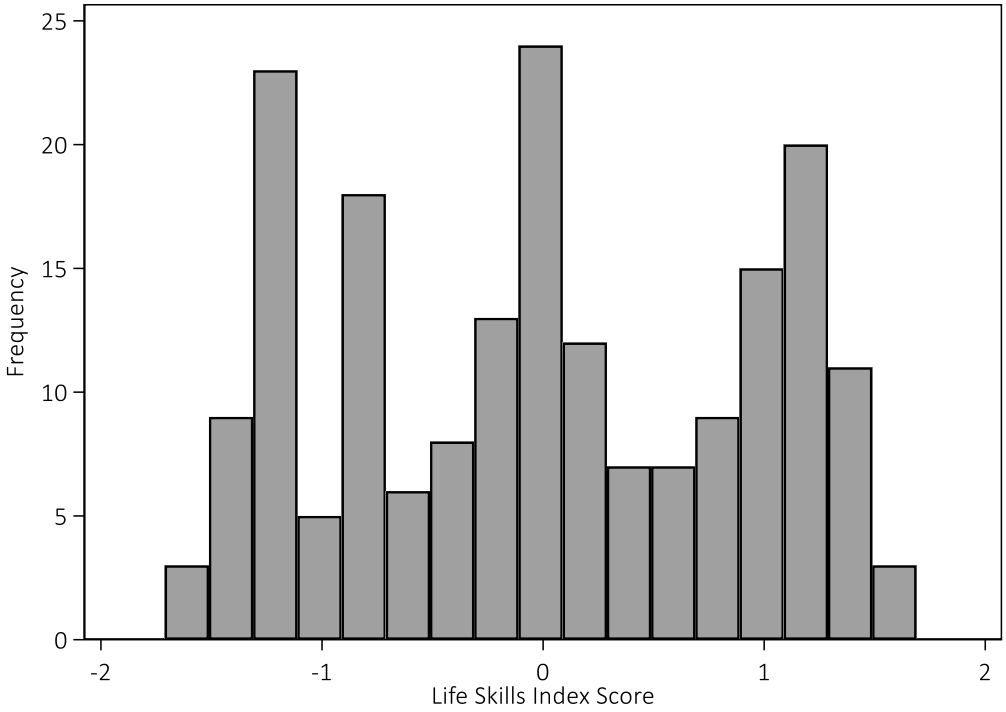


Out-of-School Girls Under 12

The out-of-school girls under 12 scored with the lowest of -1.71 and highest of 1.56 (n= 193). As shown in the histogram below (Figure 48), the scores of these group of girls have a multi-modal distribution. The IQR is 1.8 meaning half of girls' scores fall between -0.81 and 0.98.[222]

Figure 46. Index Scores of Out-of-School Girls Under 12 Years Old

[222] The skewness and Kurtosis are -0.005 and 1.75, respectively.

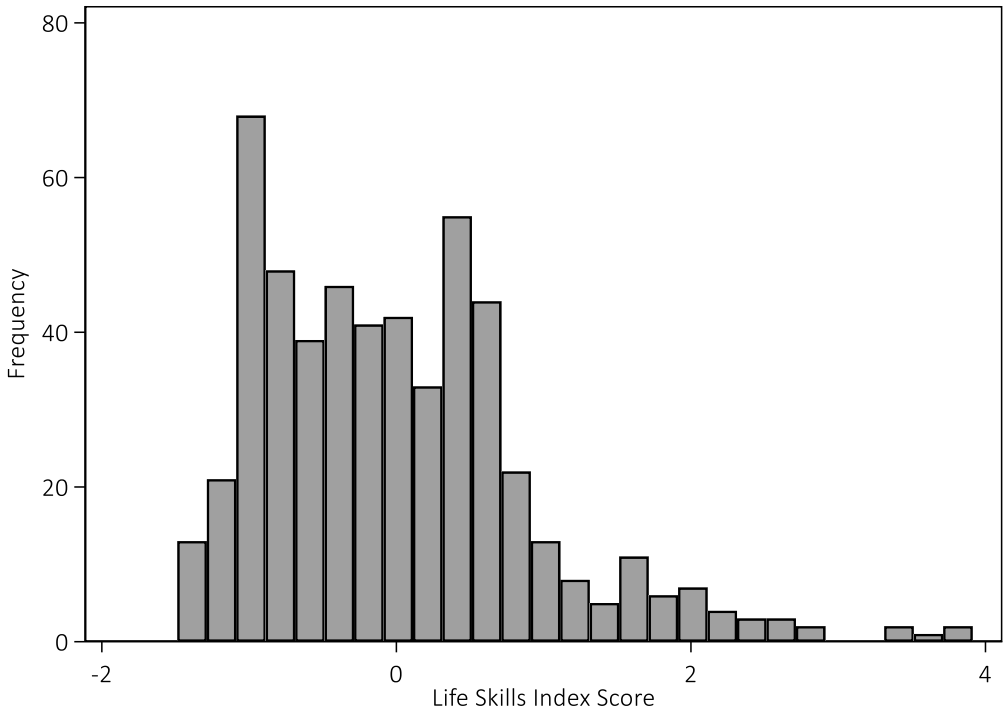


Out-of-School Girls over or Equal to 12

The life skills scores of out-of-school girls with 12 years of age or above appear to be between -1.48 and 3.89 (n= 539). Most of the girls' scores are clustered on the right side of the histogram (right -skewed) (Figure 49) and 50% of the girls' scores fall between -0.76 and 0.51, with IQR of 1.27.[223]

[223] The skewness and Kurtosis are 1.07 and 4.61, respectively.

Figure 47. Index Scores of Out-of-School Over or Equal to 12 Years Old



The scores summarised above formed the basis for examining whether girls' life skills scores differ across group (intervention versus comparison), school attendance and GEF membership. The results of the regressions are reported in Table 67 below.

Table 67: Index Scores Intervention/Comparison and Previous Attendance for Out-of-School Girls

Group of Girls	Intervention/Comparison	GEF Member?	Attended school before?
Out of school & ≥ 12	0.12 (526)		-0.9 (370)
Out of School & <12	-0.24 (180)		-0.15 (133)
In school & ≥ 12	0.08 (553)	-0.05 (553)	

In School & <12	-0.27* (231)		

The results above do not reveal any consistent correlations across the different groups considered. The most important result of this analysis is that life skills are not significantly different by intervention versus comparison groups, except in the case of in-school girls under 12, and this correlation is most likely a result of random chance and does not threaten the comparability of the intervention and control groups in terms of their composition.

5.8 Girls' self-esteem

Self-esteem is not one of the project's intermediate outcomes, but a set of life-skills and YLI questions can be used to make a quantitative assessment of the self-esteem of in-school girls for the purpose of establishing baseline values. The four questions used as quantitative proxies for self-esteem are listed below for reference.

Life-skills module questions

I am able to do things as well as my friends

When I succeed at school/a task it is because I worked hard

YLI questions

q_6 I ask questions at school when I don't understand something.

q_8 The things I do set a good example for my peers.

q_16 If someone treats me unfairly at school, I am comfortable telling an adult.

These questions are all potential proxies for self-esteem, and they have in common their focus on girls placing inherent value on themselves and their contributions to others. In addition, one of the YLI questions (Q6) was selected specifically because it relates to a more behavioural proxy of self-esteem that is often cited in qualitative interviews – namely whether or not girls are too "shy" to ask questions of their teachers when they do not understand something. Both teachers and girls described the problem of shyness as girls showing an unwillingness to participate or ask questions in school. A girl in a focus group explained simply that, "There are some girls who find it difficult to ask the teachers questions because they are shy."[224] Teachers also point to shyness vis-à-vis boys as a reason why girls may perform worse in their studies. A teacher explained that, "In the class competition the boys are more active than the girls, because the girls feel shy about answering something in the class."[225]

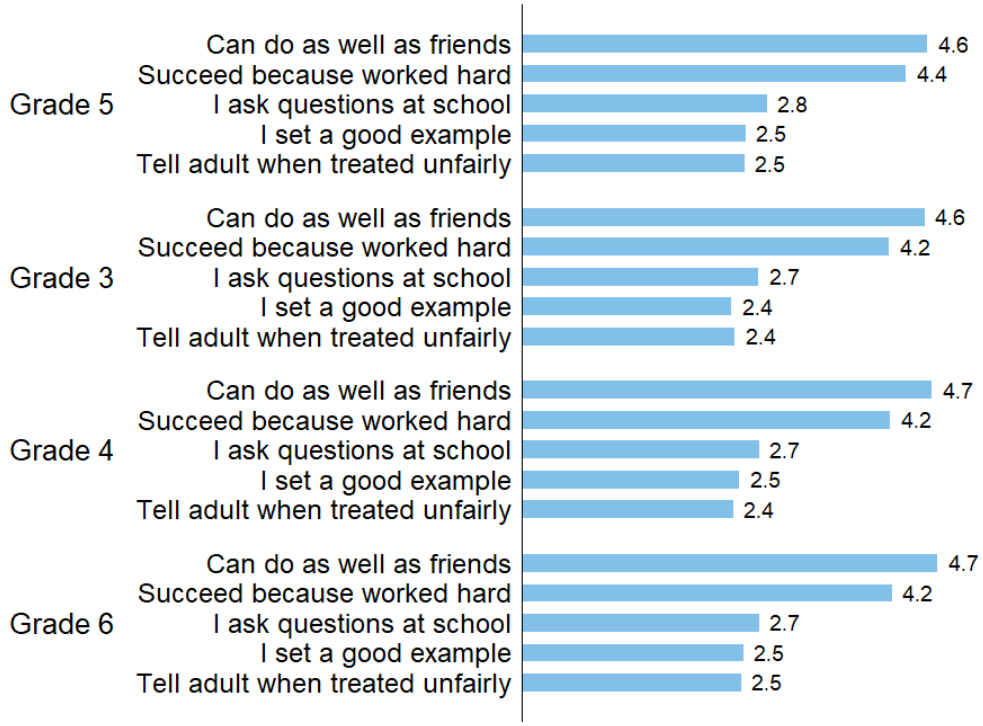
The above examples from the qualitative data relate to girls asking questions when necessary and about girls offering their own answers to teacher's questions. Both of these are important classroom-participation behaviours that could potentially lead to better or worse learning outcomes. As found in the life-skills analysis above, YLI scores are positively correlated with learning outcomes, suggesting that girls with higher self-esteem may perform better in the classroom, partly because they participate more actively. It is important to note that CEC members have cited this same problem and offered an explanation that relates to most instructors being male: "Girls are feeling shy when it comes to questions and the teachers. If girls have a problem with education they can't ask the teachers because most teachers are male, so the problem is a lack of female teachers."[226] The potential link between teacher gender and girls' self-esteem is not explicit, but it might be the case that girls with female teachers have more positive female role-models in their lives and thereby also have higher self-esteem. This link is

[224] FGD – Girls
[225] FGD – Teachers
[226] FGD – CEC

worth investigating in future project evaluations, especially if teacher data can be more readily linked with data from cohort girls.

The table below summarises the mean score for each of these questions by intervention versus comparison, excluding outlier schools. The life-skills questions are on a five-point Likert scale, whereas the YLI questions are on a four-point scale. The difference in the scales helps to explain why the means of the YLI questions are much lower than the means of the life-skills questions. Ultimately, there are no significant differences in terms of proxies for self-esteem in terms of intervention versus comparison girls.

	Mean for Intervention	Mean for Comparison
Life skills:		
I am able to do things as well as my friends.	4.6	4.7
When I succeed at school/a task it is because I worked hard.	4.3	4.2
YLI:		
I ask questions at school when I don't understand something.	2.7	2.8
The things I do set a good example for my peers.	2.5	2.6
If someone treats me unfairly at school, I am comfortable telling an adult.	2.5	2.6



The potential significance of self-esteem was emphasised in the above analysis on correlations of life and leadership skills with learning outcomes because increased classroom participation is hypothesised to be the mechanism by which life skills and self-esteem might affect learning outcomes. Providing support for this hypothesis, the best predictors of girls reporting that they tend to ask questions at school are the other self-esteem indicators from the YLI, which are respectively: “The things I do set a good example for my peers;” and “If someone treats me unfairly at school, I am comfortable telling an adult.”

Because important classroom participation behaviours are potentially a result of variations in girls’ self-esteem, it will be important to continue tracking YLI scores as an overall proxy for girls’ confidence and self-esteem. However, there is no clear benefit to continuing to attempt to measure and estimate girls’ self-esteem as discreet from girls’ overall YLI scores, which clearly encompass and measure important elements of self-efficacy and self-esteem.

6. Conclusion & Recommendations

6.1 Conclusions

Beneficiary profile and barriers

The most prevalent characteristics of marginal beneficiaries were those related to poverty and pastoralism at the household level, as well as lack of education and low literacy among caregivers and heads of household. Among in-school girls in the intervention group, 89.5 percent had homes with roofs constructed from mud, thatch, wood, or temporary materials such as tarpaulin, which are taken as a proxy indicator of poverty, but may also be an indicator of a pastoralist lifestyle. If estimated based on the reported occupation of the head of household, approximately 10 percent of households of in-school girls in the intervention group are pastoralist, and the proportion of pastoralist households is significantly higher among out-of-school girls (at 15%). With regard to girls' caregivers and heads of household, 71.5 percent of in-school girls at intervention schools have a caregiver who has had no formal education, and 65.9 percent of girls have a head of household who had no formal education. The most commonly faced barriers included those relating to low teacher quality, including the use of corporal punishment in the classroom, as well as high chore burden at home, along with girls having little discretion over whether or not they can attend school.

Learning Outcome findings

Aggregate learning assessment scores for in-school girls are: literacy = 24.9; numeracy = 40.2; and financial literacy = 15.5.[227] These do not vary significantly by intervention versus comparison girls. Scores for out-of-school girls are significantly lower: literacy = 8.4; numeracy = 13.1; and financial literacy = 9.4.[228] The primary skill gap in numeracy emerges between simple addition and subtraction, with a 17.4 percentage point increase in the proportion of non-learners from subtask 2 to subtask 3, suggesting that a significant number of in-school girls are failing to acquire foundational skills in subtraction. The primary skill gap in Somali literacy opens between medium and difficult levels of reading comprehension, with a 14.8 percent increase in the proportion of non-learners from subtask 3 to subtask 5, and a corresponding drop (by 21.4%) in the proportion of proficient learners. Baseline English literacy levels are extremely low. Nearly half (48%) of the cohort girls could not read any English words, thus falling into the non-learner category on subtask 2. Low levels of proficiency in reading English words create a stark barrier to learning on any subsequent reading or writing-related subtask. Even the girls who could read some English words tended to fall into the emergent or established learner categories, indicating a comparatively low level of mastery of the skill. Because of those low levels of mastery, the jump from English phonetics to English comprehension is prohibitively difficult.

Girls with disabilities and girls from pastoralist households are particularly disadvantaged and tend to have significantly lower learning outcomes than their peers. In terms of barriers that girls face, poorly-resourced schools, along with poor principal and teacher performance are all statistically significant

[227] These scores are unweighted averages, including both intervention and comparison schools, and excluding five outlier schools that belonged to the comparison group (more on this limitation in Section 2 and Section 4).
[228] These scores are unweighted averages, including both intervention and comparison schools, and excluding five outlier schools that belonged to the comparison group (more on this limitation in Section 2 and Section 4).

predictors of lower learning outcomes. Gender inequality in schools also predicts lower learning outcomes, along with having a disengaged caretaker who has never visited the girl's school.

There is a consistent disparity in learning assessment scores between girls and boys, with boys having higher average scores than girls in both literacy and numeracy, across each grade-level (as well as out-of-school boys). The exception is that girls have somewhat higher financial literacy scores than boys (in the aggregate). Because financial literacy is not taught in school, it may be the case that girls have a higher level of financial knowledge than boys (on average) because girls tend to accompany their mothers to the market and may help out with small-scale trading businesses and thus learn some important financial concepts (e.g. *profit*) experientially, whereas boys do not.

Skills gaps are consistent across girls and boys, suggesting that these gaps may be reflective of consistent gaps in teacher skills. Poorly resourced schools, along with poor principal and teacher performance (as reported by caregivers) are all statistically significant predictors of lower learning outcomes. Gender inequality in the classroom also predicts lower learning outcomes.

Transition Outcome findings

The baseline transition rate for cohort girls is 50.8 percent for girls at intervention schools, which is nearly identical for girls at comparison schools (at 50.5%). The transition rate for benchmark girls is 48.8 percent, which is also similar to the transition rate for cohort girls. Successful transition points for in-school girls include progression from grade to grade, as well as movement into gainful employment, TVET, or ASLP for older girls. For out-of-school girls, the primary successful transitions are re-enrolment in formal education, enrolment in ASLP, or (for older girls) transition into gainful employment.

Across both in-school and out-of-school girls, the consistent predictors of lower transition rates are anxiety and depression (as reported by the caregiver), as well as high chore burden. In addition, most of the significant barriers to transition for in-school girls relate to fear and potentially to their psychosocial health, including whether or not girls are fearful of their teacher and whether or not girls feel safe at school and on their way to school. For in-school girls, being instructed in a language other than their mother tongue is also a significant predictor of failing to advance to the next grade. For out-of-school girls, high chore burden, a pastoralist lifestyle, marriage, motherhood, and poverty are the most consistent predictors of girls dropping out of school or remaining out of school.

Sustainability Outcome findings

At the centre of project sustainability is the expectation that CECs will provide continued material support to schools after the end of SOMGEP-T's interventions; however, the current low levels of CEC support pose a substantial obstacle to that goal. At the school-level, 17 percent of teachers say that their school has received financial support from their CEC in the past year, 19.5 percent say that their school has received in-kind support, and only 13.4 percent describe the community's support of the school as sufficient. Almost a quarter, 23.1 percent, of all teachers said that they received either financial or in-kind support. At the community-level 67.2 percent of caregivers of in-school girls reported that their girl's school had a CEC, but the proportion of reportedly active CECs is much lower at 41.6 percent. Only 13.5 percent of caregivers said that they were involved in the CEC, suggesting relatively low levels of community support for CECs at the baseline. It is also important to note that there are inconsistencies, by school, in terms of caregiver and teacher reports of whether or not that school has an active CEC. These discrepancies may indicate some level of misunderstanding (on the part of caregivers or even teachers)

in terms of what a CEC is. These discrepancies may also indicate that CECs have very limited reach into communities, which would explain why so few caregivers report that CECs are active, as well as why many caregivers in communities with purportedly active CECs (based on teacher reports) might still report that there is no CEC.

At the system level, a substantial number of REOs described the inability of CECs to meet school funding gaps, as well as the inability to meet the needs of teachers who had not received their salaries for extended periods of time. These REOs warned of issues in retaining teachers, obtaining teaching materials, and school infrastructure problems that arise due to a lack of funding.

Intervention schools were found to be significantly more likely than comparison schools to receive contributions in the form of financial support, in-kind support, and in the payment of salaries for male teachers. Annex 11 will address the evaluation challenges posed by differences between intervention and comparison groups.

Intermediate Outcomes findings

Attendance

The school attendance rate for cohort girls established through a headcount (during a single day of data collection) was 83.3 percent of total girls enrolled, which is already quite high at the baseline. These headcount rates are also positively correlated with caregivers' assessments of girls' attendance, which suggest an attendance rate of 90.3 percent. School records were only available for approximately 28 percent of in-school cohort girls, and the school records that were available consistently over-estimate attendance vis-à-vis the other available sources (92.4%).

The ToC hypothesizes that higher attendance rates will in turn lead to better learning outcomes. When this hypothesis is investigated by regressing attendance rates as a predictor of learning outcomes (i.e. numeracy and literacy scores) attendance is shown to be a significant and positive predictor of learning outcomes, but only for literacy scores. This finding reinforces the notion that teachers are broadly struggling to teach some of the more difficult numeracy skills tested, particularly multiplication, division, and problem solving. Numeracy skills plateau around grade 5 (at the higher skill levels) and then higher attendance has no additional effect on improving them.

School Management and Governance

A minority of schools in the sample have active, engaged CECs (43.2% in intervention schools; 32.4% in comparison schools). In general, intervention schools are more likely to have an established CEC, and CECs in intervention schools are more active, on average, than their counterparts in comparison schools. Differences in CEC engagement are especially pronounced in the case of school monitoring activities, where intervention school CECs are about twice as likely to have engaged in school monitoring visits than comparison school CECs.

The ToC implies that schools with active CECs and that are better supported by their CECs will ultimately deliver higher quality education to girls who will then perform better and have lower dropout rates. As

predicted, girls in communities with active CECs have significantly higher literacy and numeracy outcomes than girls in communities with inactive CECs or no CECs.[229]

Teaching Quality

Teacher absenteeism and the use of corporal punishment remain significant problems, with just under half (46.1 percent) of teachers indicating that they use corporal punishment in the classroom, a share that is confirmed by reports from students. The use of participatory and student-centred teaching methods are widespread but relatively superficial. For instance, over two-thirds of observed teachers encouraged participation by calling on students who were not participating. But more effort- and planning-intensive types of participatory methods, such as planning group work or student-centred games, are less commonly used.

As implied by the ToC, there is a clear correlation between low teaching quality (as reported by the primary caregiver) and lower learning outcomes. Among in-school girls, low teaching quality predicts lower literacy and numeracy scores (with the correlation being statistically significant for literacy).[230]

Community-based attitudes

Qualitative evidence suggests that there is an ongoing debate among parents, caretakers, and teachers in Somalia, centring on two competing narratives: on the one hand, many adults are adopting a (international/Western) discourse of the universal importance of education and gender equality; on the other hand, many people voice more traditional, patriarchal views that girls' education is unimportant because they should primarily be raised to become good wives and mothers, whereas boys need to be educated because they will grow up to do more 'important' things than girls.

In contrast to the conflicting adult perspectives, boys and girls interviewed for this study all shared egalitarian perspectives with regard to the importance of education and shared views suggesting that (in their opinion) girls could grow up to make equal contributions to society and pursue all of the same careers and opportunities as boys.

Economic empowerment

By all measures, baseline levels of economic empowerment are exceedingly low. A majority of sampled caregivers report being illiterate (55.8%) and having no formal education (77.7%). Only 10.8 percent of caregivers report that they have savings, and 9.6 percent of caregivers report participating in VSLAs.

Output 3 is based partly on the hypothesis that improving the literacy (and financial literacy) of mothers will improve their ability to help their daughters with schoolwork at home, and thus may correspondingly improve girls' learning. The hypothesis in question is tested through a regression with carer literacy as a predictor of girls' literacy. As expected, caregiver literacy is positively correlated with girls' literacy scores, but the correlation is not statistically significant.[231] In addition, caregiver education-level is also correlated

[229] In a regression of literacy against active-CEC (coded 1 if active and 0 otherwise) with cluster-robust standard errors, p=0.000. In a regression of numeracy and active-CEC with cluster-robust standard errors, p=0.008.
[230] The correlation between teaching quality and girls' literacy is statistically significant in a regression with cluster-robust standard errors, at p=0.025.
[231] The correlation between caregiver literacy (coded as 1 if the caregiver reports being able to read and 0 otherwise) and girls' literacy is not statistically significant, with p=0.203.

with literacy scores. Girls have significantly lower literacy score if their caregivers reported having no formal education.

Life skills and self-esteem

Baseline levels of girls' life skills are primarily established through the Youth Leadership Index score, which is 54.7 for in-school girls (a score that is just above the middle of the possible scoring range of 52.5). Higher YLI scores are correlated with better learning outcomes as well as higher levels of self-esteem. Qualitative and quantitative evidence suggests that there is a strong link between girls' levels of confidence and self-esteem, and their willingness to participate in the classroom, which in turn tends to affect their learning outcomes.

The project ToC hypothesises that if girls improve their life skills in terms of leadership skills, self-confidence and self-efficacy, that they may perform better in school as a result of being more confident in their abilities and being able to participate more actively in the classroom. In the case of numeracy, girls' scores are positively and significantly correlated with their YLI scores.[232] In the case of literacy, the correlation is positive but is not statistically significant. Thus, the hypothesis about more leadership skills leading to higher academic performance finds a moderate level of support in the baseline data.

Project approach to gender inequality

The project takes a robust approach to the measurement of gender inequalities and the understanding of vulnerable subgroups in terms of learning outcomes as well as intermediate outcomes. The baseline findings have revealed consistent gaps between girls' and boys' learning outcomes, with boys having higher average scores than girls in both literacy and numeracy. The qualitative data suggests that this aggregate score-gap between boys and girls may be a result of the fact that girls are less confident than boys in terms of participating in class and asking for help when they need it. Some teachers also may be reinforcing this gender gap by treating girls differently from boys in ways that may discourage girls in the classroom. At home, girls tend to have a higher burden of performing chores (than boys) and systemically, girls are still subject to patrimonial social norms that devalue girls' education.

Despite differences in average assessment scores, boys and girls demonstrate the same fundamental skill gaps in terms of numeracy and literacy, which suggests that these gaps are probably a product of objective gaps in teachers' skills. In terms of attendance, there also no significant differences between boys and girls.

Through the analysis of baseline data, girls belonging to pastoralist households have been confirmed to be among the most consistently marginalized, and the project has focused data collection on these girls (in-school and out-of-school) in such a way as to gain a comprehensive understanding of their situation, with the intention of delivering tailored programming.

Pastoralist girls are also potentially subject to negative stereotypes related to their comparatively low socioeconomic status, itinerant lifestyle, and the fact that they may have not previously been enrolled in school (and thus will not be as comfortable in the classroom as other girls their age). Across FGDs, families from vulnerable communities, especially pastoralists, were framed as uneducated victims who lag

[232] YLI score and numeracy score are correlated at p=0.009 in a regression with cluster-robust standard errors. YLI score and literacy score are correlated at p=0.393 in a regression with cluster-robust standard errors.

behind the rest of the country in appreciating the importance of girls' education and are in need of financial assistance and education from others in local communities. As one CEC member describes, "We mobilize the pastoralist families, and their children as well. People care more about livestock than of humans because their lives depend on livestock. However, we have tried to mobilize them as we place every child from pastoralists in school and now it looks like it works well."[233] Another explains, "The main challenges include the poor people and a poor economy. Some of the parents are not understanding the value of girls' education."[234] A mother explains, "There are more communities that drought affects, and they do not know about education at all."[235] Another mother says, "They are poor, sick and they don't have shelters also. Only Allah knows their situation."[236]

The project is promoting gender equality through nearly all of its planned interventions, and some planned interventions demonstrate the potential to be gender transformative, namely: extensive engagement with the MoEs. The project also shows the potential to be gender transformative through and engagement in a "broad social movement towards changes in gender norms and power relationships affecting girls (and also boys), using the VSLAs and literacy courses for mothers as platforms for dialogues on gender and girls' education." This intended transformative outcome has added promise because baseline measures indicate that there is significant room for progress on the associated indicators and progress has the potential to be measured quantitatively and qualitatively across the lifespan of the project.

Girls' and Boys' empowerment forums also have gender-transformative potential because they focus on educating and re-educating girls and boys into more gender-equitable ways of thinking. The CARE Youth Leadership Index provides a means of quantifying progress in terms of the social empowerment of girls, including improvements in their "self-confidence, voice, vision and decision-making," which may lead to corresponding increases in their classroom participation, thereby helping to reduce the overall gender gap in learning outcomes between boys and girls. Some evidence of these transformations is already present in the qualitative data and is potentially attributable to the SOMGEP project that began in 2013. Teacher training in gender-equitable pedagogy is another important prong of this approach.

6.2 Recommendations

Monitoring, evaluation and learning of the project

- Findings from the analysis of learning outcomes suggest that there may be significant gaps in teachers' knowledge and teaching skills in both numeracy and English literacy. This is an important hypothesis that could bear further testing. One of the more direct tests of this hypothesis would involve having teachers take a numeracy and literacy examination that would directly test their own skill-levels. Then, teacher's skill-gaps could be analysed alongside the skill-gaps of their students.
- Linking girls and their teachers (across evaluation datasets) is critical in order to allow more direct analysis of the linkages between teacher quality (measured through classroom observation and teacher surveys) with data on girls' learning. While this level of direct linkage was not possible in

[233] FGD, CEC
[234] FGD, CEC
[235] FGD, Mothers
[236] FGD, Mothers

the baseline study, it will be possible and advisable to achieve this linkage in the midline and endline studies. The best way of achieving this linkage will involve the creation (prior to the midline) of a dataset of all teachers by school (for sampled schools). Teachers can then be assigned unique teacher-codes that can be programmed into both the teacher surveys and observations, as well as the girls' learning assessments. Girls will thus be able to supply the names of their teacher or teachers during the course of the learning assessment, and the names supplied by girls will be used (through the unique teacher-codes) to link girls' data with teachers' data.

- School attendance record-keeping admits significant room for improvement. Only 25.4% of all surveyed schools monitor student attendance, and even fewer (16.9% of surveyed schools) monitor student retention according to principals/head teachers of schools. CEC and MOE monitoring of the record keeping of attendance could be improved with visits (at least once per year) by these governing bodies. Currently, CECs have only conducted monitoring visits to 46.5% of all schools surveyed.
- The project would benefit from a more precise definition of 'active CEC,' such that this concept can be more consistently operationalised and measured as part of monitoring and evaluation. Based on the baseline findings, even teachers disagree about whether or not their school has an active CEC. This is likely a problem of lack of conceptual clarity, but it may also be a problem of teachers not being adequately apprised of school governance structures in their schools. The project should also clearly specify how a definitive coding (of active/inactive/non-existent CEC) can be reached in the event that there are discrepancies among school and household-level data.
- The analysis of YLI findings, as compared with proxies for self-esteem, suggests that there is no need to measure or analyse self-esteem separately from YLI score. The YLI score encompasses most of the important operational elements of self-esteem, including the question of whether or not girls feel comfortable and confident enough to ask questions in class when they do not understand the material being covered.

Project design and relevance

- Fundamental learning skill gaps exist in simple addition and subtraction, as well as in basic English phonics. These skill gaps are sufficiently severe and fundamental that girls who miss the acquisition of these skills will require significant attention and remedial work in order to catch up with their peers and acquire new skills. The elimination of these skill gaps will probably require focused tutoring, which the project could support through the CEC providing support for an after-school program for girls who are falling behind.
- Numeracy skills tend to plateau at grade 5, and at the more difficult skills tested on the SeGMA examination. This plateau is probably a result of the limitations of teachers' skills in numeracy instruction. English literacy presents similar problems of skill plateaus that appear to be primarily a result of limitations to teachers' skills. The project should ensure that the curriculum for teacher training focuses on the development of these specific skills.
- Girls belonging to pastoralist households are clearly among the most marginal in the sampled population. The project should attempt to encourage and facilitate CEC outreach efforts that are already underway in some communities to ensure that pastoralist families enrol their children in school. In communities where such outreach efforts are not underway, the project should seek to foster the growth of CECs and to encourage CECs to engage in appropriate outreach efforts. Because pastoralist girls tend to drop out and stay out of school, they may need additional

encouragement and incentives beyond those normally offered to cohort girls. In particular, pastoralist girls who are re-enrolling in formal education will require additional tutoring or help with their studies in order to compensate for the fact that many have been out of school or have had lower-than-average attendance levels.

- In light of findings related to “shyness” of girls, teasing, and norms that either discourage girls’ re-enrolment after marrying or discourage their participation while at school, it would be prudent to facilitate changes in classroom settings that might empower girls. Along these lines, teachers and CEC members recommended increasing the number of female teachers as a means of empowering girl students, increasing their classroom participation, and ultimately improving their learning outcomes and retention. The project could potentially encourage the hiring of more female teachers by working through CECs to actively recruit qualified female teachers (even from neighbouring communities). The project might also consider providing scholarships for the training of female teachers, or providing other incentives that would make a long-term contribution to the development of qualified female teachers.
- Improved teaching methods require planning on the part of teachers. It is not sufficient for teachers to understand the value of participatory methods – they must be trained on their implementation in practical terms. Teacher trainings could illustrate how to develop a lesson outline and recognize areas that would be conducive to group work, games, and other student-centred activities.
- The project’s initial efforts regarding school management should focus on establishing active CECs that meet regularly (i.e. a minimum of once per term). The biggest gains in school governance will come from simply establishing institutions of governance.

Scalability and sustainability

- Principals and teachers can be taught to proactively identify girls who have missed a significant amount of class and who are at-risk of dropping out of school. The project can potentially share its analysis back to the targeted schools in a way that allows teachers to better identify at-risk girls. It might also be possible for principals to be trained by the project to better understand and interpret their own school records in terms of attendance and student grades in order to identify girls who are likely to drop out and potentially provide them with additional tutoring or coordinate with the CEC to see if the barriers those girls are facing can be removed.
- In addition to working with CECs to develop context-appropriate strategies for retention and transition, incorporating training to develop the fundraising capacity of CECs may help the project achieve its sustainability outcome. The economies of surveyed communities are often described as struggling by CEC members, however it is likely that more can be done to raise funds or in-kind contributions when 76.9% of teachers have said that their schools have not received either financial or in-kind contributions.
- Among active CECs, attention should be given to management activities that are low-cost but high-impact, recognizing the limited financial resources of communities and CECs themselves. To the extent possible, CECs should also be trained in fundraising and provided with informational resources that might allow them to raise funds outside their communities, from government agencies and donors.

Project contribution: Response to conclusions and recommendations

- The recommendations above should come from the External Evaluator. The project should add a short response to the recommendations in light of the conclusions of the Baseline Evaluation Report in Annex 13.
- Project response to evaluators' comments on gender approach used and how well gender is integrated through the project.

Annexes

Annex 1: Logframe

The latest version of the project logframe is provided separately.

Annex 2: Outcomes Spreadsheet

The latest version of the project's Outcomes Spreadsheet is provided separately.

Annex 3: Key findings on Output Indicators

This annex should be completed by the project.

Table 68: Output indicators

Logframe Output Indicator	Means of verification/sources	Collection frequency
Output 1: Improved access to post-primary options		
Output 1.1: Percentage of project locations with an alternative secondary learning group	ASLP Monitoring Tool Observation of ASLP activities in all locations by project M&E officers[237]	Termly (starting at the onset of ASLP activities)
Output 1.2: Percentage of	ASLP monitoring tool	Termly (starting at the onset of ASLP activities)

[237] In case the school was not accessible due to conflict in the area or natural disasters, remote monitoring will be used. Data will be cross-checked between multiple respondents and discrepancies will be verified once the area becomes accessible.

ASLP groups providing life skills training to marginalised girls	Observation of a sample of life skills activities in ASLP groups by project M&E officers[238]	
Output 1.3: Percentage of girls receiving partial grants who remain in school	Partial grants tracking tool Remote information provided by principals (all girls); sampled verification of enrolment and attendance records for partial grants recipients and cross-verification of physical presence	Termly
Output 2: Supportive school practices and conditions for marginalised girls		
Output 2.1: Percentage of teachers not using corporal punishment	Classroom observations; FGDs with students Observations conducted by project technical staff during coaching visits; interviews with groups of students and teachers	Termly
Output 2.2: Percentage of teachers using the digital learning platform	Back-end data on access to the platform and length of use triangulated with interviews with students and classroom observations (conducted by project technical staff)	Monthly (starting at the deployment of the digital learning platform)
Output 2.3: Percentage of Girls' Empowerment Forums providing life skills sessions according to the guidance	GEF monitoring tool Data collected through observation of GEF activities and interviews with participants/ mentors by M&E staff	Termly
Output 3: Positive shifts on gender and social norms at community and individual girl level		
Output 3.1: Number of women mentors providing support to marginalised girls	Triangulated information from interviews with mentors and girls (for verification) used to prepare monitoring visit reports	Termly
Output 3.2: Number and percentage of mothers completing	NFE completion records verified and collected by M&E officers in all locations	Annual

[238] In case the school was not accessible due to conflict in the area or natural disasters, remote monitoring will be used. Data will be cross-checked between multiple respondents and discrepancies will be verified once the area becomes accessible.

literacy courses		
Output 3.3: Percentage of active village savings groups in project areas	VSL Monitoring and Information System – verification of records of a sample of groups and surveys with a sample of VSL members, conducted by M&E officers	Quarterly
Output 4: Enhanced MOEs' capacity to deliver quality and relevant formal and informal education		
Output 4.1: Number of Gender Units conducting activities to promote girls' transition and learning	Reports of engagement with Gender Units, using a structured approach to capture information obtained by project technical staff engaged in MoEs' capacity building	Quarterly
Output 4.2: Percentage of REOs/ DEOs engaged in joint monitoring visits	Reports of monitoring visits; records of meetings with MoEs; field reports, filled by M&E staff and project technical staff	Quarterly
Logframe Output Indicator	**Means of verification/sources**	**Collection frequency**
Output 1: Improved access to post-primary options		
Output 1.1: Percentage of project locations with an alternative secondary learning group	ASLP Monitoring Tool Observation of ASLP activities in all locations by project M&E officers[239]	Termly
Output 1.2: Percentage of ASLP groups providing life skills training to marginalised girls	ASLP monitoring tool Observation of a sample of life skills activities in ASLP groups by project M&E officers[240]	Termly
Output 1.3: Percentage of girls receiving	Partial grants tracking tool	Termly

[239] In case the school was not accessible due to conflict in the area or natural disasters, remote monitoring was used. Data was cross-checked between multiple respondents and discrepancies were verified once the area became accessible.
[240] In case the school was not accessible due to conflict in the area or natural disasters, remote monitoring was used. Data was cross-checked between multiple respondents and discrepancies were verified once the area became accessible.

partial grants who remain in school	Remote information provided by principals (all girls); sampled verification of enrolment and attendance records for partial grants recipients and cross-verification of physical presence	
Output 2: Supportive school practices and conditions for marginalised girls		
Output 2.1: Percentage of teachers not using corporal punishment	Classroom observations; FGDs with students Observations conducted by project technical staff during coaching visits; interviews with groups of students and teachers	Termly
Output 2.2: Percentage of teachers using the digital learning platform	Back-end data on access to the platform and length of use triangulated with interviews with students and classroom observations (conducted by project technical staff)	Monthly
Output 2.3: Percentage of Girls' Empowerment Forums providing life skills sessions according to the guidance	GEF monitoring tool Data collected through observation of GEF activities and interviews with participants/ mentors by M&E staff	Termly
Output 3: Positive shifts on gender and social norms at community and individual girl level		
Output 3.1: Number of women mentors providing support to marginalised girls	Triangulated information from interviews with mentors and girls (for verification) used to prepare monitoring visit reports	Termly
Output 3.2: Number and percentage of mothers completing literacy courses	NFE completion records verified and collected by M&E officers in all locations	Annual
Output 3.3: Percentage of active village savings groups in project areas	VSL Monitoring and Information System – verification of records of a sample of groups and surveys with a sample of VSL members, conducted by M&E officers	Quarterly
Output 4: Enhanced MOEs' capacity to deliver quality and relevant formal and informal education		
Output 4.1: Number of Gender Units conducting activities to promote girls'	Reports of engagement with Gender Units, using a structured approach to capture information obtained by project technical staff engaged in MoEs' capacity building	Quarterly

transition and learning		
Output 4.2: Percentage of REOs/ DEOs engaged in joint monitoring visits	Reports of monitoring visits; records of meetings with MoEs; field reports, filled by M&E staff and project technical staff	Quarterly

Report on the Baseline values/Baseline status of each Output Indicator in the table below. Reflect on the relevancy of the Output Indicator for your Intermediate Outcomes and Outcomes and the wider Theory of Change based on the data collected so far. Are the indicators measuring the right things? What do the Baseline values/Baseline status mean for the implementation of your activities?

Table 69: Baseline status of output indicators

Logframe Output Indicator	Baseline status/Baseline values Relevance of the indicator for the project ToC	Baseline status/Baseline values
Number and Indicator wording	What is the contribution of this indicator for the project ToC, IOs, and Outcomes? What does the Baseline value/status mean for your activities? Is the indicator measuring the right things? Should a revision be considered? Provide short narrative.	What is the Baseline value/status of this indicator? Provide short narrative.
Output 1: Improved access to post-primary options		
Output 1.1: Percentage of project locations with an alternative secondary learning group	Will allow for a complete picture of the implementation of ASLP through time; the tool will consider the functionality of the group as well as enrolment. The output will contribute primarily to the achievement of the following intermediate outcomes: attendance, retention, and life skills development. ASLP offers out of school girls and students who are unable or do not wish to attend formal secondary school with an alternative option, thereby encouraging them to remain in school. ASLP will focus in part on developing life skills that will be relevant to the job market.	ASLP not yet deployed – indicator not yet measured. *Relevant baseline information for ASLP design:* Is OOSG enrolled in any informal education? Benchmark girls (11-22 yrs. old): 8.4% Cohort girls, Intervention: 6.2% Cohort girls, Comparison: 8.1%
Output 1.2: Percentage of ASLP groups providing life skills training to marginalised girls	Will provide information on the coverage of the ASLP life skills curriculum through time, as well as the fidelity of implementation in relation to the curriculum.	0% (ASLP not yet deployed)

	The output will contribute primarily to the achievement of the following intermediate outcome: life skills development. Girls will learn relevant life skills that will not only boost their learning outcomes and attendance but will also enable them to contribute to the local economy once they leave school.	
Output 1.3: Percentage of girls receiving partial grants who remain in school	Will allow for multiple layers of verification of the impact of the partial grants on retention. The output will contribute primarily to assessing the achievement of the following intermediate outcomes: attendance and retention. Poverty is one of the leading reasons parents are unable to send their children to school. Providing partial grants to girls from poor families will alleviate some of the financial burden impoverished families face in sending their children to school.	Not available at the moment
Output 2: Supportive school practices and conditions for marginalised girls		
Output 2.1: Percentage of teachers not using corporal punishment	Allows for triangulation of teacher and student data in order to determine the extent to which corporal punishment is being used; feeds directly into coaching processes. The output will contribute primarily to assessing the achievement of the following intermediate outcome: improved quality of teaching. Teachers will be trained to provide structured remedial support to students, which is expected to improve their effectiveness in the classroom, encourage attendance, and boost retention.	Physical disciplining of girls was observed in 75.5% of classrooms. Physical disciplining of boys was observed in 74.1% of classrooms. Physical disciplining of any students was observed in 77.6% of classrooms. 52.8% of in-school cohort girls said that their teacher does not use corporal punishment. 53.9% of teachers said that they do not use corporal punishment
Output 2.2: Percentage of teachers using the digital learning platform	Provides a perspective of frequency/ volume of use of the e-learning platform as well the types of use (qualitative). The output will contribute primarily to assessing the achievement of the following intermediate outcome: improved quality of teaching. Qualified teachers are in low supply in all project areas. Teacher trainings will focus on improved delivery of literacy and the English language.	The e-platform has not yet been deployed. *Relevant baseline information:* 94% of the households own mobile phones 10.3% of cohort girls noted that there are computers at school for them to use.

	Improved student performance and motivation is likely to have a positive effect on attendance and retention.	
Output 2.3: Percentage of Girls' Empowerment Forums providing life skills sessions according to the guidance	Allows for tracking of fidelity of implementation to the GEF curriculum. The output will contribute primarily to assessing the achievement of the following intermediate outcome: life skills development. As one of the project activities, SOMGEP-T will incorporate life skills and financial literacy training into GEFs and BEFs. Providing relevant life skills training through community-based forums is expected to encourage attendance and enhance learning, through increased participation in class and enhanced financial literacy skills.	Indicator not yet tracked *Relevant baseline information* 6.1% of in-school cohort girls have participated in Girls' Empowerment Forums
Output 3: Positive shifts on gender and social norms at community and individual girl level		
Output 3.1: Number of women mentors providing support to marginalised girls	Allows for tracking of mentorship coverage. The output will contribute primarily to assessing the achievement of the following intermediate outcomes: attendance and retention. Gender and social norms are a major barrier to girls' education. Gender norms such as those that keep girls at home helping their mothers with chores negatively affect attendance and retention rates. Through engaging with community-level stakeholders, the project will contribute to community-level understanding of the importance of girls' education.	Not available at the moment
Output 3.2: Number and percentage of mothers completing literacy courses	Provides information on the impact of literacy courses (percentage of participants who attained the expected skills). The output will contribute primarily to assessing the achievement of the following intermediate outcomes: attendance and retention. Mothers who are educated are better equipped to help their daughters with their schoolwork at home, and are also more likely to appreciate the importance of girls receiving an education. Mothers who place a higher value on education are	Indicator will be tracked at the completion of the first round of literacy courses *Relevant baseline information:* 44% of the caregivers self-report being literate. 78% of the caregivers have not attended any formal education.

	expected to understand the importance of enrolling their girls in school and encouraging them to remain in school.	
Output 3.3: Percentage of active village savings groups in project areas	Provides information on the functionality of groups as well as on participants' use of savings and capital for livelihoods. The output will contribute primarily to assessing the achievement of the following intermediate outcomes: attendance and retention. Female heads of household are often struggling to meet the financial and opportunity costs of education, affecting girls' attendance. Mothers who participate in VSLA are able to access funds to build small businesses and support their children's education, and are also more likely to appreciate the importance of girls receiving an education. Mothers who place a higher value on education are expected to understand the importance of enrolling their girls in school and encouraging them to remain in school.	Indicator not yet assessed. *Relevant baseline information:* 9.7% of all primary caregivers of cohort girls participate in a savings group. Despite the relatively low proportion of caregivers that participate, there are participants in VSLAs in all but 4 of the 21 villages.
Output 4: Enhanced MOEs' capacity to deliver quality and relevant formal and informal education		
Output 4.1: Number of Gender Units conducting activities to promote girls' transition and learning	Allows for tracking of a broad range of potential activities conducted by Gender Units in order to mainstream gender-transformative approaches in education to promote girls' transition and learning. The output will contribute primarily to assessing the achievement of the following intermediate outcomes: improved school governance, quality of teaching, retention, attendance, and life skills development. Enhancing the capacity of MoEs to develop plans, administer trainings, and provide incentives will contribute to all four intermediate outcomes by sending a strong, positive message about the importance of girls' education from the government, and by giving the government clear and actionable ways to contribute to positive changes in girls' education outcomes. Engagement of the MoE and other important stakeholders is also likely to lead to replication of	Indicator not yet assessed.

	activities, contributing to the sustainability of project interventions.	
Output 4.2: Percentage of REOs/ DEOs engaged in joint monitoring visits	Allows for tracking of engagement of REOs/DEOs on oversight of school activities and implementation of the intervention on the ground. The output will contribute primarily to assessing the achievement of the following intermediate outcomes: improved quality of teaching, attendance, retention. SOMGEP-T will focus on increasing the capacity of officers who have more direct oversight over the education system in their areas to address issues related to attendance and retention and mainstream improved teaching practices, thereby increasing the likelihood that project activities will be sustainable over the long-term.	Indicator not yet assessed.

Annex 4: Beneficiary tables

This annex should be completed by the project.

Please fill in the tables below. Individuals included in the project's target group should be direct beneficiaries of the project.

Table 70: Direct beneficiaries

Beneficiary type	Total project number	Total number of girls targeted for learning outcomes that the project has reached by Endline	Comments
Direct learning beneficiaries (girls) – 26,290 girls – learning beneficiaries 1,814 girls with disabilities	32,862	[This may equal the total project number in the outcomes spreadsheet and in the column to the left, or may be less if you have a staggered approach]	Overall reach is calculated based on (i) an extrapolation of the enrolment data for 145 schools; (ii) an estimate of the OOSG population, considering the proportion of OOSG identified in this study and the likelihood of their engagement in the activities (set at 40% of total); and (iii) an estimate of the new intake in Grade 1 (conservatively estimated as equal to the current enrolment,

			thus avoiding double-counting with OOSG).

Table 71: Other beneficiaries

Beneficiary type	Number	Comments
Learning beneficiaries (boys) – as above, but specifically counting boys who will get the same exposure and therefore be expected to also achieve learning gains, if applicable.	15,910	Considering 80% of the boys in school as learning beneficiaries.
Broader student beneficiaries (boys) – boys who will benefit from the interventions in a less direct way, and therefore may benefit from aspects such as attitudinal change, etc. but not necessarily achieve improvements in learning outcomes.	30,053	Considering all boys in school, plus new intake in G1.
Broader student beneficiaries (girls) – girls who will benefit from the interventions in a less direct way, and therefore may benefit from aspects such as attitudinal change, etc. but not necessarily achieve improvements in learning outcomes.	27,722	Considering all girls currently enrolled in school, plus new intake in G1.
Teacher beneficiaries – number of teachers who benefit from training or related interventions. If possible /applicable, please disaggregate by gender and type of training, with the comments box used to describe the type of training provided.	621 teachers trained on literacy, numeracy, English and structured remedial classes 158 teachers trained to deliver ASLP	
Broader community beneficiaries (adults) – adults who benefit from broader interventions, such as community messaging /dialogues, community advocacy, economic empowerment interventions, etc.	4500 mothers receiving NFE training 3,180 community members participating in VSLA	

- Tables 3-6 provide different ways of defining and identifying the project's target groups. They each refer to the same total number of girls, but use different definitions and categories. These are girls who can be counted and have regular involvement with project activities.
- The total number of sampled girls in the last row of Tables 3-6 should be the same – these are just different ways of identifying and describing the girls included in the sample.

Table 72: Target groups - by school

School Age	Project definition of target group (Tick where appropriate)	Number targeted through project interventions	Sample size of target group at Baseline
Lower primary	Yes - Grade 1-4	19,990	272
Upper primary	Yes - Grade 5-8	5,820	233 (+93 in benchmark)
Lower secondary	Yes - Form 1-2	1,912	12 (benchmark only)

Upper secondary			
Total:			27,722

Table 73: Target groups - by age

Age Groups	Project definition of target group (Tick where appropriate)	Number targeted through project interventions	Sample size of target group at Baseline
Aged 6-8 (% aged 6-8)		9,120	This group will benefit from teacher training, improved school management and conditions at the household. However, the sample tracks only girls age 10-19.
Aged 9-11 (% aged 9-11)	√	6,885	241
Aged 12-13 (% aged 12-13)	√	6,885	268
Aged 14-15 (% aged 14-15)	√	5,461	192
Aged 16-17 (%aged 16-17)	√	3,086	109
Aged 18-19 (%aged 18-19)	√	1,425	62
Aged 20+ (% aged 20 and over)			
Total:		**32,862**	[This number should be the same across Tables 3, 4, 5 & 6]

Table 74: Target groups - by sub group

Social Groups	Project definition of target group (Tick where appropriate)	Number targeted through project interventions	Sample size of target group at Baseline
Disabled girls (please disaggregate by disability type)	√	**1,814**	**60**
Vision impairment	√	197	5
Hearing impairment	√	230	6
Mobility impairment	√	230	6
Cognitive impairment	√	263	7
Self-care impairment	√	230	6

Social Groups	Project definition of target group (Tick where appropriate)	Number targeted through project interventions	Sample size of target group at Baseline
Communication impairment	√	329	9
Mental health impairment	√	1709	45
Orphaned girls	√	**3,615**	**96**
Pastoralist girls	√	**3,943**	**105**
Child labourers	√	**87**[241]	**13**
Poor girls	√	**32,862**	**872**
Other (please describe)			
Total:		**32,862**	[This number should be the same across Tables 3, 4, 5 & 6]

Table 75: Target groups - by school status

Educational sub-groups	Project definition of target group (Tick where appropriate)	Number targeted through project interventions	Sample size of target group at Baseline
Out-of-school girls: have never attended school	√	1285	92
Out-of-school girls: have attended school, but dropped out	√	3855	275
Girls in-school	√	27722	505
Total:		**32,862**	[This number should be the same across Tables 3, 4, 5 & 6]

Annex 5: MEL Framework

Provide latest, FM-approved version of the MEL Framework as a separate document.

[241] This number does not include girls who support the family business or do unpaid work at home.

Annex 6: External Evaluator's Inception Report

The latest version of the External Evaluator's Inception Report is provided separately.

Annex 7: Data collection tools used for Baseline

All data collection tools are provided as separate documents.

Annex 8: Datasets, codebooks and programs

All cleaned and labelled datasets are in Stata format. Replication code is provided in the form of Stata .do files to support the replication of key baseline learning and transition findings, including all outcomes spreadsheet tables. The codebook below provides a summary of key variables for the merged household and learning assessment dataset.

Variable	Variable name in dataset	Dataset	Comments
Girl ID	uniqueid	Merged_HH+LA_v1.dta	1,626 cohort girls were matched between the unique ID in household survey and learning assessment. The remaining eight for both household surveys and learning assessments were dropped.
Sex	gender	Merged_HH+LA_v1.dta	Originated from learning assessment data. When pilot data is appended, the gender of the girls is coded here.
School	school	Merged_HH+LA_v1.dta	Originated from learning assessment data. The values are missing for pilot data.
Age	selected_kish_age (cohort girls) age (non-cohort girls and boys)	Merged_HH+LA_v1.dta	There were minor discrepancies between the age given by the caregiver and the age given by the girl. CARE decided "selected_kish_age" would be authoritative. Non-cohort girls did not receive the household survey and thus "age" in the learning assessment serves as the respondent age variable.
Grade	grade	Merged_HH+LA_v1.dta	Originated from learning assessment data. When pilot data is appended, the grade of the girls is coded here.
English instruction outlier	english	Merged_HH+LA_v1.dta	The outlier English instruction schools are coded here.
Treatment and comparison groups	treatment	Merged_HH+LA_v1.dta	Treatment and comparison designation is coded here.
Respondent type	resp_type	Merged_HH+LA_v1.dta	Originated from learning assessment data.
Learning Outcomes			
Literacy Score (percent)	literacy_perc	Merged_HH+LA_v1.dta	Originated from learning assessment data.

Numeracy Score (percent)	numeracy_perc	Merged_HH+LA_v1.dta	Originated from learning assessment data.
Financial Literacy Score (percent)	fl_perc	Merged_HH+LA_v1.dta	Originated from learning assessment data.
Numeracy subtask 1	pcnum_missing_num_total	Merged_HH+LA_v1.dta	Originated from learning assessment data.
Numeracy subtask 2	pcnum_add_total	Merged_HH+LA_v1.dta	Originated from learning assessment data.
Numeracy subtask 3	pcnum_sub_total	Merged_HH+LA_v1.dta	Originated from learning assessment data.
Numeracy subtask 4	pcnum_add2_total	Merged_HH+LA_v1.dta	Originated from learning assessment data.
Numeracy subtask 5	pcnum_sub2_total	Merged_HH+LA_v1.dta	Originated from learning assessment data.
Numeracy subtask 6	pcnum_wprob_total	Merged_HH+LA_v1.dta	Originated from learning assessment data.
Numeracy subtask 7	pcnum_mult_total	Merged_HH+LA_v1.dta	Originated from learning assessment data.
Numeracy subtask 8	pcnum_mult2_total	Merged_HH+LA_v1.dta	Originated from learning assessment data.
Numeracy subtask 9	pcnum_div_total	Merged_HH+LA_v1.dta	Originated from learning assessment data.
Numeracy subtask 10	pcnum_div2_total	Merged_HH+LA_v1.dta	Originated from learning assessment data.
Numeracy subtask 11	pcnum_wprob2_total	Merged_HH+LA_v1.dta	Originated from learning assessment data.
Somali literacy subtask 1	prop_wpm_score_som1	Merged_HH+LA_v1.dta	Originated from learning assessment data.
Somali literacy subtask 2	score_pct_som2	Merged_HH+LA_v1.dta	Originated from learning assessment data.
Somali literacy subtask 3	score_pct_som3	Merged_HH+LA_v1.dta	Originated from learning assessment data.
Somali literacy subtask 4	prop_wpm_score_som4	Merged_HH+LA_v1.dta	Originated from learning assessment data.
Somali literacy subtask 5	score_pct_som5	Merged_HH+LA_v1.dta	Originated from learning assessment data.
Somali literacy subtask 6	score_pct_som6	Merged_HH+LA_v1.dta	Originated from learning assessment data.
Somali literacy subtask 7	score_pct_som7	Merged_HH+LA_v1.dta	Originated from learning assessment data.
Somali literacy subtask 8	score_pct_som8	Merged_HH+LA_v1.dta	Originated from learning assessment data.
English literacy subtask 1	score_pct_eng1	Merged_HH+LA_v1.dta	Originated from learning assessment data.
English literacy subtask 2	prop_wpm_score_lae2	Merged_HH+LA_v1.dta	Originated from learning assessment data.
English literacy subtask 3	score_pct_lae3	Merged_HH+LA_v1.dta	Originated from learning assessment data.
English literacy subtask 4	prop_wpm_score_lae4	Merged_HH+LA_v1.dta	Originated from learning assessment data.
English literacy subtask 5	score_pct_lae5	Merged_HH+LA_v1.dta	Originated from learning assessment data.
English literacy subtask 6	score_pct_lae6	Merged_HH+LA_v1.dta	Originated from learning assessment data.

English literacy subtask 7	score_pct_lae7	Merged_HH+LA_v1.dta	Originated from learning assessment data.
English literacy subtask 8	score_pct_lae8	Merged_HH+LA_v1.dta	Originated from learning assessment data.
English literacy subtask 9	score_pct_lae9	Merged_HH+LA_v1.dta	Originated from learning assessment data.
Transition Outcomes			
In-school progression	progression	Merged_HH+LA_v1.dta	Coded through Benchmark_Cohort_Analysis_v1.do
Progression to secondary school	tosecondary	Merged_HH+LA_v1.dta	Coded for analysis of transition outcomes through Benchmark_Cohort_Analysis_v1.do
Enrolled in TVET	vocational	Merged_HH+LA_v1.dta	Coded for analysis of transition outcomes through Benchmark_Cohort_Analysis_v1.do
Enrolled in ASLP or other informal education	informaled	Merged_HH+LA_v1.dta	Coded for analysis of transition outcomes through Benchmark_Cohort_Analysis_v1.do
Of age and gainfully employed	gainful_emp	Merged_HH+LA_v1.dta	Coded for analysis of transition outcomes through Benchmark_Cohort_Analysis_v1.do
Re-enrolled in formal education	reenroll	Merged_HH+LA_v1.dta	Coded for analysis of transition outcomes through Benchmark_Cohort_Analysis_v1.do
Remains in same grade	remains_grade	Merged_HH+LA_v1.dta	Coded for analysis of transition outcomes through Benchmark_Cohort_Analysis_v1.do
Employed, but underage	underage_emp	Merged_HH+LA_v1.dta	Coded for analysis of transition outcomes through Benchmark_Cohort_Analysis_v1.do
Employed, but unpaid or otherwise exploited	nongainful_emp	Merged_HH+LA_v1.dta	Coded for analysis of transition outcomes through Benchmark_Cohort_Analysis_v1.do
Dropped out of school	dropout	Merged_HH+LA_v1.dta	Coded for analysis of transition outcomes through Benchmark_Cohort_Analysis_v1.do
Remained out of school	remainsoos	Merged_HH+LA_v1.dta	Coded for analysis of transition outcomes through Benchmark_Cohort_Analysis_v1.do
Successful transition outcomes (binary)	transition	Merged_HH+LA_v1.dta	Coded for analysis of transition outcomes through Benchmark_Cohort_Analysis_v1.do

Regressions

This section presents an abridged summary of the most important regressions underlying key findings presented in the report. All regressions are estimated with cluster-robust standard errors using Stata's vce(cluster) option to adjust for clustering at the level of the school, which serves as the primary sampling unit.

Section 4

Literacy scores as predicted by gender

```
Linear regression                               Number of obs     =      2,430
                                                F(1, 70)          =      23.98
                                                Prob > F          =     0.0000
                                                R-squared         =     0.0105
                                                Root MSE          =      19.74

                                   (Std. Err. adjusted for 71 clusters in school)
------------------------------------------------------------------------------
             |               Robust
literacy_p~c |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      gender |   5.126163   1.046818     4.90   0.000     3.038351    7.213976
       _cons |   14.65386   1.732052     8.46   0.000     11.19939    18.10833
------------------------------------------------------------------------------
```

Numeracy scores as predicted by gender

```
Linear regression                               Number of obs     =      2,430
                                                F(1, 70)          =      41.92
                                                Prob > F          =     0.0000
                                                R-squared         =     0.0225
                                                Root MSE          =     29.661

                                   (Std. Err. adjusted for 71 clusters in school)
------------------------------------------------------------------------------
             |               Robust
numeracy_p~c |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      gender |   11.32068   1.748472     6.47   0.000     7.833462     14.8079
       _cons |   19.52464   2.700744     7.23   0.000     14.13818     24.9111
------------------------------------------------------------------------------
```

Caretaker reported attendance as predictor of girls' literacy

```
Linear regression                               Number of obs     =        747
                                                F(3, 64)          =       1.89
                                                Prob > F          =     0.1403
                                                R-squared         =     0.0080
                                                Root MSE          =     17.568

                                    (Std. Err. adjusted for 65 clusters in school)
------------------------------------------------------------------------------
             |               Robust
literacy_perc|      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
  attendance2|
  About half |   3.571646   10.05707     0.36   0.724    -16.51967    23.66296
More than half|  13.40767   6.667463     2.01   0.049     .0878788    26.72746
Most of the time|  6.337158    5.62831     1.13   0.264    -4.906684      17.581
             |
       _cons |    17.0992   5.760705     2.97   0.004     5.590873    28.60754
------------------------------------------------------------------------------
```

School record attendance as predictor of girls' literacy

```
Linear regression                               Number of obs     =        433
                                                F(1, 40)          =       3.15
                                                Prob > F          =     0.0835
                                                R-squared         =     0.0066
                                                Root MSE          =     17.416

                                    (Std. Err. adjusted for 41 clusters in school)
------------------------------------------------------------------------------
             |               Robust
literacy_p~c |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      attend |   .1741571    .098118     1.77   0.084    -.0241469     .372461
       _cons |   8.207055    9.13884     0.90   0.375    -10.26323    26.67734
------------------------------------------------------------------------------
```

Caretaker reported attendance as predictor of girls' numeracy

```
Linear regression                               Number of obs     =        747
                                                F(3, 64)          =       0.18
                                                Prob > F          =     0.9081
                                                R-squared         =     0.0010
                                                Root MSE          =     26.463

                                   (Std. Err. adjusted for 65 clusters in school)
------------------------------------------------------------------------------
             |               Robust
numeracy_perc|      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
  attendance2|
  About half |  -1.768711   10.92309    -0.16   0.872    -23.59009    20.05267
More than half|  -.157735   15.02258    -0.01   0.992     -30.1688    29.85333
Most of the time|  2.912698   13.15911     0.22   0.826    -23.37565    29.20105
             |
       _cons |   38.02891   13.64931     2.79   0.007     10.76127    65.29655
------------------------------------------------------------------------------
```

School record attendance as predictor of girls' numeracy

```
Linear regression                               Number of obs     =        433
                                                F(1, 40)          =       0.03
                                                Prob > F          =     0.8621
                                                R-squared         =     0.0002
                                                Root MSE          =     26.269

                                   (Std. Err. adjusted for 41 clusters in school)
------------------------------------------------------------------------------
             |               Robust
numeracy_p~c |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      attend |  -.0476132   .2723261    -0.17   0.862    -.5980048    .5027784
       _cons |   47.80663   25.44997     1.88   0.068    -3.629676    99.24293
------------------------------------------------------------------------------
```

Active CEC as a predictor of literacy (for in-school girls)

```
Linear regression                               Number of obs     =        865
                                                F(1, 70)          =      25.57
                                                Prob > F          =     0.0000
                                                R-squared         =     0.0483
                                                Root MSE          =     16.968

                                   (Std. Err. adjusted for 71 clusters in school)
------------------------------------------------------------------------------
             |               Robust
literacy_p~c |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         cec |   7.745663   1.531742     5.06   0.000       4.6907    10.80063
       _cons |   20.37588   1.101974    18.49   0.000     18.17806     22.5737
------------------------------------------------------------------------------
```

Active CEC as a predictor of numeracy (for in-school girls)

```
Linear regression                               Number of obs     =        865
                                                F(1, 70)          =       7.45
                                                Prob > F          =     0.0080
                                                R-squared         =     0.0132
                                                Root MSE          =     26.128

                                   (Std. Err. adjusted for 71 clusters in school)
------------------------------------------------------------------------------
             |               Robust
numeracy_p~c |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         cec |    6.123108   2.243812     2.73   0.008     1.647967    10.59825
       _cons |    37.40094   2.231601    16.76   0.000     32.95015    41.85173
------------------------------------------------------------------------------
```

Caregiver reported teaching quality as predictor of girls' literacy (for in-school girls)

```
Linear regression                               Number of obs     =        747
                                                F(1, 64)          =       4.89
                                                Prob > F          =     0.0305
                                                R-squared         =     0.0081
                                                Root MSE          =     17.568

                                   (Std. Err. adjusted for 65 clusters in school)
------------------------------------------------------------------------------
             |               Robust
literacy_perc|      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
teaching_poo~y |  -6.750984   3.052109    -2.21   0.031    -12.84827   -.6536955
       _cons |      23.958    1.20756    19.84   0.000     21.54563    26.37038
------------------------------------------------------------------------------
```

Caregiver reported teaching quality as predictor of girls' numeracy (for in-school girls)

```
Linear regression                               Number of obs     =        747
                                                F(1, 64)          =       3.55
                                                Prob > F          =     0.0642
                                                R-squared         =     0.0111
                                                Root MSE          =     26.249

                                             (Std. Err. adjusted for 65 clusters in school)
------------------------------------------------------------------------------
             |               Robust
numeracy_perc|      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
teaching_poo~y |  -11.80239   6.267825    -1.88   0.064    -24.32381    .7190306
       _cons |   41.34348   2.216161    18.66   0.000     36.91619    45.77077
------------------------------------------------------------------------------
```

YLI score as predictor of girls' literacy (for in-school girls)

```
Linear regression                               Number of obs     =        887
                                                F(1, 70)          =       0.74
                                                Prob > F          =     0.3929
                                                R-squared         =     0.0014
                                                Root MSE          =     17.614

                                             (Std. Err. adjusted for 71 clusters in school)
------------------------------------------------------------------------------
             |               Robust
literacy_p~c |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
   yli_score |   .0551136   .0641059     0.86   0.393    -.0727417    .1829688
       _cons |   21.01758   3.701156     5.68   0.000     13.63586     28.3993
------------------------------------------------------------------------------
```

YLI score as predictor of girls' numeracy (for in-school girls)

```
Linear regression                               Number of obs     =        887
                                                F(1, 70)          =       7.22
                                                Prob > F          =     0.0090
                                                R-squared         =     0.0123
                                                Root MSE          =     26.434

                                             (Std. Err. adjusted for 71 clusters in school)
------------------------------------------------------------------------------
             |               Robust
numeracy_p~c |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
   yli_score |   .2505306   .0932668     2.69   0.009     .0645158    .4365454
       _cons |   26.71622   5.218247     5.12   0.000     16.30875    37.12369
------------------------------------------------------------------------------
```

Caregiver literacy as predictor of girls' literacy (for in-school girls)

```
Linear regression                               Number of obs     =        897
                                                F(1, 70)          =       1.65
                                                Prob > F          =     0.2027
                                                R-squared         =     0.0030
                                                Root MSE          =     17.476

                                  (Std. Err. adjusted for 71 clusters in school)
------------------------------------------------------------------------------
             |               Robust
literacy_p~c |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     carelit |   1.910175   1.485415     1.29   0.203    -1.052391    4.872741
       _cons |   22.79152   1.493281    15.26   0.000     19.81326    25.76977
------------------------------------------------------------------------------
```

Caregiver having no formal education as predictor of girls' literacy (for in-school girls)

```
Linear regression                               Number of obs     =        897
                                                F(1, 70)          =       9.52
                                                Prob > F          =     0.0029
                                                R-squared         =     0.0106
                                                Root MSE          =     17.409

                                  (Std. Err. adjusted for 71 clusters in school)
------------------------------------------------------------------------------
             |               Robust
literacy_p~c |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
  care_noedu |  -4.074905   1.320712    -3.09   0.003    -6.708982   -1.440829
       _cons |   26.73415   1.492965    17.91   0.000     23.75653    29.71178
------------------------------------------------------------------------------
```

Numeracy as a predictor of financial literacy (for in-school girls)

```
Linear regression                               Number of obs     =        325
                                                F(1, 64)          =      44.42
                                                Prob > F          =     0.0000
                                                R-squared         =     0.1975
                                                Root MSE          =     18.582

                                  (Std. Err. adjusted for 65 clusters in school)
------------------------------------------------------------------------------
             |               Robust
     fl_perc |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
numeracy_perc|   .3441939   .0516447     6.66   0.000     .2410217    .4473661
       _cons |  -2.201894   1.910603    -1.15   0.253    -6.018763    1.614975
------------------------------------------------------------------------------
```

Section 5

Grade as a predictor of headcount attendance rates (for in-school girls)

```
Linear regression                               Number of obs     =        440
                                                F(1, 66)          =       0.56
                                                Prob > F          =     0.4568
                                                R-squared         =     0.0013
                                                Root MSE          =     23.411

                                   (Std. Err. adjusted for 67 clusters in school)
------------------------------------------------------------------------------
             |               Robust
   girls_hc |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
------------+----------------------------------------------------------------
          B1 |  -.3745423   .5003284    -0.75   0.457    -1.37348    .6243957
       _cons |   88.76182   7.211363    12.31   0.000     74.36387    103.1598
------------------------------------------------------------------------------
(sum of wgt is 335.7575722932816)
```

Grade as a predictor of school survey attendance rate (for in-school girls)

```
Linear regression                               Number of obs     =        672
                                                F(1, 64)          =      10.41
                                                Prob > F          =     0.0020
                                                R-squared         =     0.0215
                                                Root MSE          =     17.177

                                   (Std. Err. adjusted for 65 clusters in a_7)
------------------------------------------------------------------------------
             |               Robust
     att_hhs |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       grade |   2.277107   .7056021     3.23   0.002     .8675045    3.686709
       _cons |   79.91419   3.900453    20.49   0.000     72.12214    87.70625
------------------------------------------------------------------------------
```

Pastoralism status against school survey attendance rates (for in-school girls)

Linear regression

Number of obs	= 672
F(1, 64)	= 2.61
Prob > F	= 0.1109
R-squared	= 0.0016
Root MSE	= 17.35

(Std. Err. adjusted for 65 clusters in a_7)

att_hhs	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
seasonal	3.554638	2.199046	1.62	0.111	-.8384605	7.947737
_cons	89.60724	1.18272	75.76	0.000	87.24448	91.96999

Household survey attendance rate as predictor of headcount survey attendance rate (for in-school girls)

Source	SS	df	MS		
Model	101.831427	1	101.831427		
Residual	7421.04712	60	123.684119		
Total	7522.87855	61	123.325878		

Number of obs	= 62
F(1, 60)	= 0.82
Prob > F	= 0.3678
R-squared	= 0.0135
Adj R-squared	= -0.0029
Root MSE	= 11.121

girls_hc	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
att_hhs	.1883229	.2075483	0.91	0.368	-.2268355	.6034812
_cons	69.51646	19.01458	3.66	0.001	31.48164	107.5513

School survey attendance rate as a predictor of headcount survey attendance rate (for in-school girls)

Source	SS	df	MS		
Model	97.48288	1	97.48288		
Residual	6500.543	39	166.68059		
Total	6598.02588	40	164.950647		

Number of obs	= 41
F(1, 39)	= 0.58
Prob > F	= 0.4490
R-squared	= 0.0148
Adj R-squared	= -0.0105
Root MSE	= 12.91

girls_hc	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
attend	.2973264	.3887871	0.76	0.449	-.4890697	1.083723
_cons	56.92544	36.28016	1.57	0.125	-16.45811	130.309

Teacher use of corporal punishment as predictor of school survey attendance rates (for in-school girls)

Source	SS	df	MS	Number of obs	=	432
				F(1, 430)	=	4.77
Model	323.682977	1	323.682977	Prob > F	=	0.0295
Residual	29190.1844	430	67.8841498	R-squared	=	0.0110
				Adj R-squared	=	0.0087
Total	29513.8674	431	68.4776506	Root MSE	=	8.2392

attend	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
corp	1.757175	.8047098	2.18	0.030	.175521	3.338829
_cons	91.70506	.517993	177.04	0.000	90.68695	92.72318

Corporal punishment used against cohort girls as predictor of attendance on most days (for in-school girls)

Source	SS	df	MS	Number of obs	=	391
				F(1, 389)	=	4.97
Model	.216481314	1	.216481314	Prob > F	=	0.0264
Residual	16.9548742	389	.043585795	R-squared	=	0.0126
				Adj R-squared	=	0.0101
Total	17.1713555	390	.044029117	Root MSE	=	.20877

attmostdays	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
corp_u	-.0397204	.0178228	-2.23	0.026	-.0747615	-.0046793
_cons	1.010345	.0274131	36.86	0.000	.9564484	1.064241

No playground to use at school as a predictor of household survey attendance rates (for in-school girls)

Linear regression

Number of obs	=	716
F(1, 70)	=	5.78
Prob > F	=	0.0189
R-squared	=	0.0169
Root MSE	=	17.083

(Std. Err. adjusted for 71 clusters in school)

att_hhs	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
nouse_playground	-4.497089	1.87073	-2.40	0.019	-8.228142	-.7660361
_cons	91.82023	1.051145	87.35	0.000	89.72378	93.91667

Girls afraid of teacher as a predictor of household survey attendance rates (for in-school girls)

```
Linear regression                               Number of obs     =        714
                                                F(1, 70)          =       5.26
                                                Prob > F          =     0.0248
                                                R-squared         =     0.0093
                                                Root MSE          =     17.159

                                   (Std. Err. adjusted for 71 clusters in school)
------------------------------------------------------------------------------
             |               Robust
     att_hhs |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
teacher_afraid |  -3.374551   1.470957    -2.29   0.025    -6.308283   -.4408185
       _cons |   91.77738   1.217247    75.40   0.000     89.34966    94.2051
------------------------------------------------------------------------------
(sum of wgt is 1,375.84121203423)
```

Girls believe teacher treats boys and girls differently as predictor of household survey attendance rates (for in-school girls)

```
Linear regression                               Number of obs     =        713
                                                F(1, 70)          =       5.81
                                                Prob > F          =     0.0185
                                                R-squared         =     0.0117
                                                Root MSE          =     17.115

                                   (Std. Err. adjusted for 71 clusters in school)
------------------------------------------------------------------------------
             |               Robust
     att_hhs |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
boysgirls_diff |  -3.839031   1.592393    -2.41   0.019    -7.014959   -.6631023
       _cons |   91.32078   1.110836    82.21   0.000     89.10528    93.53627
------------------------------------------------------------------------------
(sum of wgt is 1,380.40444147587)
```

Girls believe principal is poor quality as predictor of household survey attendance rates (for in-school girls)

```
Linear regression                               Number of obs     =        764
                                                F(1, 70)          =       5.69
                                                Prob > F          =     0.0198
                                                R-squared         =     0.0251
                                                Root MSE          =     16.721

                                      (Std. Err. adjusted for 71 clusters in school)
------------------------------------------------------------------------------
             |               Robust
     att_hhs |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
principal_poorquality |  -11.02942   4.624419    -2.39   0.020    -20.25253   -1.806302
       _cons |   90.67126   .9324526    97.24   0.000     88.81155    92.53098
------------------------------------------------------------------------------
```

Girls believe teacher is absent most of the time as predictor of household survey attendance rates (for in-school girls)

```
Linear regression                               Number of obs     =        714
                                                F(1, 70)          =       6.71
                                                Prob > F          =     0.0117
                                                R-squared         =     0.0167
                                                Root MSE          =     17.093

                                      (Std. Err. adjusted for 71 clusters in school)
------------------------------------------------------------------------------
             |               Robust
     att_hhs |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
teacher_absent |  -4.607068   1.779077    -2.59   0.012    -8.155326    -1.05881
       _cons |   91.50611   .9909661    92.34   0.000     89.52969    93.48253
------------------------------------------------------------------------------

(sum of wgt is 1,384.96215486526)
```

Annex 9: Learning test pilot and calibration

The following description of learning assessment design and piloting is excerpted from CARE International's MEL Framework and reproduced here for reference:

SEGRA and SEGMA were developed jointly with Relief International (RI)'s EGEP-T project. The development of the tools has taken into account findings from the SOMGEP/ EGEP endline studies, regarding high performance on reading comprehension (which indicates the potential need for a written test); the need for a test that bridges the two languages of instruction (Somali and English), while avoiding floor effects due to the issues in mastering a second language; and a careful review of the words and syntax used in order to ensure that the assessments can be used across student populations who speak different variations of the Somali language. The English vocabulary used in the tests will be carefully reviewed to ensure that the equivalent phonemes are recognisable by native speakers of Somali.

Draft learning assessments were piloted through a joint effort with RI; piloting areas included both urban and rural schools, with a sample of 130 students (distributed across Grades 7-10) for each setting. The endline results indicated that students, even those in early grades, have obtained high scores in literacy, suggesting low likelihood of floor effects with lower grades, but a high probability of ceiling effects in upper grades; therefore, the project has opted to target upper grades only for piloting.

The financial literacy assessment will be piloted with the same sample of students. Pilot data will be analysed to assess potential ceiling/ floor effects and performance across grades. The time required for administration and issues with clarity of instructions to students and enumerators, as well as with the marking of correct/ incorrect responses, will also be assessed during piloting. Assessment tasks and instructions were refined in order to respond to pilot results.[242]

[242] Excerpted from CARE International's MEL Framework, pg. 32.

CARE International analysed the pilot results in terms of subtask performance by grade, Cronbach's alpha, and the overall distribution of scores by grade. The results of CARE's analyses are presented below:

Pilot Literacy Results and Analysis

		Sub-Task 1 Somali word reading WPM	Sub-Task 2 Somali lower level reading comprehension	Sub-Task 3 Somali medium level reading comprehension	Sub-Task 4 Somali text reading WPM	Sub-Task 5 Somali advanced reading comprehension	Sub-Task 6 Somali writing - fill the gaps	Sub-Task 7 Somali writing negative form	Sub-Task 8 Somali writing future tense
		Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean
Grade 5	rural	43	80.0%	60.0%	65	40.0%	32.0%	43.0%	20.0%
	urban	.	.	.	.	.	.	.	.
	Total	**43**	**80.0%**	**60.0%**	**65**	**40.0%**	**32.0%**	**43.0%**	**20.0%**
Grade 7	rural	57	92.0%	76.0%	86	47.0%	38.0%	75.0%	52.0%
	urban	60	88.0%	88.0%	125	50.0%	74.0%	68.0%	68.0%
	Total	**58**	**90.0%**	**82.0%**	**99**	**48.0%**	**54.0%**	**72.0%**	**59.0%**
Grade 8	rural	66	97.0%	87.0%	102	51.0%	57.0%	85.0%	61.0%
	urban	60	88.0%	77.0%	126	33.0%	57.0%	64.0%	48.0%
	Total	**63**	**93.0%**	**82.0%**	**112**	**43.0%**	**57.0%**	**76.0%**	**56.0%**
Form 1	rural	79	100.0%	97.0%	180	83.0%	96.0%	89.0%	85.0%
	urban	79	96.0%	96.0%	118	62.0%	75.0%	90.0%	83.0%
	Total	**79**	**96.0%**	**96.0%**	**125**	**65.0%**	**78.0%**	**90.0%**	**83.0%**
Form 3	rural	87	99.0%	84.0%	128	61.0%	65.0%	88.0%	80.0%
	urban	83	94.0%	90.0%	127	62.0%	73.0%	89.0%	82.0%
	Total	**84**	**96.0%**	**88.0%**	**127**	**62.0%**	**70.0%**	**89.0%**	**82.0%**

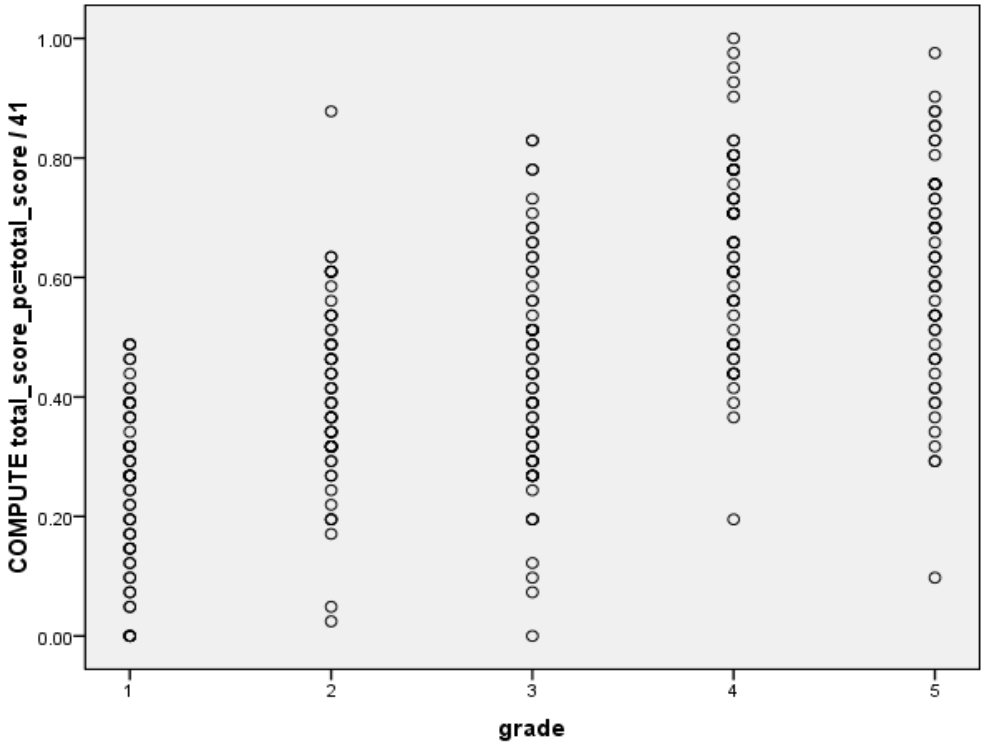
Total	rural	59	90.0%	75.0%	92	49.0%	47.0%	68.0%	48.0%
	urban	73	92.0%	89.0%	123	54.0%	71.0%	80.0%	73.0%
	Total	**65**	**91.0%**	**82.0%**	**106**	**52.0%**	**58.0%**	**74.0%**	**60.0%**

		Sub Task 1 English letter identification % correct	Sub-Task 2 English word reading WPM	Sub-Task 3 English lower level reading comprehension	Sub-Task 4 English text reading WPM	Sub-Task 5 English medium level reading comprehension	Sub-Task 6 English advanced reading comprehension	Sub-Task 7 English writing fill the gaps	Sub-Task 8 English writing negative form	Sub-Task 9 English writing future tense	Total Score, Somali + English, reading comprehension	Total Score, Somali + English, writing	**Total Score, Somali + English, reading comprehension & writing**	N for total score
		Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	
Grade 5	rural	41.82	37	5.0%	49	0.0%	0.0%	0.0%	0.0%	0.0%	30.8%	16.7%	24.9%	60
	urban	.	.	.	.	.	.	.	.	.				
	Total	**41.82**	**37**	**5.0%**	**49**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**30.8%**	**16.7%**	**24.9%**	**60**
Grade 7	rural	64.5	49	30.0%	56	4.0%	4.0%	4.0%	0.0%	0.0%	42.4%	30.1%	37.3%	34
	urban	94.28	30	41.0%	67	14.0%	6.0%	6.0%	9.0%	2.0%	47.7%	39.6%	44.3%	29
	Total	**78.21**	**40**	**35.0%**	**63**	**9.0%**	**5.0%**	**5.0%**	**4.0%**	**1.0%**	**44.8%**	**34.5%**	**40.5%**	**63**
Grade 8	rural	75.92	61	34.0%	82	9.0%	7.0%	7.0%	3.0%	0.0%	47.7%	37.9%	43.6%	38
	urban	87.93	50	53.0%	78	16.0%	16.0%	18.0%	10.0%	3.0%	47.0%	35.9%	42.4%	29
	Total	**81.12**	**56**	**42.0%**	**80**	**12.0%**	**11.0%**	**12.0%**	**6.0%**	**1.0%**	**47.4%**	**37.1%**	**43.1%**	**67**
Form 1	rural	98.33	50	78.0%	113	42.0%	36.0%	44.0%	44.0%	33.0%	72.7%	67.3%	70.5%	9

	urban	96.58	81	75.0%	102	39.0%	42.0%	37.0%	29.0%	14.0%	68.3%	57.3%	63.8%	55
	Total	**96.83**	**76**	**75.0%**	**103**	**39.0%**	**41.0%**	**38.0%**	**31.0%**	**16.0%**	**68.9%**	**58.7%**	**64.7%**	**64**
Form 3	rural	93.45	97	75.0%	113	29.0%	24.0%	24.0%	17.0%	0.0%	61.9%	48.8%	56.5%	20
	urban	96.36	86	80.0%	116	31.0%	45.0%	33.0%	40.0%	18.0%	67.1%	57.8%	63.3%	36
	Total	**95.32**	**90**	**78.0%**	**115**	**30.0%**	**38.0%**	**30.0%**	**32.0%**	**12.0%**	**65.3%**	**54.6%**	**60.8%**	**56**
Total	rural	64.23	57	30.0%	90	9.0%	8.0%	8.0%	5.0%	2.0%	43.4%	31.3%	38.4%	161
	urban	94.4	66	65.0%	98	28.0%	31.0%	26.0%	24.0%	10.0%	59.9%	49.8%	55.7%	149
	Total	**78.73**	**62**	**47.0%**	**95**	**18.0%**	**19.0%**	**17.0%**	**14.0%**	**6.0%**	**51.3%**	**40.2%**	**46.7%**	**310**

Reliability	
All reading comprehension and writing items, Somali & English	
Cronbach's alpha	0.881
All reading comprehension items, Somali & English	
Cronbach's alpha	0.803
All writing items, Somali & English	
Cronbach's alpha	0.765

Distribution of scores (total percentage score for reading comprehension + writing, Somali & English)



Pilot Numeracy Results and Analysis

		Overall percent correct	Sub-Task 1, Number identification	Sub-Task 2, Quantity discrimination	Sub-Task 3, Missing Numbers	Sub-task 4: Addition (level 1)	Sub-task 5: Subtraction (level 1)	Sub-task 6: Addition (level 2)	Sub-Task 7, Subtraction (level 2)
		Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean
Grade 5	Rural	61	93	92	46	87	73	48	32
	Urban	.	.	.	.	.	.	.	.

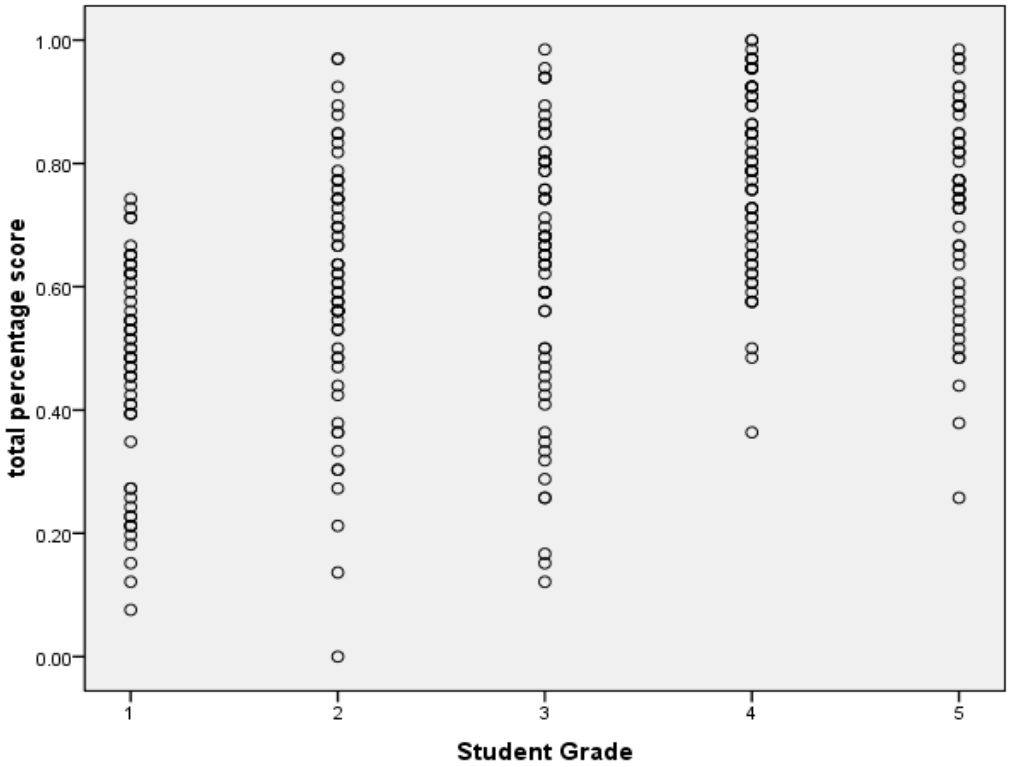
	Total	**61**	**93**	**92**	**46**	**87**	**73**	**48**	**32**
Grade 7	Rural	71	95	93	52	90	84	72	55
	Urban	71	96	90	55	87	84	63	49
	Total	**71**	**96**	**92**	**53**	**89**	**84**	**68**	**52**
Grade 8	Rural	75	99	98	58	94	86	70	51
	Urban	73	98	91	62	86	83	59	52
	Total	**74**	**99**	**95**	**60**	**90**	**84**	**65**	**51**
Form 1	Rural	86	100	100	79	95	95	92	82
	Urban	85	100	100	69	98	99	86	73
	Total	**85**	**100**	**100**	**70**	**97**	**99**	**87**	**74**
Form 3	Rural	82	99	99	63	97	98	70	70
	Urban	81	99	99	63	96	97	77	68
	Total	**81**	**99**	**99**	**63**	**96**	**97**	**74**	**69**
Total	Rural	70	96	95	54	91	83	64	49
	Urban	79	99	96	63	93	92	74	63
	Total	**74**	**97**	**96**	**58**	**92**	**87**	**69**	**55**

	Sub-task 8: Word problems – (addition and subtraction)	Sub-task 9: Multiplication (level 1)	Sub-task 10: Multiplication (level 2)	Sub-Task 11, Division (level 1)	Sub-Task 12, Division (level 2)	Sub-task 13: Word problems (multiplication and division)	**total score (excluding number identification and quantity discrimination)**	**total score (excluding number identification, quantity discrimination and lower level addition and subtraction)**
	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean

Grade 5	Rural	60	40	0	21	1	31	46%	32%
	Urban	.	.	.	.	.	.		
	Total	**60**	**40**	**0**	**21**	**1**	**31**	**46%**	**32%**
Grade 7	Rural	72	69	23	38	9	56	60%	49%
	Urban	62	63	31	43	29	38	60%	49%
	Total	**67**	**66**	**27**	**40**	**18**	**48**	**60%**	**49%**
Grade 8	Rural	78	71	22	57	9	63	64%	53%
	Urban	63	66	36	54	34	57	63%	54%
	Total	**71**	**69**	**28**	**56**	**20**	**60**	**63%**	**53%**
Form 1	Rural	83	78	48	72	38	75	79%	72%
	Urban	80	89	54	72	37	72	78%	70%
	Total	**80**	**87**	**53**	**72**	**37**	**72**	**79%**	**70%**
Form 3	Rural	83	78	56	56	39	70	74%	64%
	Urban	82	81	40	64	30	72	73%	63%
	Total	**82**	**80**	**46**	**61**	**33**	**71**	**73%**	**63%**
Total	Rural	71	60	20	40	12	51	59%	47%
	Urban	73	77	43	61	33	62	71%	61%
	Total	**72**	**68**	**31**	**50**	**22**	**56**	**64%**	**53%**

Reliability	
Total score, excluding number identification and quantity discrimination	
Cronbach's alpha	0.883

Distribution of scores (total percentage score, excluding number identification and quantity discrimination)


total percentage score
1.00
0.80
0.60
0.40
0.20
0.00
1
2
3
4
5
Student Grade

Only one version of the assessment was generated. Other versions have not yet been generated and calibrated to the same level of difficulty.

The design of the assessment used during the baseline was sound, and the baseline results suggest that an assessment of similar difficulty and format should be used for the assessment of numeracy and literacy in the midline. There were severe floor effects in English literacy, but the distribution of Somali literacy scores did not have significant floor effects, enabling the adequate assessment of Somali literacy and literacy overall, even if the assessment of English literacy will be somewhat encumbered by the floor effects noted.

The methodology for marking the assessment is described fully in sections 2 and 4. It should be noted that the literacy assessment used in this study is unique (as compared with other GEC projects) because it assesses both local language (Somali) literacy and English literacy, and then combines these scores for each language into a single score that is the average of each of the subtask scores (with each subtask counting equally).

Annex 10: Sampling Framework

Provide updated and final excel file. The final selection of the schools/communities for the evaluation should be clear.

Annex 11: Control group approach validation

The evaluation uses a mixed-methods, quasi-experimental design, involving a longitudinal panel with a non-randomly assigned control group. The rationale for a quasi-experimental design is clearly stated in CARE's MEL Framework: "In the context of Somaliland/ Somalia, the use of a randomized controlled trial is not possible due to the risk of uneven allocation of randomly assigned intervention/control sites across rival clans. This can result in potential violent backlash against staff and beneficiaries of the intervention, as well as misrepresentation of donor/ NGO efforts as favouring one group over another."[243]

In order to compensate for non-random assignment to the comparison group, the evaluator attempted to pair comparison schools with intervention schools that were the closest possible match in terms of potentially important characteristics. For the formation of the sample, CARE provided a list of 38 comparison schools, along with a larger frame of targeted treatment schools to be selected into the sample. The goal of sampling was to create pairwise sets of treatment and comparison schools that maximized comparability among pairs by minimizing differences between paired schools on key variables that might influence outcomes of interest. Variables considered, in order of importance, were:

6. Zone
7. Urbanicity
8. Size of the school
9. Receiving other NGO support
10. CEC or not

[243] CARE International, Monitoring, Evaluation and Learning Framework (MEL), July 31, 2017, pg. 13.

In order to efficiently identify matches on multiple variables, Forcier used coarsened exact matching (CEM) in Stata to create natural strata consisting of exact matches on categorical variables, and grouped near-matches on continuous variables (i.e. size of school). A more detailed description of CEM, along with replication code for creation of strata, is provided below.[244] Ultimately, not all potentially relevant variables could be used to generate strata, as this would have resulted in a potentially large number of un-matched treatment schools. The CEM algorithm was optimized to maximize the level of differentiation in strata, while minimizing the number of unmatched schools. The optimal combination of variables ultimately included: 1) zone, 2) school size, 3) whether or not the school had received NGO support, and 4) whether or not the school had a CEC. Ultimately, all urban schools were dropped out of the sample as ineligible, and so urbanicity was not a matching criterion, despite originally being a prioritized criterion. The total number of resultant CEM-matched strata was 18.

Within each stratum of matched schools, treatment schools were drawn randomly to match the number of comparison schools in that stratum. The result was 32 natural pairings across 18 strata. For comparison schools that remained unmatched on the basis of CEM matching, a second round of matching was used, removing the CEC criterion. This was necessary due to the fact that a number of comparison schools were missing information on this variable. This round of matching resulted in two additional pairings. Ultimately, a small number of schools remained unmatched, largely due to missing information on the NGO variable. Four pairings were formed manually, based on perfectly matching zone, then finding nearest-matches in terms of school size.

The resultant sample is perfectly balanced (between treatment and comparison) in terms of zone, and is nearly balanced in terms of school size and known involvement of other NGOs (39% of treatment schools with NGO involvement, vis-à-vis 29% of comparison schools). The sample is poorly matched in terms of having a CEC (where this is known), with significant differences in proportions between treatment and comparison groups along this dimension. Ultimately, the schools were as well-matched as possible given the available schools in the frame, and the available information about their relevant characteristics.

The following table summarizes the features of the initial sample in terms of the key variables matched across treatment and comparison schools:

Variable	Category	Comparison Frequencies	Intervention Frequencies	Total
Zone	Galmudug	3	3	6
	Puntland	13	13	26
	Somaliland	22	22	44
	Yes	11	15	26

[244] From Stata documentation for the user-written command: “Cem implements the Coarsened Exact Matching method described in Iacus, King, and Porro (2008). The main inputs for cem are the variables to use and the cutpoints that define the coarsening. Users can either specify cutpoints for a variable or allow cem to automatically coarsen the data based on a binning algorithm, chosen by the user.” The data in question were coarsened using the default binning algorithm. For the purpose of replication, the coarsening code used was: cem zone_setting totalenrolment ngo cec, tr(treatment)

The variable zone_setting is a variable representing every unique combination of zone (region) and setting (urbanicity) of units. Ultimately, urbanicity was not a relevant variable because 100% of eligible sampling points were rural.

NGO support	No	12	16	28
	Missing	15	7	22
CEC	Yes	24	35	59*
	No	2	2	4*
	Missing	12	1	13*
		Comp. mean	**Treat. Mean**	**Total mean**
School size	Enrollment	158	202	180

*Differences in proportions between treatment and comparison groups are significant at p=0.003 in a Pearson chi-squared test.

- Identify any risk to comparability of the intervention and control group at midline and endline, e.g. different processes to select samples, exposure to different government policies, contamination or spillover effects.

- Show and comment on tables displaying intervention and control samples composition by region, age, grade and the subgroups identified in Section 3.

The table below shows the evaluation sample by grade and enrolment status for cohort girls. There are no statistically significant differences by grade or enrolment status among girls between intervention and comparison schools.

Table 76: Evaluation sample breakdown of cohort girls (by grade)

	Intervention (Baseline)	Comparison (Baseline)	Comparison (w/o outliers)
Sample breakdown (Girls)			
Grade 3	154 (17.7%)	158 (18.2%)	134 (17.8%)
Grade 4	118 (13.5%)	91 (10.5%)	77 (10.2%)
Grade 5	126 (14.4%)	134 (15.4%)	107 (14.2%)
Grade 6	107 (12.3%)	97 (11.2%)	74 (9.8%)
OOS girls	367 (42.1%)	389 (44.8%)	362 (48.0%)
Total girls	872 (100.0%)	869 (100.0%)	754 (100.0%)

The table below summarises the evaluation sample by age groups of cohort girls. As shown below, there are no statistically significant differences in the age composition between the intervention or comparison groups.

Table 77: Evaluation sample breakdown of cohort girls (by age)

	Intervention (Baseline)	Comparison (Baseline)	Comparison (w/o outliers)
Sample breakdown (Girls)			

Aged 9-11	241 (27.6%)	261 (30.0%)	207 (27.5%)
Aged 12-13	268 (30.7%)	234 (26.9%)	201 (26.7%)
Aged 14-15	192 (22.0%)	204 (23.5%)	184 (24.4%)
Aged 16-17	109 (12.5%)	116 (13.3%)	110 (14.6%)
Aged 18-19	62 (7.1%)	54 (6.2%)	52 (6.9%)
Total girls	872 (100.0%)	869 (100.0%)	754 (100.0%)

Table 14 below presents the proportion of cohort girls in the sample who have characteristics that may relate to educational marginalisation.

Table 78: Girls' characteristics

	Intervention (Baseline)	Comparison (Baseline)	Comparison (w/o outliers)	Source (Household and Girls School survey)
Sample breakdown (Girls)				
Family (%)				
Single orphans	94 (10.8%)	99 (11.4%)	91 (12.1%)	PCG_11g
Double orphans	2 (0.2%)	4 (0.5%)	4 (0.5%)	PCG_13g
Living without both parents (%)	84 (9.6%)	111 (12.8%)	104 (13.8%)	PCG_10g PCG_12g
Living in female headed household (%)	416 (47.7%)	413 (47.5%)	345 (45.8%)	HH_8
Married (%)	30 (3.4%)	33 (3.8%)	31 (4.1%)	PCG_22g
Mothers (%)				
Under 18	9 (1.0%)	9 (1.0%)	9 (1.2%)	PCG_23g
Under 16	4 (0.5%)	2 (0.2%)	2 (0.3%)	PCG_23g
Poor households (%)				
Difficult to afford for girl to go to school	101 (11.6%)	124 (14.3%)	78 (10.3%)	PCG_7enr
Household doesn't own land for themselves	200 (22.9%)	170 (19.6%)	140 (18.6%)	PCG_11econ
Material of the roof (material to be defined by evaluator)	748 (85.8%)	771 (88.7%)	664 (88.1%)	PCG_2econ
Household unable to meet basic needs	306 (35.1%)	304 (35.0%)	259 (34.4%)	PCG_5econb
Gone to sleep hungry for many days in past year	105 (12.0%)	101 (11.6%)	91 (12.1%)	PCG_7econ
Language difficulties:				
LoI different from mother tongue (%)	62 (12.3%)	50 (10.4%)	16 (4.1%)	PCG_2enr, PCG_1enr
Girl doesn't speak LoI (%)	8 (1.6%)	20 (4.2%)	18 (4.6%)	PCG_3enr
Parental education				
HoH has no education (%)	610 (70.0%)	597 (68.7%)	510 (67.6%)	HH_13
Primary caregiver has no education (%)	650 (74.5%)	685 (78.8%)	593 (78.6%)	PCG_6
Total girls	872 (100.0%)	869 (100.0%)	754 (100.0%)	

None of the subgroups tabulated above exhibit statistically significant differences between intervention and comparison groups.

Learning barriers were also analysed and the only barrier that shows a significant difference between intervention and comparison groups is if the girl reports that she “Doesn’t get support to stay in school and do well.”

Thus, in terms of girls’ characteristics and household-level characteristics the comparison group is well-matched to the intervention group.

In terms of outcomes, there are no statistically significant differences between the intervention and comparison groups in terms of transition rates.

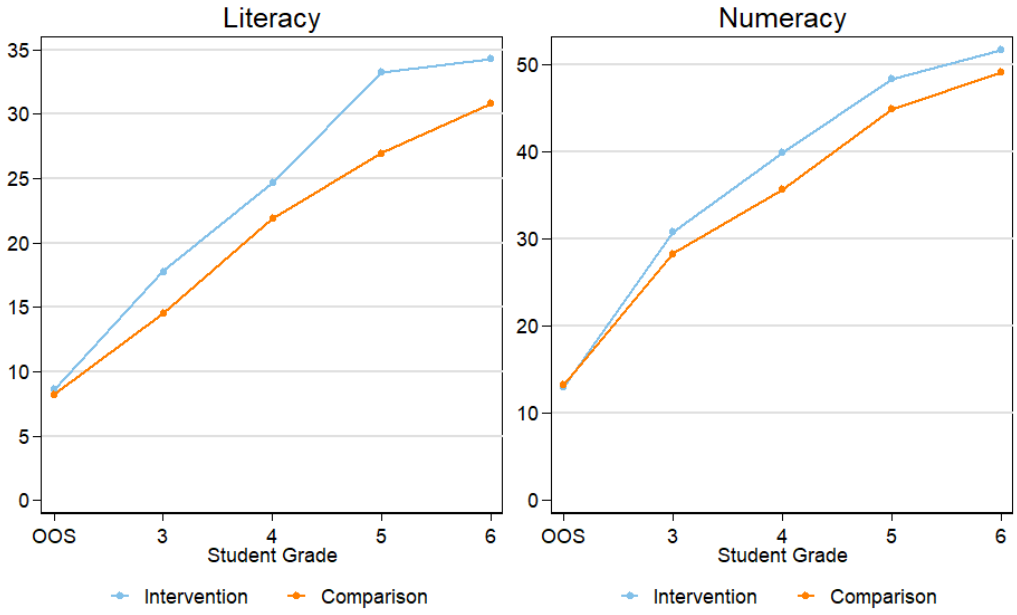
Numeracy scores are not significantly correlated with intervention versus comparison. However, literacy scores for in-school girls are correlated with intervention/comparison to a statistically significant degree, as shown in the regression results table below.

```
Linear regression                               Number of obs     =        897
                                                F(1, 70)          =       4.23
                                                Prob > F          =     0.0435
                                                R-squared         =     0.0162
                                                Root MSE          =      17.36

                                  (Std. Err. adjusted for 71 clusters in school)
------------------------------------------------------------------------------
             |               Robust
literacy_p~c |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
   treatment |      4.4474   2.162921     2.06   0.043     .1335901    8.761209
       _cons |    21.51511   1.641306    13.11   0.000     18.24163    24.78859
------------------------------------------------------------------------------
```

The difference-in-differences approach can adjust for these aggregate differences at baseline, provided that the parallel-paths assumption applies.

To the extent that current progress across grades can be taken as an indicator of future learning trajectories for cohort girls (in the absence of an intervention), it appears that both literacy and numeracy scores are on parallel paths for the intervention and comparison groups. The graphs below visualize these trends. Numeracy scores are clearly on parallel paths. Literacy scores are slightly divergent from grades 5 to 6, but paths are relatively parallel from grades 3 to 5.



The other important difference that is worth noting is that (as noted during the design of the sample), a higher proportion of intervention schools have a CEC as compared with comparison schools. The effects of CECs on schools and on girls' performance can be controlled for statistically as part of difference-in-differences analysis of longitudinal data for the midline and endline studies.

Annex 15: Mapping of Grade Level Competencies

The tables in this annex provide a detailed mapping of competencies students are expected to achieve in English and mathematics at each primary school grade level. The mapping is based on two sets of curricula, drawn from Puntland and Somaliland. As noted in the main report, the curricula available for analysis are substantially incomplete in two ways. First, the Federal Government of Somalia has not assembled a unified curriculum for students under its jurisdiction. A curriculum development process is on-going at the time of this writing. As a result, students in different regions or even districts may be held to substantively different standards in terms of grade-level competencies, a fact complicated further by the differences that exist across zones. Second, the curricula reviewed by the evaluation team include only competency in English and mathematics. As a result, the assessment of grade-level competency in the main report was limited to English and mathematics performance only.

Table 1, below, lists the English competencies indicated for each grade level in Puntland and Somaliland, respectively. The skills listed are those that the relevant educational authorities believe are indicative of grade-level achievement. Note that, by reviewing the tables provided in the primary report (e.g., at the end of Section 4.1), one can see how specific skills tested in the baseline literacy and numeracy assessments map to the skills described in this annex. Table 2 provides a similar mapping of grade-level competencies in mathematics.

Table 79: Goal Grade-Level Competencies in English

Grade Level	Puntland	Somaliland
1	Not Classified	Not Classified
2	Not Classified	Reading, Writing & Grammar: • Lower- and upper-case letters • Simple vocabulary (animals and animal sounds) • Parts of speech – nouns and verbs
3	Listening & Speaking: • Simple greetings • Name classroom objects • Active vocabulary of 200 words Reading, Writing & Grammar: • Letter formation • Word recognition • Phonetic awareness • Reading words and simple sentence • Singular and plural forms • Personal pronouns • Question words	Reading, Writing & Grammar: • Draw and label simple sentences • Write cursive letters • Verbs ending in –ing • Antonyms • Pronouns • Time-related adverbs • Indefinite articles (a, an)

4	Listening & Speaking: • Asking questions • Objects in home and parts of body • Active vocabulary of 400 words Reading, Writing & Grammar: • Copying and labelling simple sentences • Reading common words and simple sentences • Present and present continuous tenses • Descriptive adjectives	Listening & Speaking: • Practice speech using simple dialogue Reading, Writing & Grammar: • Writing simple sentences • Adjectives • Present and present continuous tenses • Adverb use
5	Listening & Speaking: • Dialogue • Listening comprehension of short stories • Active vocabulary of 650 words Reading, Writing & Grammar: • Writing short descriptive paragraphs (2-3 sentences) • Context-driven reading strategies • Reading short stories • Past tenses • Forming grammatical questions • Comparisons	Listening & Speaking: • Answering questions with simple sentences Reading, Writing & Grammar: • Past tenses • Reading and understanding simple stories
6	Listening & Speaking: • Active vocabulary of 900 words Reading, Writing & Grammar: • Writing descriptive paragraphs • Description and narration about self • Punctuation • Reading for context and implied meanings • Future tense • Possessive forms • Adverbs • Quantities	Reading, Writing & Grammar: • Writing simple and medium-length paragraphs • Writing short introduction letters • Reading comprehension for medium-length stories • Synonyms • Vocabulary for shopping • Gender nouns • Future tense • Present participle tense
7	Listening & Speaking: • Active vocabulary of 1200 words	Reading, Writing & Grammar: • Writing full letters

	Reading, Writing & Grammar: • Full compositions • Write answers to questions • More detailed description and narrative • First conditional sentence structure • Pronouns • Adjectives • Modals (will, should, ought to) • Riddles and tongue-twisters	• Present perfect tense • Relative pronouns • Antonyms and synonyms • Passive voice • Reflexive words • Auxiliary words • Conditionals • Coordinate conjunctions • Comparison words
8	Listening & Speaking: • Active vocabulary of 1500 words Reading, Writing & Grammar: • Full compositions • Write answers to questions • More detailed description and narrative • Subject-specific reading comprehension • Simple passive and past passive tenses • Prepositions and conjunctions • Present perfect tense • Riddles and proverbs	Listening & Speaking: • Practice with long dialogue Reading, Writing & Grammar: • Writing formal letters • Past participle tense • Past perfect tense

Table 80: Goal Grade-Level Competencies in Mathematics

Grade Level	Puntland	Somaliland
1	• Numbers 0-99 • Place values • Addition up to 99 • Addition without carrying numbers • Adding and subtracting number patterns • Length and capacity comparisons using informal units • Currency and buying/selling scenarios • Lines and complex shapes	• Numbers 0-99 • Identification of shapes • Written forms of numbers 1-9 in words • Place values of 1's and 10's • Addition and subtraction without carrying/borrowing • Length, weight, capacities using arbitrary units • Time and local currency
2	• Mental math • Numbers up to 999 • Addition and subtraction while carrying one number	• Numbers up to 999 • Comparisons of two numbers • Written forms of numbers 1-999 in words

	• Multiplying and dividing 2-digit numbers by 1-digit numbers • Length, weight, capacity comparisons • Shape names and identification • Basic fractions (halves, quarters)	• Addition and subtraction of 3-digit numbers with carrying and borrowing • Patterns in addition and subtraction • Addition and subtraction word problems • Multiplication of single-digit numbers • Simple division (no remainder) • Identify rectangles, triangles, circles, ovals • Measurements using standard units (meters, etc.) • Telling time
3	• Numbers up to 9,999 • Adding and subtracting numbers up to 9,999 • Multiplying and dividing 3-digit numbers by 1-digit numbers • Length and capacity comparisons using formal units • Addition and subtraction of lengths • Perimeters of shapes • Complex and 3-dimensional shapes • Medium-level fractions (thirds, fifths) • Drawing angles	• Numbers up to 9,999 • Addition and subtraction of 4-digit numbers with borrowing and carrying • Multiplication of 3-digit numbers • Division of 3-digit numbers • Multiplication and division word problems • Basic fractions (halves, quarters) • Addition and subtraction of decimals to 2 places • Multiplication of decimals • Identify 3-dimensional shapes • Circumference/perimeter of shapes • Addition and subtraction of basic time units
4	• Numbers up to 99,999 • Number patterns • Addition and subtraction of numbers up to 99,999 • Multiplying 3-digit numbers by 3-digit numbers • Dividing 3-digit numbers by 2-digit numbers • Weights and subtraction of weights using formal units • Lengths and length conversion • Area, volume • Time conversions • Currency addition, subtraction and multiplication • Improper and mixed fractions • Addition and subtraction of fractions and decimals • Drawing angles	• Numbers up to 99,999 • Addition and subtraction of 5-digit numbers • Multiplication and division of 4-digit numbers • Multiplication and division word problems • Improper fractions, mixed numbers, and simplification of fractions • Addition and subtraction of fractions and decimals • Identify types of angles • Conversion of standardized measurements
5	• Numbers up to 999,999 • Number patterns • Roman numerals • Adding and subtracting up to 1 million without borrowing • Multiplying 3-digit by 3-digit numbers • Dividing 4-digit by 2-digit numbers with/without carrying	• Lowest common multiples, greatest common divisors, etc. • Addition and subtraction of 6-digit numbers • Multiplication and division of 5-digit numbers • Addition and subtraction of more complex fractions

	• Multiplication and division word problems • Commutative and other properties of operations • All operations on and conversions of lengths/weights • Perimeter formulas • All operations on decimals • Complex fractions • Ratios • Statistical tables and graphs • Algebraic expressions and equations in one variable	• Multiplication and division of decimals • Measure angles; addition of angles • Types of triangles; properties of squares and rectangles and perpendicular lines • Units of measurement squared • Areas and volumes of common polygons, cubes, etc. • Data presented in tabular and graphical forms
6	• Numbers up to the millions • Number patterns • Addition and subtraction up to the millions • Multiplication of 6-digit numbers by 4-digit numbers • Dividing millions by up to 3-digit numbers • Solving complex word problems • Estimation of lengths, etc. • Area and other geometric formulas (circ. of a circle) • Measurement of speed • Fractions, exponents, square roots • Calculation of percentages • Bisecting lines and angles; complementary and supplementary angles; properties of angles • Ratios and proportions • Plotting graphs • Algebraic expressions and equations in one variable	• Numbers up to the millions • Rounding of numbers and decimals • Squares and simple square roots • Addition and subtraction of 7-digit numbers • Multiplication and division of 6-digit numbers • Identify simple number sequences • Word problems involving lowest common multiple, etc. • Simplify algebraic expressions • Solve equations in one variable • Inequalities • Reciprocals; squares and roots of fractions involving perfect squares • Convert fractions to decimals • Draw and know properties of types of lines (parallel, etc.) • Opposite and supplementary angles • More complex measurement units • Conversion of cubic measures • Measures of speed • Read and interpret graphical and tabular data • Mean (average)
7	• Integers • Base 2 and Base 10 numbers • Sets • Squares and roots • Multiplying and dividing numbers of any size • Complex word problems • Word problems involving fractions, decimals and percentages • Transversals and angles; Pythagorean theorem • Direct and indirect ratios • Means (averages) • Solving equations • Algebraic inequalities • Algebraic substitution	• Squares and square roots of perfect squares • Conversion of linear scale to ratio form • Word problems with scale drawings • Ratios and proportions, including word problems • Simplify algebraic expressions, including use of substitution • Solve equations in one unknown • Inequalities in one unknown • Properties of parallel lines, common polygons • Pythagorean theorem • Perimeter formulas of common polygons • Area of a circle • Surface area of 3-d shapes

		• Measurement problems involving discounts, interest, etc. • Word problems involving graphs and tables • Complex graphs (pie, line, etc.) • Mean and mode
8	• Base 2, Base 5, Base 10 numbers • Indices • Logarithms • Set operations (union, intersection) • Complex measurement conversions • Units of time, speed, distance, etc. • Complex, mixed, improper fractions • Operations on fractions and decimals • Angles in polygons • Types and properties of triangles • Nets of cubes, cuboids, pyramids, etc. • Probability or chance • Linear and simultaneous equations • Solving for slope • Quadratic equations • Sine, Cosine, Tangents	• Conversion between fractions, decimals, percentages • Word problems involving combined operations and number sequences • Direct and indirect proportions • Form algebraic expressions and equations in one unknown • Parallelograms and rhombuses, including word problems • Nets of pyramids and prisms • Mean, median and mode