

Empowering Girls for Health and Well-being (EGWH) in Eswatini: In-School Clubs Final Evaluation Report

Population Council
Swaziland Action Group Against Abuse
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Introduction

Gender inequality and associated gender-based violence are prevalent in eSwatini. Empowering Girls for Improved Health and Wellbeing (EGHW) is a project that aimed, through participation in a Girls' Empowerment Program, to increase girls' social assets, knowledge of and self-efficacy related to sexual behavior, violence and HIV, and ability to access services. We hypothesized that these interventions could improve psychosocial and sexual health outcomes for vulnerable girls with access to Girls' Empowerment Clubs (GECs), and better equip them to practice safer sexual behaviors, stay in school, and seek services and support in the case of abuse. The Swaziland Action Group Against Abuse (SWAGAA) addresses sexual and gender-based violence (GBV) and HIV/AIDS as dual epidemics, using a rigorous integrated approach to addressing sexual and reproductive health (SRH) needs and HIV and GBV risks through GECs that served girls in primary school in two regions of the country.

This project was built around two key objectives that incorporated an innovative approach to girls' empowerment, safety and well-being, with rigorous monitoring and evaluation:

Objective 1: Strengthen girls' agency and protective assets and contribute to improved gender equality through GECs and related activities:

- Engage girls aged 10-14 years in grades 4 and 5 within 30 public primary schools identified by the Government of eSwatini (GoE) as under-resourced; adapt the school-based curriculum to improve girls' knowledge, skills and school retention.
- Design a complementary school-based program for boys' clubs and pilot it in 10 of the 30 study schools where new girls' clubs were also establish, to improve gender equality and reduce male perpetration of violence.
- The GEC school-based model was

implemented for 2 academic years in 10 schools with only girl clubs and in 10 other schools with girls and boys being offered gender-specific clubs. The remaining 10 schools did not have clubs and served as control schools. The schools were strata randomized for inclusion within one of three study arms. (The strata were the two study regions of Manzini and Lubombo where the government had selected 15 schools per region for the study.)

Objective 2: Increase the percentage of girls who tell someone about abuse they have experienced and seek services for it:

- Strengthen referral networks from GECs to services through Together for Girls (TfG) partner organizations and the Government of eSwatini (GoE), including establishing and/or strengthening regional coordination bodies to facilitate access and quality.

The evaluation included 30 schools that were strata randomly assigned to three study arms:

1. GEC: Schools where girls had access to girl clubs in their school for two years (GEC)
2. GEC+: Schools where girls had access to girl clubs and boys had access to boy clubs in their school for two years (GEC+)
3. Control: Schools where girls had no access to girl clubs and boys had no access to boys clubs, during the two-year intervention period

Through engagement with government agencies at the local level, the project also built national and local capacity and strengthened program sustainability. The tools and findings are being disseminated locally and globally by the study team, as well as the wider TfG network.

Key Findings

Overall Conclusions

- There were there no program impacts on sexual or physical violence experienced by girls or boys.
- Introducing girls' clubs without boys' clubs had no statistically significant impacts on studied outcomes for girls after the evaluation design is accounted for.
- Adding boys' clubs in schools where girls' clubs were simultaneously introduced (GEC+) resulted in girls being more likely to seek services after experiencing sexual violence compared with both controls and girls in schools that only had girl clubs.
- Introducing boys' clubs and girls' clubs in the same school (GEC+) had a number of statistically significant beneficial impacts for boys, including boys telling someone about physical violence experienced, greater service-seeking after experiencing either physical or sexual violence, and higher levels of general self-efficacy, social capital, confidence in obtaining health services, and HIV-knowledge.
 - » The intervention appeared to be more effective for boys than girls, perhaps because it began to fill a historic gap in gender-transformative programming available to boys.
- More beneficial impacts for boys than girls could also have been due to the boys' curriculum focusing more on relationship skills that were applicable to daily life than the lessons in the girls' curriculum, which seemed to focus more on awareness of types of abuse and where to get help if they were experienced.
 - » In particular, discussions of power in sexual relationships, components of healthy relationships, communication and conflict management, and a session at the end that brought together all the gender beliefs and behavior change strategies, along with the creation of a personal action plan based upon all the lessons, were available to boys but not to girls.
- Despite the favorable changes for boys, there were no impacts on boys' reported violence perpetration behaviors or attitudes toward gender equity or gender-based violence. Less than one month had elapsed, however, between the final summative sessions for boys and the endline survey. It is possible that these boys' attitudes and behaviors might with time, especially given the impacts observed on telling someone about an experience of physical violence, service-seeking after any type of violence, and helping a friend who had recently experienced physical violence.

Photo Credit: Dr. Kelly Hallman



Primary Outcomes

Experience of violence

- There were no statistically significant program impacts on reported experiences of sexual violence or physical violence for either girls or boys

Told anyone about a physical violence experience in the past 12 months

- There were no statistically significant program impacts for girls
- GEC+ boys were more likely than controls to have told anyone about their experience

Service seeking among those reporting a violent experience in the 12 months before baseline

- After a physical violence experience
 - There were no statistically significant program impacts for girls
 - Boys in the GEC+ arm were more likely to seek services, particularly counselling; they were less likely however to go seek help from the police
 - Among males seeking services after physical violence, those in GEC+ schools were less likely than controls to be satisfied with services received, especially from the police
- After a sexual violence experience
 - Both girls and boys in the GEC+ arm were significantly more likely to seek any service than participants in control schools; there was no program impact among girls in the GEC only arm
 - Compared with controls, all treated girls were more likely to seek legal services and counseling, with the effect remaining only for GEC+ girls after accounting for the evaluation design
 - GEC+ boys were more likely than controls to seek health, legal and police services
 - Compared with controls, all treated girls had higher satisfaction with police services received, but the result was not significant once the evaluation design was controlled for

Helped a friend who experienced physical violence

- GEC+ boys were significantly more likely than controls to have helped a friend who had experienced physical violence in the past 12 months
- There were no statistically significant program impacts for girls

There were no statistically significant program impacts on boys' violence perpetration behaviors

GEC+ boys were more likely than controls to have had sex in the 12 months before the baseline survey

Girls in the GEC+ arm had poorer mental health scores and were less likely to progress to the next grade in school during study period than girls in the control arm; there were no statistically significant program impacts on mental health or school progression for boys or GEC-only girls

Intermediate Outcomes

- *There were no statistically significant program impacts for boys or girls in attitudes toward gender equity or gender-based violence*
- *Girls in both treatment arms had statistically significant greater contraceptive knowledge than control girls*
- *Compared with controls and the GEC+ arm, girls in the GEC-only arm were less likely to have friends outside their household*
- *There were statistically significant improvements for GEC+ boys in generalized self-efficacy, confidence in obtaining health services, social capital and HIV knowledge*



Setting

Girls and young women in eSwatini face high levels of exposure to violence and HIV with serious consequences for their health and long-term well-being. The 2007 national Violence Against Children Survey (VACS) showed 33% of 13-17-years-old girls reported experiencing some form of sexual violence; 16% experienced it in the past one year.¹ Girls who experienced violence were more likely to report sexually transmitted infections (STIs) including HIV, unwanted pregnancy and pregnancy complications, alcohol use, suicidality and depression.² Five percent of women are married or in a union before 18, compared to 2% of men.³ The country is an absolute monarchy, governed through a dual legal system, with a legal framework that may protect children from violence, but a deeply entrenched customary legal system and traditional practices which are discriminatory to women and girls and norms that discourage help seeking in cases of abuse⁴, thus fueling gender-based violence and practices such as child marriage.

Boys are not immune to violence and its consequences: 68% of boys report experiencing physically violent discipline,⁵ and 88% of boys and girls aged 14 or younger reported experiencing psychological aggression or physical punishment in the last month.⁶ While sexual violence data are not available for boys in eSwatini, regionally we know that somewhat fewer than 1 in 7 boys report experiencing sexual violence before age 18.⁷ While for girls

violence in childhood can predict experiences of intimate partner violence in adulthood, for boys violence in childhood is associated with increased risk of growing up to perpetrate.⁸ While rates of violence against girls tend to be high, reporting is consistently low. Less than half of girls in eSwatini told anyone about their experience of violence, because they did not know what they had experienced was abuse, were afraid of being abandoned, didn't want to get the perpetrator in trouble, didn't know who to tell or didn't think they would be believed.⁹ Very few girls seek services, and access and quality and availability of those services are often limited.

eSwatini has the highest national HIV rates in the world, with estimates for women aged 18 – 49 at 35%.¹⁰ While HIV prevalence among both boys and girls aged 10-14 is slightly above 3%, risk for girls increases across adolescence, with a prevalence among girls aged 15-24 of 16%, compared to 3% for boys in the same age group.¹¹ Data from eSwatini and elsewhere has shown a strong correlation between the experience of violence and long-term health outcomes including HIV. eSwatini girls are also at risk for other poor reproductive health outcomes: 16.7% of 20-24 year-olds report a live birth before age 18.¹² Among 15-19 year old girls, the adolescent birth rate is 87 (per 1,000)¹³, with risk for an adolescent birth the highest for girls who live in rural areas, have less education, or are in the poorest wealth quintile.¹⁴ Unmet need for contraception is 15%,¹⁵ with higher need among younger women.

¹ UNICEF Swaziland and CDC. Findings from a National Survey on Violence Against Children in Swaziland. CDC, Atlanta. 2007.

² Reza A, et al. Sexual violence and its health consequences for female children in Swaziland: a cluster survey study. *Lancet* 2009;373(9679):1966-72.

³ Swaziland MICS, 2014 Key Findings.

⁴ The Swaziland Deputy Prime Minister's Office (DPMO), the University of Edinburgh (UoE), the University of Swaziland (UNISWA) and the United Nations Children's Fund (UNICEF) Swaziland (UNICEF Swaziland). 2016. *The Drivers of Violence Affecting Children in Swaziland: Synthesis of Findings*, Mbabane: UNICEF.

⁵ Swaziland MICS, 2010.

⁶ Swaziland MICS, 2010 and 2014 Comparative Report.

⁷ UNICEF Tanzania, CDC, and Muhimbili University of Health and Allied Sciences. *Violence against Children in Tanzania: Findings from a National Survey 2009*. Dar es Salaam, Tanzania. 2011; UNICEF Kenya, CDC, and Kenya National Bureau of Statistics. *Violence against Children in Kenya: Findings from a 2010 National Survey*. Nairobi, Kenya. 2012; Zimbabwe National Statistics Agency. *National Baseline Survey on Life Experiences of Adolescents in Zimbabwe 2011*. Preliminary Report. 2012; Ministry of Gender, Children, Disability and Social Welfare of the Republic of Malawi, United Nations children's Fund, the Center for Social Research at the University of Malawi, and the Centers for Disease Control and Prevention. *Violence Against Children and Young Women in Malawi: Findings from a National Survey, 2013*. Lilongwe, Malawi: Government of Malawi, 2014.

⁸ Ministry of Gender, Children, Disability and Social Welfare of the Republic of Malawi, United Nations children's Fund, the Center for Social Research at the University of Malawi, and the Centers for Disease Control and Prevention. *Violence Against Children and Young Women in Malawi: Findings from a National Survey, 2013*. Lilongwe, Malawi: Government of Malawi, 2014.

⁹ UNICEF Swaziland and CDC. Findings from a National Survey on Violence Against Children in Swaziland. CDC, Atlanta. 2007; and Government of Swaziland and All in. May 2015. *Strengthening Adolescent Component of National HIV Programmes through Country Assessments in Swaziland: Initial Report of Rapid Assessment*. Data from: UNAIDS 2001-2013 HIV and AIDS estimates, via Spectrum, August 2014.

¹⁰ UNAIDS 'AIDSinfo' <http://aidsinfo.unaids.org/> [Accessed September 2019].

¹¹ Ibid.

¹² Swaziland MICS, 2010 and 2014 Comparative Report.

¹³ Swaziland MICS, 2014 Key Findings.

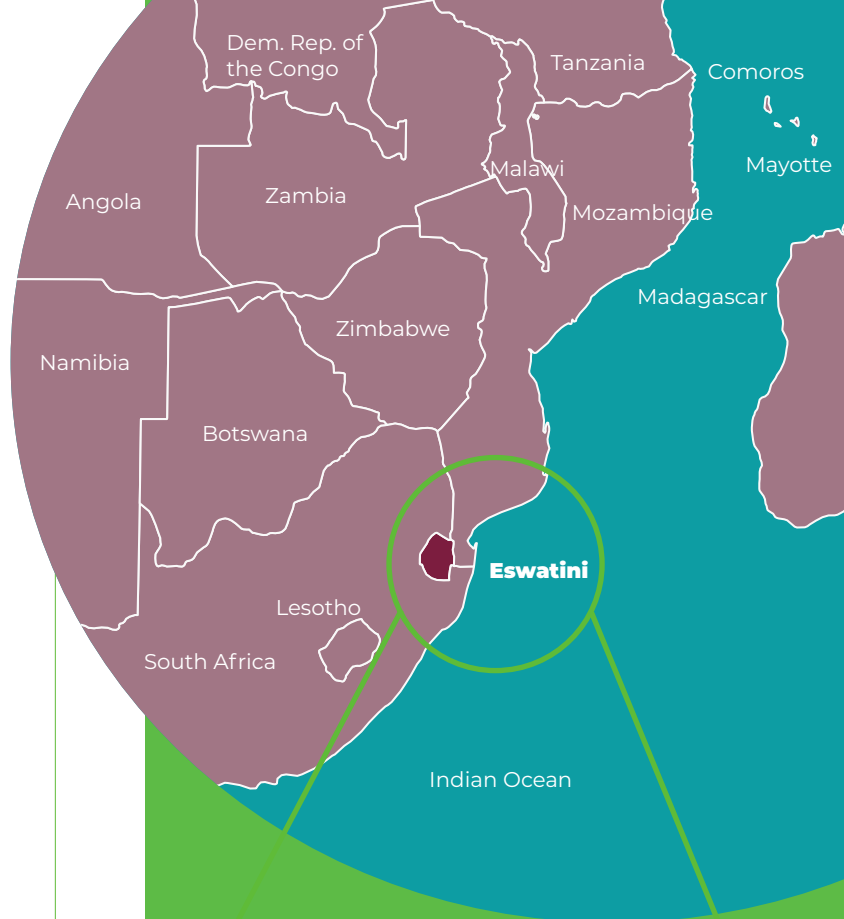
¹⁴ Swaziland MICS, 2010.

¹⁵ Swaziland MICS, 2014.

While eSwatini has close to gender parity for education, with a girl:boy ratio in secondary school of 1.19, only 85% of girls transition from primary to secondary school,¹⁶ and net attendance is 55%.¹⁷ Girls are at high risk for drop out beginning at age 13, with high levels of drop-out across secondary school.¹⁸ Reasons for dropping out of lower secondary for girls include pregnancy, family reasons and illness.¹⁹

Influencing these issues in eSwatini is the high rate of children who are orphaned or not living with parents. While the VACS indicated that having a strong relationship with one's mother was protective from violence, 1 in 5 children are single or double orphans,²⁰ and 1 in 3 girls are not living with a parent.²¹ With more than half of the country's population younger than 20 years, it is particularly alarming that more three-quarters (78%) of 15–17-year-olds are considered orphaned or vulnerable.²² Orphaned children are increasingly without parental role models to teach them basic skills, compounding their vulnerability,²³ are more likely to drop out of school and less likely to access basic health, shelter, social protection and legal support.²⁴

These poor indicators are embedded in and contribute to a context where gender inequality and violence are social norms. To address these highly complex and intersecting issues, SWAGAA is providing an information and skills building program to children in low-resource primary schools. The target outcomes of this study included attitudes, knowledge and practices that support school retention, improved SRH information and practices, and violence prevention and response. Service strengthening and integration of improved referral pathways into GECs targeted low access and awareness of SRH services, including for girls who have



At-A-Glance

- 33% of 13-17-years-old girls reported experiencing some form of sexual violence, 16% in the past year
- There are customary legal systems and practices that are discriminatory to women and girls, and norms that discourage help-seeking in cases of abuse
- 88% of boys and girls aged 14 or younger reported experiencing psychological aggression or physical punishment in the last month
- Eswatini has the highest national HIV rates in the world, with estimates for women aged 18-49 at 35%
- HIV risk for girls increases across adolescence, with a prevalence among girls aged 15-24 of 17%, compared to 3% for boys

¹⁶ Net intake for primary school is 89% for girls, and 94% complete primary school, according to the 2014 MICS.

¹⁷ Swaziland MICS, 2014 Key Findings.

¹⁸ Government of Swaziland. Ministry of Education Annual Education Census 2012 Report.

¹⁹ Ibid

²⁰ Swaziland MICS, 2014 Key Findings.

²¹ Swaziland MICS 2010, Indicator 9.17.

²² Ibid., p. 243.

²³ National Plan of Action on OVC (2006-2010)

²⁴ Economic Strengthening to Improve the Well-Being of Orphans and Vulnerable Children, USAID, 2004.

experienced violence. A pilot program with in-school boys investigated how engagement with adolescent boys can contribute to changed attitudes and improved knowledge while addressing underlying social norms. At the same time, service coordination and strengthening adolescent friendly services targeted low rates of reporting in the hope of increasing service access, particularly working to build referral pathways so girls would seek and use services.

Project Description

Background

The project builds on SWAGAA's prior experience operating GECs (46 across four regions of the country) in schools using an approach based on the Population Council's 'Safe Spaces' model²⁵ as part of their Girls Empowerment Program (GEP). This program seeks to empower young and adolescent girls around gender-based violence and HIV by educating them about abuse and support services and providing self-efficacy training. On a broader scale, violence prevention and response are situated within support, knowledge and encouragement of girls to build confidence and skills, recognize their own talents, and be better prepared for leadership roles. The GECs bring together in-school girls on a weekly basis to hold guided discussions on issues including violence, HIV, SRH, child rights, advocacy, leadership, and gender roles and behaviors. The girls are supported by teachers in their schools who facilitate clubs and monitor and support activities. In addition to SWAGAA staff, girls are supported by a mentor, who is a young woman volunteer and often a club graduate from the community. SWAGAA has also convened a Multi-Sectoral Committee of government, education, and community partners in to oversee the coordination and service provision to survivors of gender-based violence. An assessment of the GECs in 2013 noted their benefits while recommending

strengthening the curriculum, particularly in the area of self-efficacy, fostering wider community linkages, and expanding information to include other aspects of SRH.²⁶

Current Project

SWAGAA's experience in this area provided a strong foundation to introduce and test new methods of supporting girls' empowerment, to build the evidence base and improve results. The current project had two objectives: first, to ensure that girls in eSwatini, especially in the most underserved communities, benefitted from empowerment programs that strengthened knowledge and skills leading to school retention and improved SRH knowledge and practices, and where appropriate increased girls' use of services for violence and sexual and reproductive health. The second was to improve service availability, quality and coordination by linking services to GECs through embedded referral networks.

Integrated into these objectives, the project aimed to test new modalities of girls' empowerment and social norm change programming, so the research findings could support replication and scale up. These innovations included testing the impact of adding complementary boys' clubs in one of the three study arms (10 schools). Interventions are described in the implementation section below. Rigorous evaluation compared two years of girl clubs versus two years of girl and boy clubs in schools to a control group of girls in schools who had not been exposed to the intervention, utilizing baseline and endline measurements to test the impact of the model.

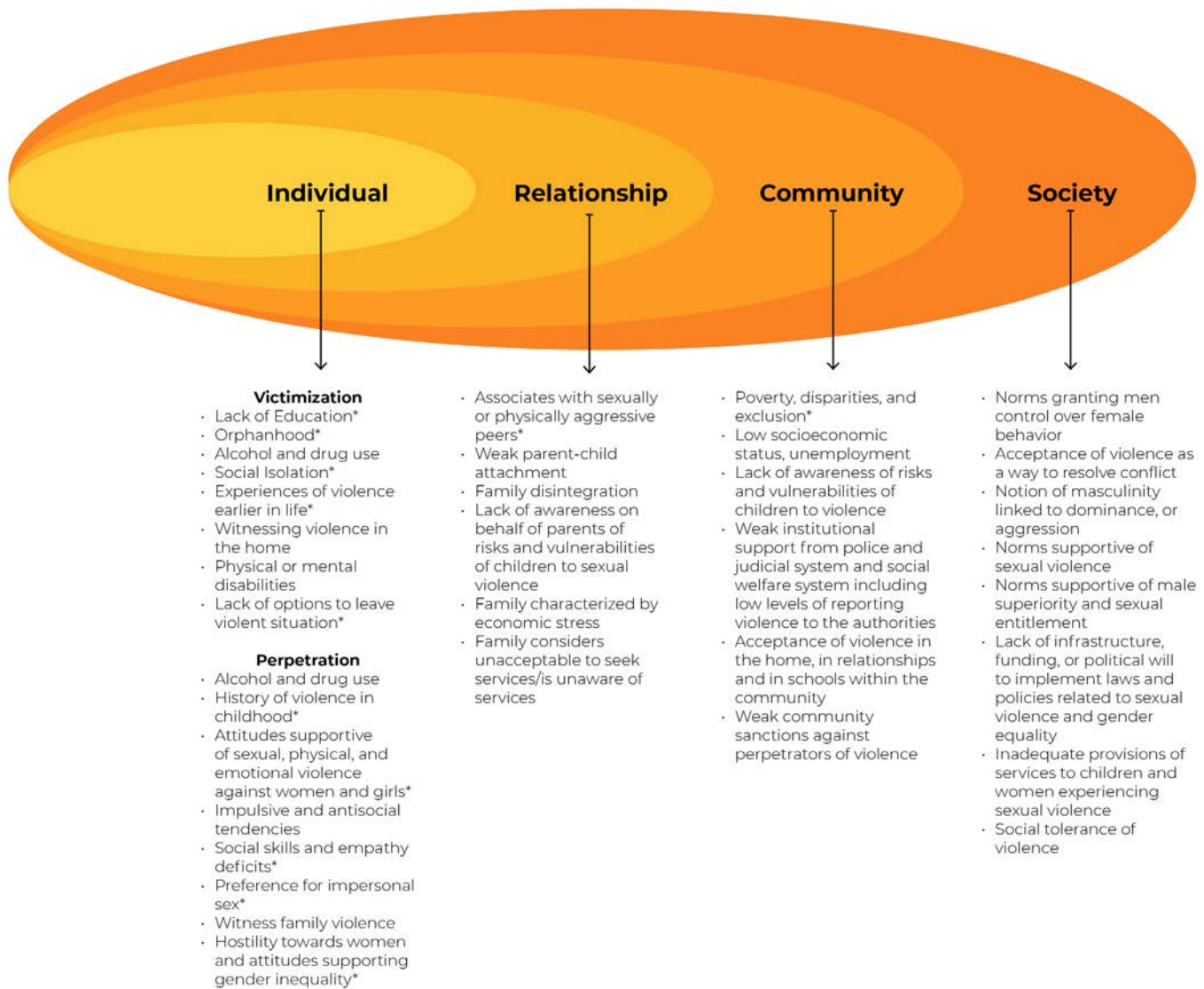
Theory of Change

Healthy transitions to adulthood among adolescent girls in sub-Saharan Africa are hampered by a cohort of critical issues, including high rates of GBV and unsafe sex, which heighten risk for unwanted pregnancy and HIV infection; lack of agency; social isolation; school dropout; and economic vulnerability. High rates

²⁵ Miriam Temin, Sajeda Amin, Thoai D. Ngo, & Stephanie Psaki. Dec 2018. How to Give Adolescent Girls Voice, Choice, and Control: A framework for programs focused on empowering adolescent girls. Stanford Social Innovation Review https://ssir.org/articles/entry/how_to_give_adolescent_girls_voice_choice_and_control (accessed April 15, 2019).

²⁶ SWAGAA. 2013. Effectiveness of Comprehensive Sexual and gender-based violence prevention project for in-school girls in Swaziland. SWAGAA: Manzini, Swaziland.

Figure 1. Ecological Model



of orphan-hood compound these issues. Some girls in eSwatini do not transition to secondary school and drop-out risk is heightened as girls enter adolescence.²⁷

All these issues interconnect through their root causes, chiefly gender inequality and norms supporting violence against women and girls. Accordingly, solutions to these problems must be interconnected. We know that experiencing violence early in life reinforces the cycle of violence in adulthood, and that experiencing violence limits women's ability to participate in families, communities and society. Violence is situated in an ecological model in which attitudes, social norms, knowledge, and practices around gender and violence are influenced by the individual, families, communities, and broader norms, laws, policies and practices. Figure 1

demonstrates an ecological model of risk for violence against girls. *(Note that factors targeted in this intervention through identification of vulnerable girls or the programmatic intervention areas are identified with a star [*]).*

Our theory of change posits that girls require combinations of protective assets (e.g., health, social, economic) in order to make a healthy transition into adulthood, which in turn will enhance their sense of empowerment. One type of asset alone is inadequate as girls' social situation often takes precedence over their knowledge of where and how to access services; indeed, research shows that an increase in a sole asset without support from other assets can increase vulnerable girls' exposure to GBV.²⁸ Underpinning the proposed intervention is

²⁷ Government of Swaziland Annual Education Census Report 2012. Ministry of Education.

²⁸ Austrian, K. Forthcoming. "Increasing girls' social, health and economic assets: Evaluation Results of a savings and financial education program for vulnerable girls in Kenya and Uganda."

²⁹ Dunbar, M., Maternowska, M.C., Kang MS, Laver SM, Mudekunya-

the asset-building framework for vulnerable adolescent girls, within which assets are considered as a store of value that girls can use to both reduce vulnerabilities and expand opportunities. Self-efficacy, for example, is an asset which a girl can draw upon in order to decline unwanted sexual advances, mitigate sexual harassment, or access needed services. Social assets (close friend networks, trustworthy adults, etc.) can be drawn on for support and resilience during crises; indeed, evidence is emerging that better peer support decreases the risk that girls will experience sexual abuse.³⁰ Given the interconnections among the root causes of GBV, negative sexual and reproductive health outcomes, and low self-efficacy (for example), investments must be made to build the full range of assets in order for impacts to be made.

Successful interventions must address these linkages and underlying causes while building a range of girls' assets. This project aims to do so by providing safe spaces within school where girls can attain GBV knowledge, build their social networks and self-efficacy, and be linked to health services. Despite experience in implementing, and adapting the Safe Spaces model, there are gaps in the programming and evidence base. Not all girls are equally vulnerable and our working in the most underserved schools in the country will better reach the most at-risk girls. This will be combined with life-skills lessons and knowledge that increase girls' agency and options for health decision making, as well as improved services, and complementary boys' clubs. These refined and comprehensive approaches are expected to improve health and well-being outcomes.

Historically, the involvement of boys in this model has also been a missing component; yet, involving boys is likely to strengthen the desired outcomes, given both their risk for perpetration of GBV and their potential as champions against it. Through the program planning SWAGAA has adopted a life-cycle approach by engaging

boys from an early age to guide the formation of positive perceptions and attitudes toward women and girls, gender equality, HIV and SRH while systematically addressing notions of patriarchy and masculinity. We hope to demonstrate how these changes result in stronger relationship and community networks for girls, reducing experiences of violence. Over time this may contribute to improved girls' and women's empowerment, changing women's and girls' safety in private and public spaces, representation in leadership, and recognition of their voices, priorities and needs.

Study Design

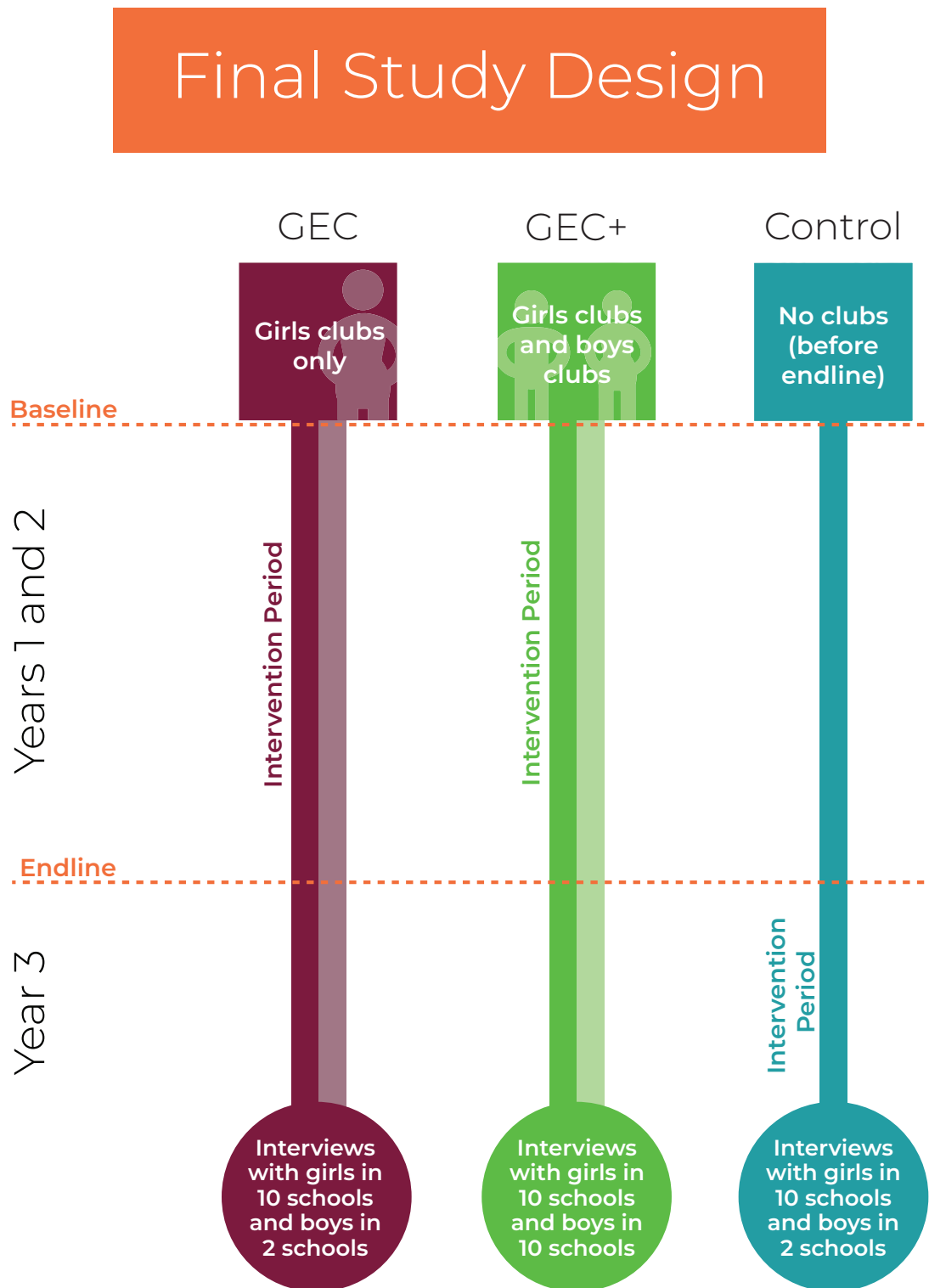
Three important changes to the study design took place after the project was funded. These resulted from (a) analysis of additional data about conditions for girls in eSwatini that became newly available to team, and (b) receiving the list, and learning characteristics, of the schools the government instructed SWAGAA to carry out the project in.

1. The original proposal called for intervening with both primary and secondary school girls. After examining newly available school retention data and learning about sizable female dropout rates before completion of primary school, in consultation with the Government of eSwatini a decision was made to focus only on primary school girls. The hypothesis is that intervening with girls aged 10-14 in grades 4 and 5 at baseline could help girls stay in primary school while gaining knowledge and skills through the GECs. As primary school in eSwatini extends through grade 7, the study was then able to observe girls in grade 6 and 7 at endline (about 18 months post-baseline) as they approach the end of primary school.
2. An original aim was to identify using a rapid census the most vulnerable girls within study schools to target for inclusion in the GECs. Upon receipt of the list of 30 school from the Government, however,

Mahaka I, Padian NS. 2009. Findings from SHAZI: a feasibility study of a microcredit and life-skills HIV prevention intervention to reduce risk among adolescent female orphans in Zimbabwe. *Journal of Prevention and Intervention in the Community*, Apr 38(2):147-61.

³⁰ Hallman, K. 2011. "Social exclusion: The gendering of adolescent HIV risks in KwaZulu-Natal, South Africa," pp. 53-80 in J. Klot and V. Nguyen eds., *The Fourth Wave: An Assault on Women - Gender, Culture and HIV in the 21st Century*. Social Science Research Council and UNESCO.

Figure 2. Study Design Schematic



we realized that (i) all 30 schools were rural and very under-resourced, and (ii) learner numbers were not as large as we expected them to be and not sufficient to allow parsing out more versus less vulnerable subgroups within classrooms. We therefore decided against using the census approach within schools. The study team deemed this a positive development,

as it also avoided the possible stigmatization of the most vulnerable girls being labeling as “the worst” of their class. SWAGAA believes it would have been clear to fellow learners and educators that those living without parent(s) and over age for grade (i.e., doing poorly in school) were recruited, resulting in the clubs potentially having been viewed as only for “dumb girls,” “poor girls” or “orphaned girls.”

Another issue the team discussed is that the rapid census may not have been a very precise instrument for predicting which school-going girls would have been the most likely to experience sexual violence. Although the rapid census assesses well which girls are most socially excluded - and social exclusion correlates strongly with experiences of nonconsensual sex - it has not been validated as a tool to predict which in-school girls are most at risk for experiencing sexual violence.

3. The original study question was to determine the differential impact of 0, 1, or 2 years of exposure to the GECs for girls. While this would have been instructive for informing future rollout of the program in eSwatini, the original design - which mixed exposure time and a gender comparison (see below) - did not have sufficient statistical power to say much about the impact of either (a) exposure time or (b) having girl-only vs. girl clubs and boy clubs in schools.

The baseline survey was conducted when this study design was still intact. We did not have sufficient resources at that time to interview boys in all the study schools. As the main purpose of the study was to assess the intervention's impact on girls, we made the decision to interview boys only in a randomly selected subset of schools from each of the intervention arms that did not have any boy clubs.

Fortunately, however, near the end of 2017 - after the baseline data collection was completed, SWAGAA realized that exchange rate gains would allow them enough financial and human resources to implement GECs in 20 schools for two years (instead of 10 schools for 2 years, and 10 schools for 1 year, as in the original design, depicted above). This afforded us the possibility of an alternative study design in which we assess the impact of adding male involvement to a girl-focused intervention, by comparing 10 schools in each of the following three study arms: (a) girl-only club schools for 2 years, (b) girl and boy clubs schools for 2 years, (c) no club schools for 2 years.



Photo Credit: Dr. Kelly Hallman

From a global point of view - and for eSwatini young people - the final study design encompassing only the gender comparison was deemed as a much more valuable inquiry and one that had more (but still not sizable) statistical power.

Ethical Procedures

Ethical clearance for the study was granted by the Population Council IRB and the eSwatini National Health Research Review Board (NHRRB). A study team researcher along with SWAGAA staff visited each school to introduce the study and its rationale. Guardian consent forms were sent home and then later returned through the index student. In cases in which a guardian was not available in the home to return the form indicating a either a “yes” or “no” response to the consent inquiry, the school counselor or head teacher was deemed to have sufficient knowledge of the student’s family circumstances to provide proxy consent for the student.

There were sensitive topics in the survey, some of which may have been regarded as intrusive and personal, especially given the nature of the subjects such as experience of SGBV and knowledge of HIV. Careful steps were taken in the study and instrument design to minimize potential discomfort or harm to study respondents. The approach was informed by recommendations of UNICEF’s Child Protection Monitoring and Evaluation Reference Group (CP MERG) (2012) for reducing research discomfort, distress, and trauma of child survivors of violence; Schenk and Williamson (2005) for research with children in international settings; and World Health Organization (2001) for minimizing research risks among SGBV survivors.

The researchers worked with teachers to schedule appointments during break times to inform students of the opportunity to participate in the survey. Those approached would have already obtained guardian consent. On the day of the survey, interested eligible students had informed assent administered to them.

The school survey was used to capture information on students’ social assets, knowledge of and self-efficacy related to sexual behavior, violence and HIV, and ability to access services. The survey took place within the classroom setting. To maintain privacy for students as they undertook the survey, researchers worked with head teachers to ensure that, during the survey, classrooms were set up as they would be for national or end-of-term examinations with more space than usual between students, far enough apart to not overhear others’ responses. This allowed student participants the space and privacy required for the process to be confidential. The survey took place during regular school hours.

A trained enumerator of the same sex joined each student at her/his desk to review the assent form and gain the student’s informed assent. If assent is given, the verbal face-to-face interview with responses recorded on a PDA was administered. Participants were reminded that their names and student registration numbers were not recorded and that they could stop at any time or skip any questions they did not want to answer. There was no compensation provided for student survey participants.

Implementation

Updated curriculum were developed based on recommendations from SWAGAA’s 2013 program evaluation and current state of the art. Curriculum development was closely coordinated with efforts by the Government of eSwatini (NERCHA) as well as the DREAMS eSwatini initiative to harmonize themes and best practices while avoiding duplication of efforts.³¹ SWAGAA also undertook the time- and resource-intensive steps of working through the GoE to obtain official government approval for both the girls’ and boys’ curricula.

To increase girls’ use of health and other supportive services, including for HIV and SRH, and post-violence, the project strengthened

³¹ New modules on self-efficacy were added; new SRH information was added with support from this grant and in coordination with the DREAMS initiative and NERCHA in Swaziland, among others.

referral networks from the GECs to services, and overall service access and coordination through Together for Girls' partner organizations and the Government of eSwatini (GoE). This included coordinating with partner initiatives (e.g. DREAMS in eSwatini) and national-level coordination groups (e.g. the National Multisectoral Task Team on Violence, convened in early 2015).

Over the project period, interventions were focused on Manzini and Lubombo regions. While all regions in eSwatini have high rates of HIV, school drop-out and other health risk factors for girls are particularly high in these two regions. Of secondary age girls, 15% in Manzini and 12% in Lubombo are not enrolled.³² Nationally girls in Lubombo who were sexually active were the least likely to report using a

³² Swaziland MICS, 2014 (p. 147).

condom at last sex,³³ Lubombo also has the highest prevalence of child marriage and second highest rate of sexually transmitted infections, as well as reported high prevalence of gender-based violence and HIV. Anecdotal evidence indicates that there are remote rural areas with minimal access to service providers. Meanwhile, in coordination with DREAMS eSwatini has ensured that the project does not overlap with other school-based implementation programs. The close coordination with DREAMS, including on evaluation, also enabled a stronger understanding of which interventions are likely to have the greatest success in achieving the desired outcomes. We were also informed by the Global Early Adolescent Study in the creation of our research instruments.

³³ UNICEF Swaziland 2013, Update of Situation of Children and Women in Swaziland

Figure 3. Girls' and Boys' Club Manuals

Contents of Girls' and Boys' Club Manuals		
Who am I as a girl?	Girls' Club Sessions	Act like a man, act like a woman
Developing self-confidence		Choosing a role model
How to choose friends		Brand you
Understanding your body		Understanding and taking care of your boy
Taking care of your body		Developing self-confidence
Safety		Choosing a friend
Children's rights and responsibilities		Clarify gender values
Drugs and substance abuse		Decision making
Gender-based violence		New kinds of courage
Sexual abuse		Power in a relationship
Rape		Communication and conflict management
Child abuse		The ingredients of a healthy relationship
Bullying		Violence string; bullying
Human trafficking		HIV & AIDS, stigmatization, HIV handshake
HIV and AIDS		Criminal record as a consequence of drug abuse
Economic empowerment		Ways to save money, importance of saving money, and way to generate money
Effective public speaking		Going full circle and the belief cycle
Service providers in Swaziland		Taking action: Making a difference
		Boys' Club Sessions

Training

The trainings consisted of a detailed, question-by-question review and discussion of the survey instrument, accompanied by helpful tips from an interviewer's manual, demonstration through role-plays, group discussions, and practice interviewing in pairs. Interviewers were also trained in how to use a tablet for data collection.

The enumerators were trained to follow several procedures to ensure confidentiality and reduce stress to learners during the interview; these were described earlier in the "Ethical procedures" section.

A pre-test was carried on the last day of training at a nearby school not among the 30 sampled schools. The main purpose of the pre-test was to acquaint the interviewers with the questionnaire and how to administer it to the respondents, and to strengthen interview skills including how to build a rapport, pacing, probing and listening skills.

The data collection tools were translated from English to the local language by trained translators who were fluent in both languages. They were then back-translated by a different interpreter to English to ensure the meaning was accurate. The tools were pre-tested among a small group of non-study students with similar characteristics to the study population to identify any potential issues and modified accordingly.

Baseline Fieldwork

Thirty public primary schools located in the Manzini and Lubombo regions were involved in the study. The schools were either rural or peri-urban (none were urban) and chosen by the Government because of their under-resourced status. There were fifteen schools per region. All girls aged 10-14 in 4th and 5th grades, whose guardians had consented, and selves assented (described in "Ethical procedures" section), were interviewed within the school setting in each of the 30 schools at baseline. Prospective respondents not meeting these criteria were

excluded from the classroom-based survey. Boys meeting the same criteria were also interviewed in the 10 schools with both boy and girl clubs, and in one randomly selected school per region from: the girl only club arm (2 schools) and the pure control arm (2 schools). This mixed control group of boys is a remnant from the original study design that informed the baseline survey (as described above in "Study design" section).

Endline Fieldwork

Data collection was conducted between Sept 16, 2019 and November 1, 2019 with the last two weeks largely dedicated to tracing participants who were not available at their baseline school during the endline. Data collection was done electronically using the software Survey Solutions installed on data collection tablets running on the Android operating system. Data collection was conducted in face-to-face computer-assisted personal interviews (CAPI) by trained interviewers with eligible participants using a structured questionnaire. Enumerator training was similar in duration and scope as at the baseline. To ensure privacy during the study, interviewers were trained to ensure that interviews were conducted in safe and secure locations to minimize disclosure and ensure confidentiality.



Results

Attrition

Table 1a shows the sample size and attrition by treatment by arm and survey round for girls. Table 1b shows the same for boys. A total of 1,793 girls were interviewed at baseline and approximately 1,666 were re-interviewed at endline; 880 boys were interviewed at baseline and approximately 773 were re-interviewed at endline. Attrition rates across treatment arms were consistent, though there was a higher rate of attrition for boys than girls (12.2% vs 7.1%).

Table 1a. Girls: Sample Size and Distribution by Treatment Arm and Survey Round

	BASELINE				ENDLINE				ATTRITION			
	Ctrl	GEC	GEC+	All	Ctrl	GEC	GEC+	All	Ctrl	GEC	GEC+	All
Overall	623	625	545	1793	581	581	504	1666	6.7%	7.0%	7.5%	7.1%
BY REGION												
<i>Manzini</i>	320	384	342	1046	303	358	322	983	5.3%	6.8%	5.8%	6.0%
<i>Lubombo</i>	303	241	203	747	278	223	182	683	8.3%	7.5%	10.3%	8.6%
URBAN/RURAL												
<i>Rural</i>	519	451	408	1378	483	415	374	1272	6.9%	8.0%	8.3%	7.7%
<i>Peri-Urban</i>	104	174	137	415	98	166	130	394	5.8%	4.6%	5.1%	5.1%

Table 1b. Boys: Sample Size and Distribution by Treatment Arm and Survey Round*

	BASELINE			ENDLINE			ATTRITION		
	Ctrl	GEC+	All	Ctrl	GEC+	All	Ctrl	GEC+	All
Overall	321	559	880	279	494	773	13.1%	11.6%	12.2%
BY REGION									
<i>Manzini</i>	255	342	597	221	304	525	13.3%	11.1%	12.1%
<i>Lubombo</i>	66	217	283	58	190	248	12.1%	12.4%	12.4%
URBAN/RURAL									
<i>Rural</i>	117	437	554	102	391	493	12.8%	10.5%	11.0%
<i>Peri-Urban</i>	204	122	326	177	103	280	13.2%	15.6%	14.1%

*Includes control boys from two GEC-only schools and two pure control schools.

Primary Outcomes

Primary Outcome Domain 1

Experiences of physical and sexual violence among boys and girls

Using simple means tests and single-difference ITT estimates, we assessed the effect of GEC/GEC+ on outcomes of violence and exploitation experienced in the 12 months before the endline survey. We looked at whether participants in GEC/GEC+ schools reported lower levels of experiencing (a) sexual violence (SV), (b) sexual exploitation and (c) physical violence in the past 12 months compared with participants in control schools. Our estimates suggest that the program did not have a significant impact on any of the three outcomes for either girls or boys.

GEC+ girls were somewhat less likely than GEC-only girls to have experienced sexual violence in the past 12 months, but neither intervention arm on its own or jointly differed significantly from the control group.

Figure 4.
Endline Means for Primary Outcomes Among All Boys and Girls:
Indicator 1.1

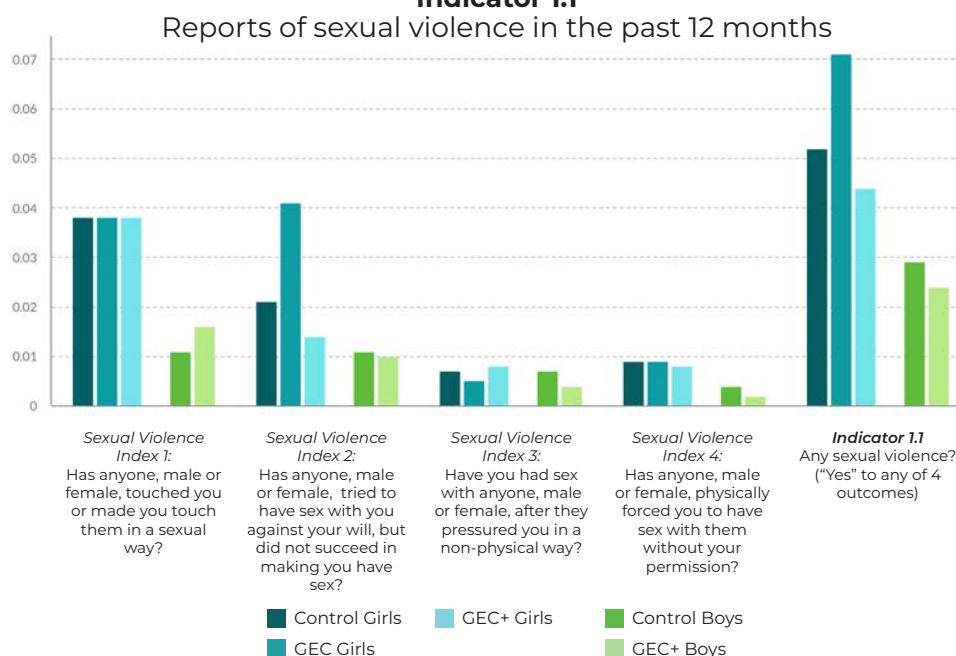
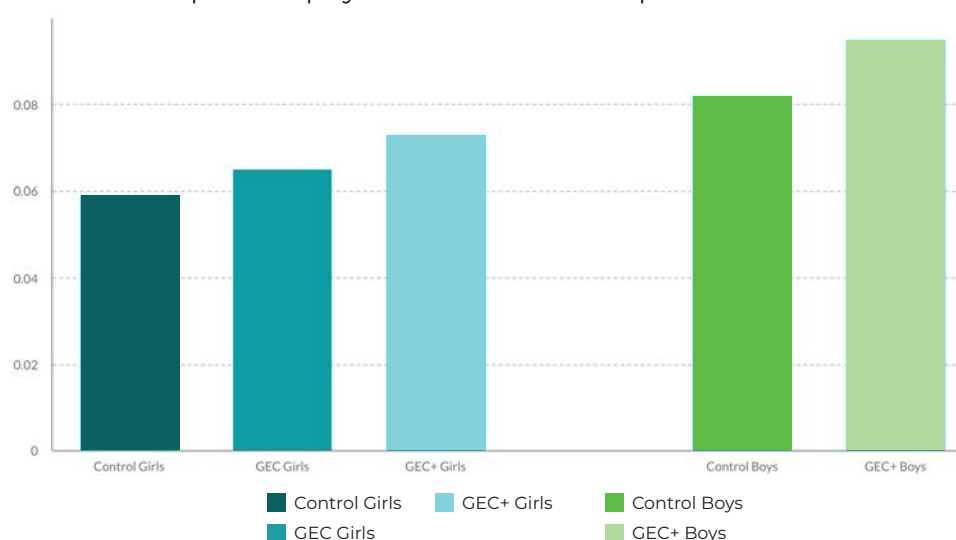


Figure 5.
Endline Means for Primary Outcomes Among All Boys and Girls: Indicator 1.3
Reports of physical violence in the past 12 months



Primary Outcomes

Primary Outcome Domain 2

Reporting and service-seeking behaviors among boys and girls who reported experiences of physical violence

We did not observe any statistically significant program impacts on telling anyone about the incident or service-seeking after experiencing physical violence among girls in either treatment arm.

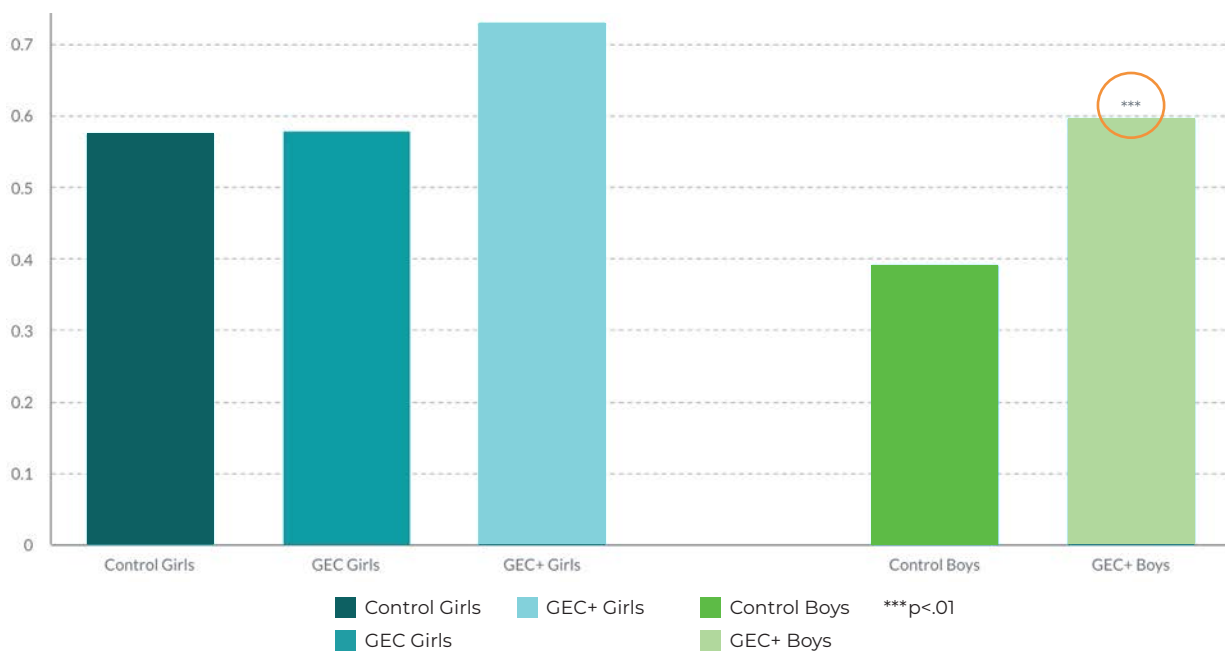
Boys in the GEC+ study arm were significantly more likely to report they had told someone after experiencing physical violence, and they were more likely to report seeking a service, especially counselling. They were less likely than controls, however, to be satisfied with services received, particularly those from the police.

Additionally, boys in GEC+ arm were more likely than boys in the control arm to report that in the past 12 months they had provided support to a friend who had experienced physical violence.

Figure 6.

Endline Means for Primary Outcomes Among All Boys and Girls: Indicator 2.1

Reports of telling anybody about the incident after experiencing violence in the past 12 months



Qualitative Insights

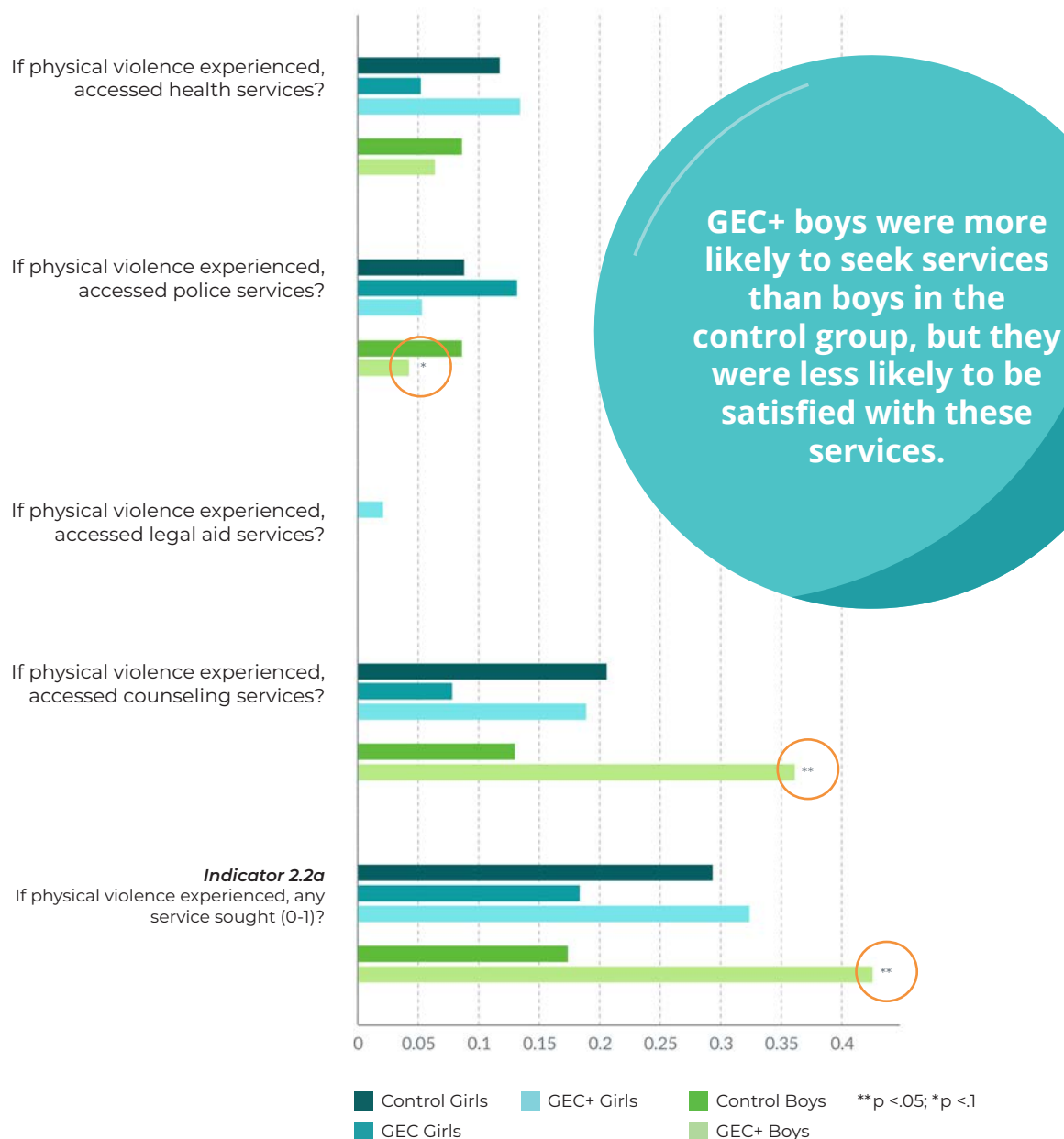
Students said that participating in clubs, even for one term, can help you respond better to violence.

Nonetheless, some members of all clubs say reporting abuse “is difficult,” primarily because of fears that the information will be shared.^a

^a Population Council and SWAGAA. Mar 31, 2020. Empowering Girls for Health and Well-Being in Swaziland /Eswatini. Qualitative Findings from Empowerment Club Members. Nairobi, Kenya: Population Council.

Primary Outcomes

Figure 7.
Endline Means for Primary Outcomes Among All Boys and Girls: Indicator 2.2
Service-seeking behaviors after experiencing physical violence in past 12 months



Qualitative Insights

There are deeply ingrained challenges relating to trust and confidentiality that affect reporting by girls and boys.^a

Recommendation: Conduct targeted research to learn more about the statements made and whether the underlying source is related to social or cultural norms (e.g., tibli tendlu), specific social experiences, or other structural issues.

^a Population Council and SWAGAA, March 31, 2020

Primary Outcomes

Primary Outcome Domain 3

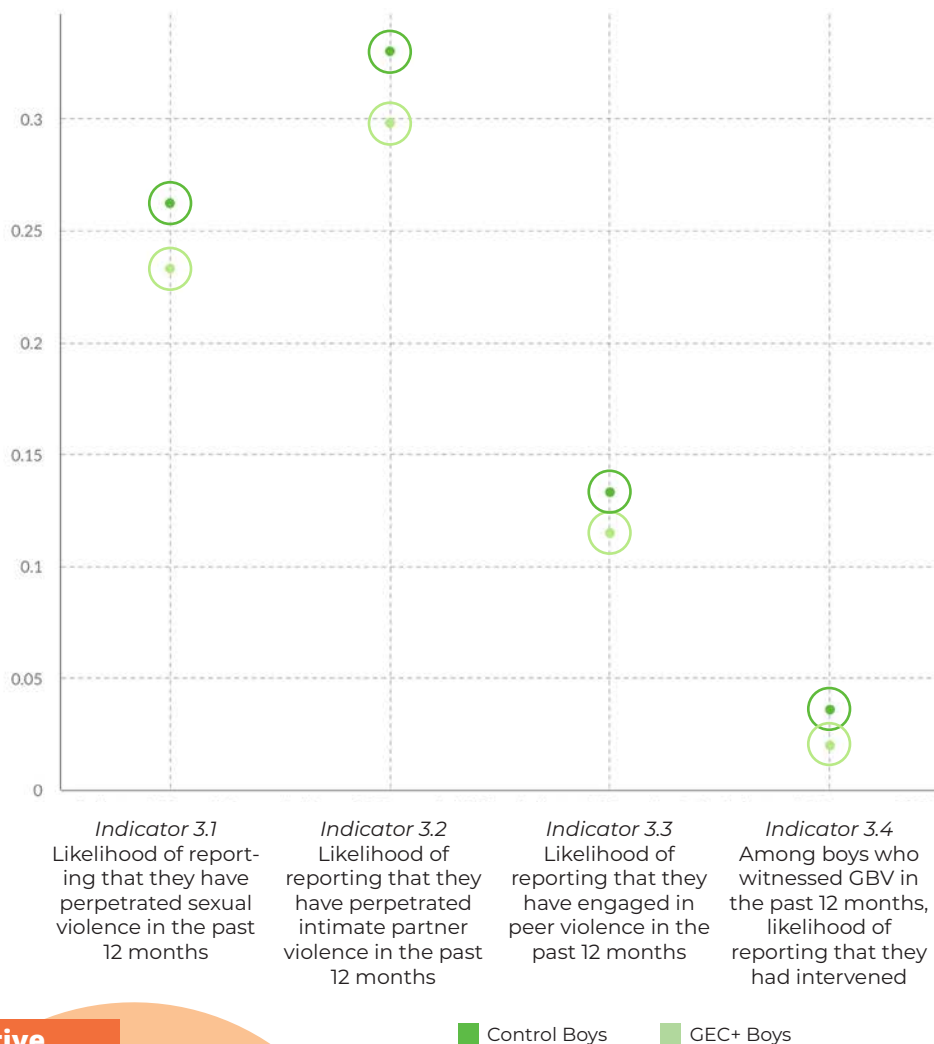
Boys perpetrating or engaging in violent behavior

Boys in GEC+ schools did not demonstrate statistically significant differences in violence perpetration behaviors compared to boys in control schools. We looked at whether boys in either GEC+ arm were less likely than controls to report that they (a) have engaged in peer violence (physical or verbal); (b) verbally abused a girl/girlfriend; (c) perpetrated physical violence against a girl/girlfriend; or (d) perpetrated sexual violence against a girl/girlfriend in the past 12 months.

Figure 8.

Endline Means for Primary Outcomes for Boys: Indicators 3.1-3.4

Reports of perpetrating or engaging in violent behavior in the past 12 months



Qualitative Insights

Many boys are benefiting from club participation; however, some boys may require different approaches to ensure their full engagement.^a

Recommendation: Conduct targeted follow up research to learn the extent of boys' engagement/disengagement, and whether different approaches or different selection criteria for participants are needed; or, if mentors need different training to work effectively with boys.

^a Population Council and SWAGAA, March 31, 2020

Primary Outcomes

Primary Outcome Domain 4

Demonstrating safer sexual health behaviors

Neither girls in the GEC nor the GEC+ arm were observed to have significantly safer sexual health behaviors than those in control schools. The ITT results show that GEC+ arm boys were somewhat more likely to report having had sex in the past 12 months compared with control arm boys.

There was no significant impact on sexual behaviors in the 12 months before endline.

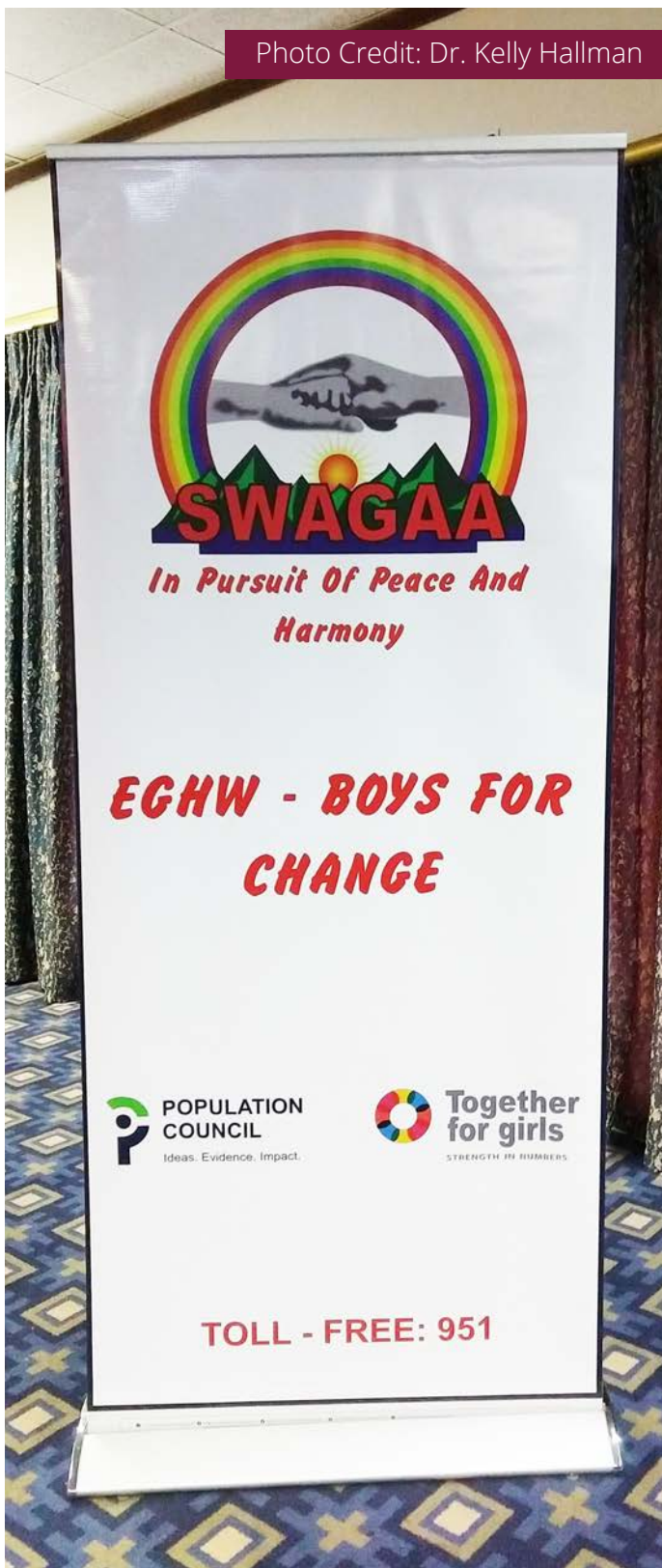


Qualitative Insights

Many girls are building some protective assets as members of GECs, both within schools where there are solely girls' clubs, and in schools where there are also boys' clubs.^a



Photo Credit: Dr. Kelly Hallman



^a Population Council and SWAGAA, March 31, 2020

Primary Outcomes

Primary Outcome Domain 5

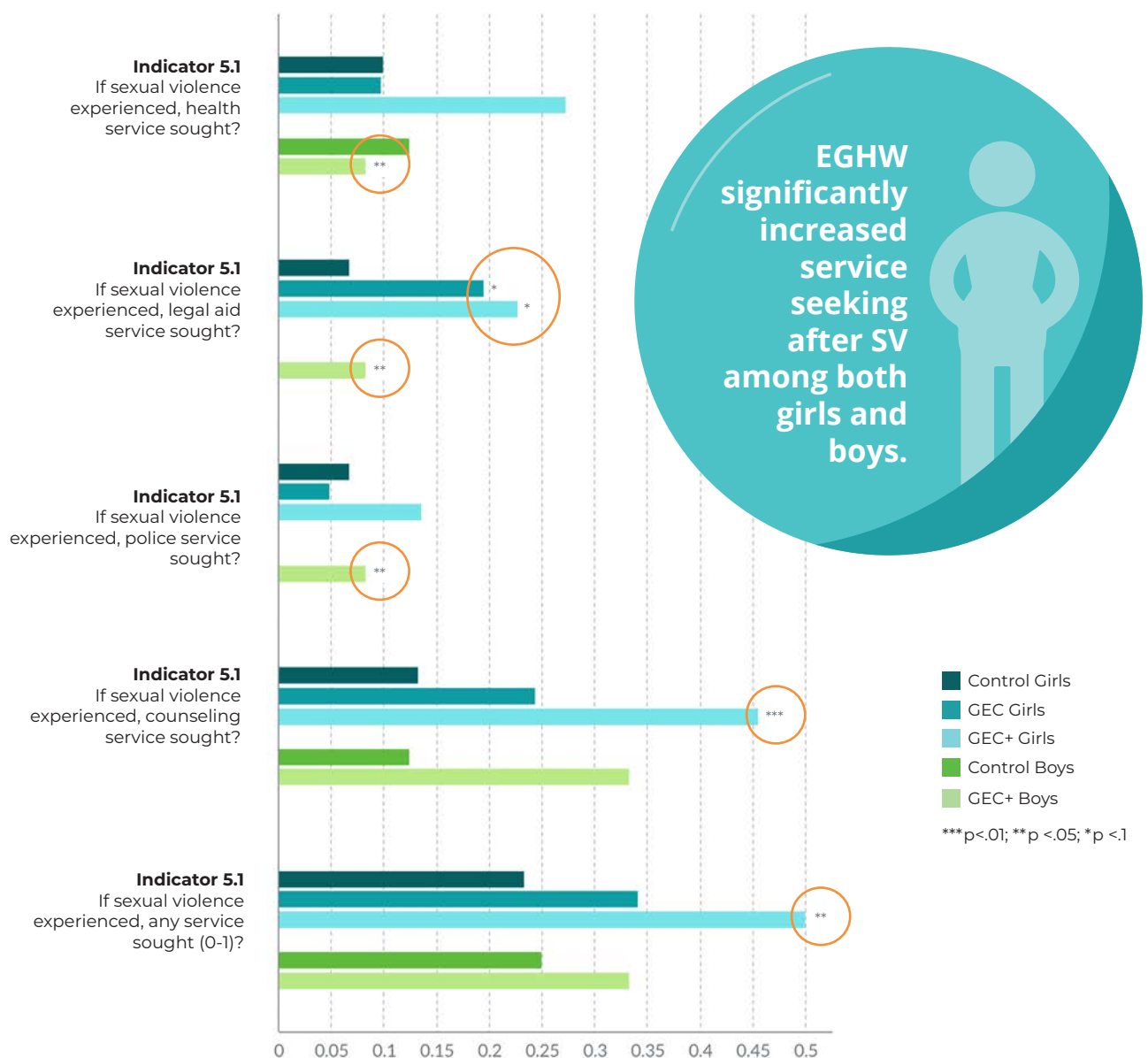
Service-seeking behaviors among boys and girls who reported experiences of sexual violence

Endline means comparisons show that treated girls were significantly more likely than controls to seek legal services and counseling after experiencing sexual violence and were more likely to report satisfaction with legal services received.

The ITT estimates reveal that girls in GEC+ arm who experienced sexual violence were significantly more likely to access any service, particularly health services and counseling. They were also more likely to be satisfied with services received.

There were no simple endline means differences for boys. The ITT results show that GEC+ boys were more likely to access services generally, as well as most specific types of services after experiencing sexual violence, with the exception of counseling services. There were no significant service satisfaction effects for boys.

Figure 9.
Endline Means for Primary Outcomes Among All Boys and Girls: Indicator 5.1
Service-seeking behaviors after experiencing sexual violence in past 12 months



Primary Outcomes

Primary Outcome Domain 6

Demonstrating improved health and development outcomes

Girls in GEC+ schools reported poorer mental health in the previous two weeks compared with girls in the GEC and control arms.

Girls in both treatment arms were significantly less likely to progress to the next grade level compared to the girls in the control arm. After accounting for the study design, this was true only for GEC+ girls.

There were no significant program impacts on pregnancy.

There were no impacts on mental health or grade progression for boys.

There was no significant impact on pregnancy incidence.



GEC+ girls were somewhat less likely to progress in school and had poorer mental health outcomes than controls.

“...in this club we boost our confidence.... They teach us on how to take care of yourself as a girl. ... We're taught that we shouldn't be a push over and let people bully you anyhow

GEC+ Boys' Club #1^a”

^a Population Council and SWAGAA, March 31, 2020



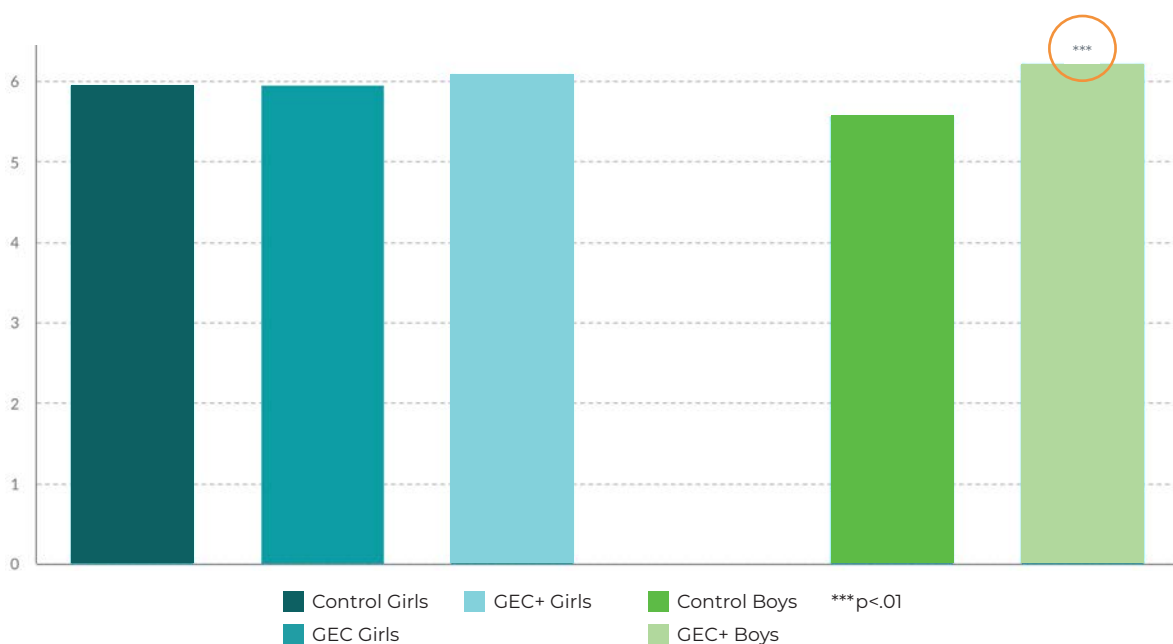
Intermediate Outcomes

Intermediate Outcome Domain 1

Increased self-efficacy

We did not observe any significant changes in self-efficacy outcomes for girls in either program arm. Boys in GEC+ schools demonstrated significant improvement in generalize self-efficacy scores compared to boys in control schools. There were no significant differences between any participants in GEC/GEC+ schools in condom use or the ability to decline sexual advances from peers or adults. Comparing endline means, boys in GEC+ schools were significantly more confident in obtaining health services than boys in control schools, however it was no longer significant in the ITT results once the study design was taken into account.

Figure 10.
Endline Means for Intermediate Outcomes Among All Boys and Girls: Indicator 1.1
Reports of self-efficacy in the past 12 months



Intermediate Outcome Domain 2

Increased levels of social assets compared with controls

The simple means tests and the ITT endline single difference model show that boys in GEC+ schools had higher social capital as compared to boys in control schools. They were more likely to have a safe place to meet their friends and to have one or more friends outside their household.

Among girls, those in the GEC-only arm were less likely to have friends outside their household than were control girls and GEC+ girls.

Intermediate Outcome Domain 3

Improved gender equity attitudes

We assessed whether the GEC/GEC+ interventions led to higher gender equity scores compared to participants in control schools. Responses to these questions suggest that the program did not have a significant impact on gender equity scores among girls or boys.

Intermediate Outcomes

Intermediate Outcome Domain 4

Improved attitudes related to gender-based violence

We conducted means tests and ITT analysis on whether attitudes towards gender-based violence changed in the last 12 months compared to the control. We found that participation of schools in either GEC or the GEC+ programs did not significantly change the attitude of female or male students towards gender-based violence compared to students in the control schools.

Intermediate Outcome Domain 5

Increased knowledge of sexual and reproductive health

Girls in schools with both GEC and GEC+ showed significantly greater contraceptive knowledge compared to girls in the control group, both in the means test and ITT analysis. GEC+ boys had significantly greater HIV knowledge than participants in the control group, in both the means test and ITT estimator.

Figure 11.

Endline Means for Intermediate Outcomes Among All Boys and Girls: Indicator 5.1

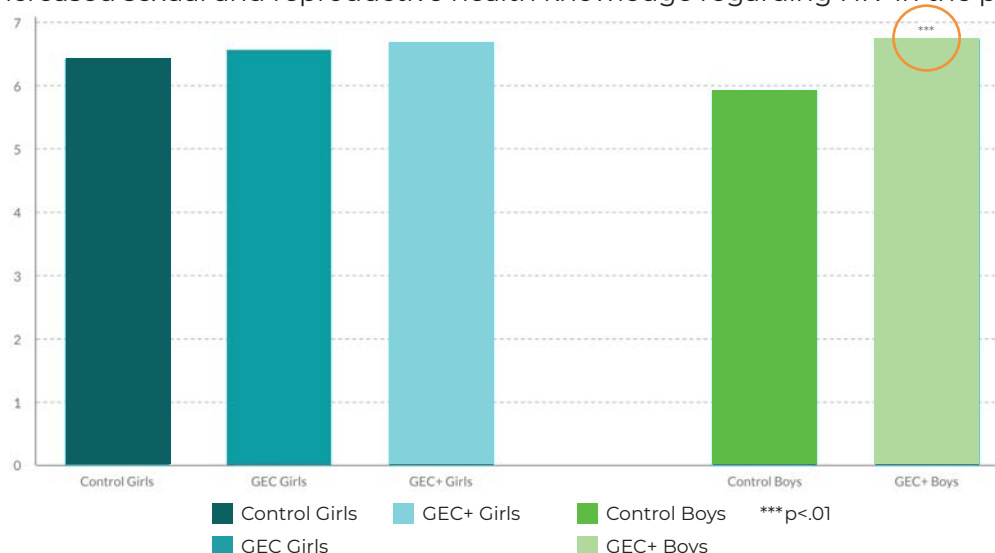
Reports of increased sexual and reproductive health knowledge regarding contraceptive methods in the past 12 months



Figure 12.

Endline Means for Intermediate Outcomes Among All Boys and Girls: Indicator 5.2

Reports of increased sexual and reproductive health knowledge regarding HIV in the past 12 months



Implications

- » It is not entirely surprising that we found no reductions in sexual violence or physical violence reported by participants. Although the intervention had a relatively long duration (18 months) along with an experimental arm that reached both genders with gender-separate programming, it did not have a multi-level focus. It concentrated on internal and interpersonal aspects of participants' social ecologies and was not designed to change beliefs, attitudes or norms at

the institutional or societal levels that the participants lived in.

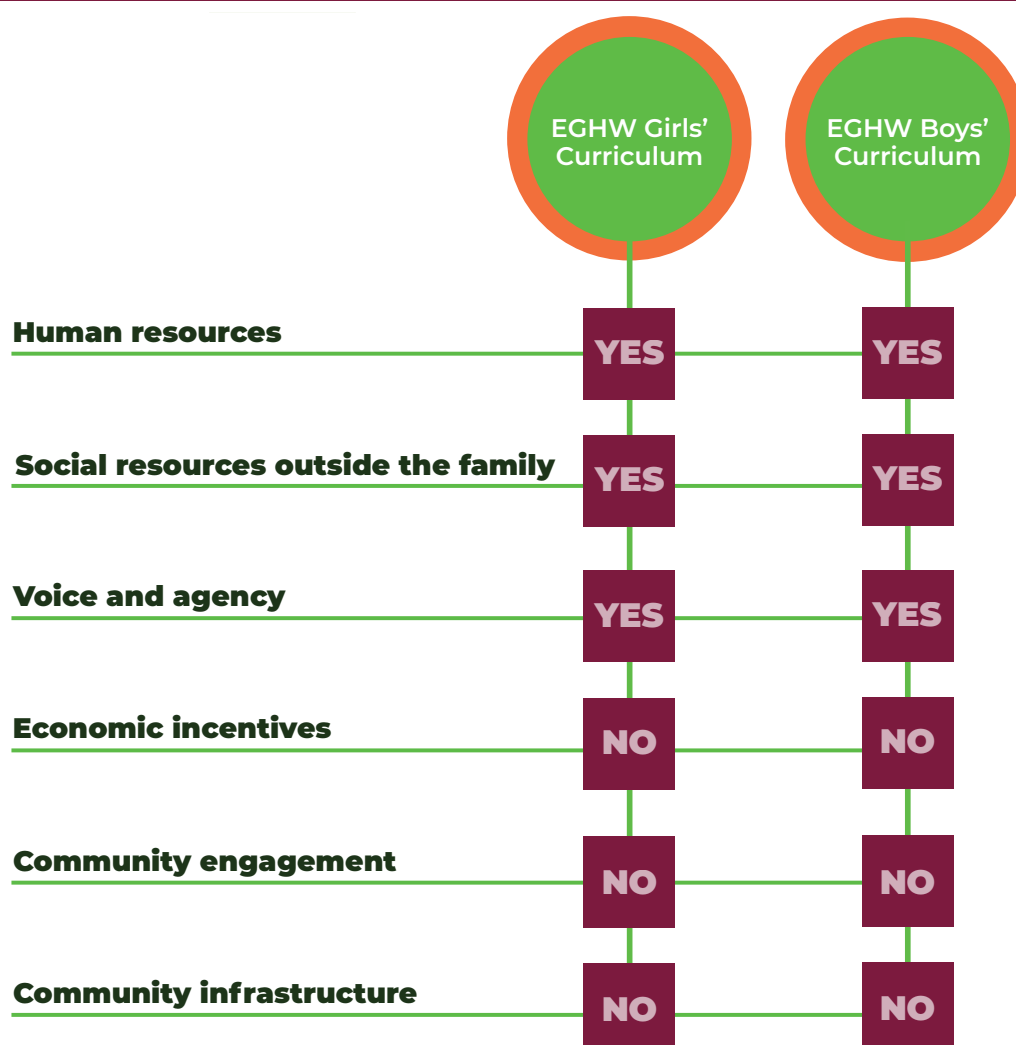
- » Among six categories of intervention components identified and mapped to Kabeer's empowerment framework in a review of LMIC GBV prevention studies (Yount et al. 2017, Supplementary Table 4),¹ EGHW covered three categories for

¹ Kathryn M. Yount, Kathleen H. Krause, and Stephanie S. Miedema, "Preventing Gender-Based Violence Victimization in Adolescent Girls in Lower-Income Countries: Systematic Review of Reviews," *Social Science & Medicine* 192 (November 1, 2017): 1–13, <https://doi.org/10.1016/j.socscimed.2017.08.038>.

Figure 13.

Intervention components from Kabeer's Empowerment Framework

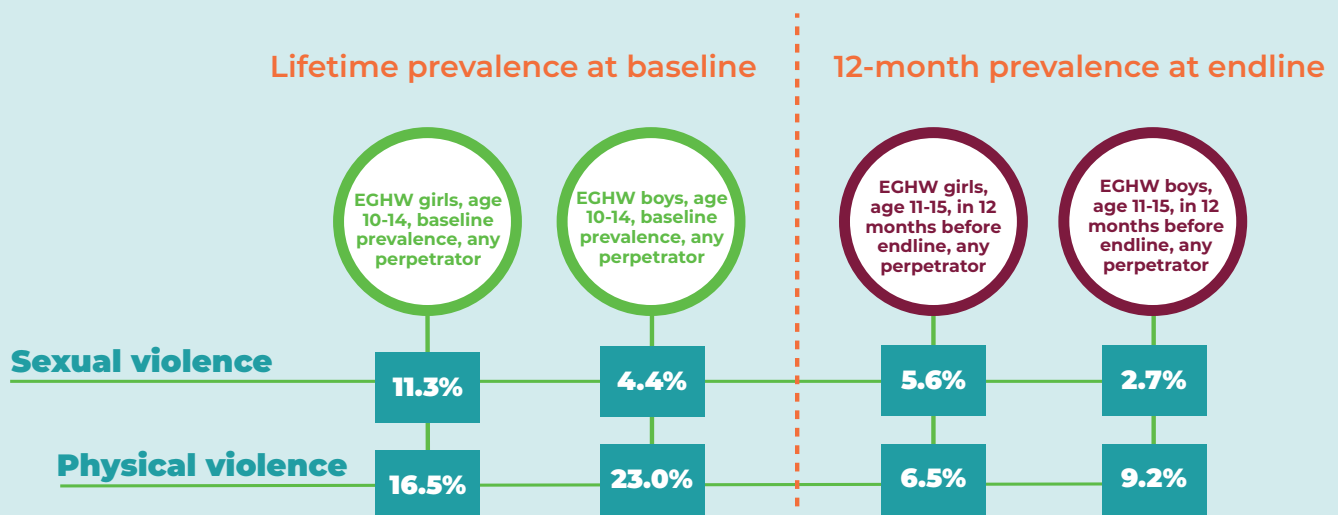
Intervention components from Kabeer's Empowerment Framework



Yount, Krause, and Miedema

Figure 14.

Lifetime and 12-month prevalence of sexual and physical violence experience by gender:
EGHW overall study means (estimation sample)



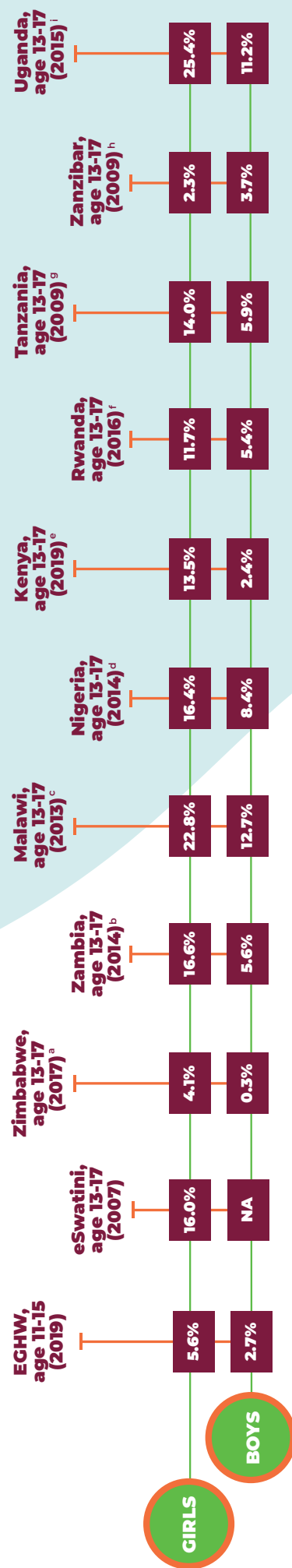
both girls and boys (human resources, social resources outside the family, voice and agency). It did not include the following three categories for either gender: economic incentives, community engagement, or community infrastructure.

- » Overall, victimization prevalence of both girls and boys in the EGHW study is consistent with but at the lower end of those reported for the region. We surmise the somewhat lower levels to be mainly due to their relatively younger age than most groups studied.
- » **The biggest success of the EGHW program is the impact on participants' disclosing and seeking services after experiencing violence.**
- » The 2007 Swaziland VACS found that among 13-17-year-old girls, service seeking rates were 13.6% among those who experienced sexual violence. Among the EGHW sample who had recently experienced sexual violence, 23% of control, 34% of GEC-only, and 50% of GEC+ girls had sought a service for it at endline; among boys 25% of control and 33% of GEC+ had done so.
- » In the EGHW sample at endline, 58% of control and GEC-only girls, versus 73% of GEC+ girls, had disclosed their experience to someone. Among boys, 39% of controls versus 60% of GEC+ had disclosed their experience. **Clearly the GEC+ arm had large**

and important impacts on disclosure for both girls and boys.

- » In the EGHW sample, 29% of control, 18% of GEC-only, and 32% of GEC+ girls had sought a service for physical violence at endline, while 17% of control and 43% of GEC+ boys had. **The GEC+ arm appears to have had significant service-seeking impacts after boys' experience of physical violence.**
- » EGHW girls have service seeking levels that are 2 to 27 times higher than their counterparts in other countries; EGHW male service seeking is 4 to 8 times higher than those for boys elsewhere in SSA. **For both genders, the GEC+ arm levels are by far the highest reported in the region.**
- » There were no EGHW program impacts on boys' reported violence perpetration behaviors or their attitudes towards gender equity or gender-based violence. This could have been due to the high prevalence of violence overall in eSwatini
- » Compared with available statistics from the SSA region, the prevalence of violence perpetration by boys in the EGHW study is quite high. This is the case for both IPV among this young age group and violence against peers.
- » Another possible reason for not observing changes in violence perpetration or gender

Figure 15.
Sexual violence in past 12 months: EGHW versus 13-17-year-old VACS respondents



^a Zimbabwe Ministry of Health and Child Care, "Young Adult Survey of Zimbabwe: A Violence Against Children Survey, 2017" (Harare, Zimbabwe: Elizabeth Glaser Pediatric AIDS Foundation, 2019), https://www.togetherforgirls.org/wp-content/uploads/VACS-Report_June-5-2020.pdf.

^b Ministry of Youth, Sport, and Child Development et al., "Violence against Children in Zambia: Findings from a National Survey, 2014," (Lusaka, Zambia: Ministry of Youth, Sport, and Child Development, 2018), <https://www.unicef.org/zambia/sites/unicef.org.zambia/files/2018-11/Binder%20EMAL%20thursday%20NEW.pdf>.

^c Ministry of Gender, Children, Disability and Social Welfare of the Republic of Malawi et al., "Violence against Children and Young Women in Malawi: Findings from a National Survey" (Lilongwe, Malawi: Government of Malawi, 2014), https://www.togetherforgirls.org/wp-content/uploads/2017/10/MLW_resources_violencereport_final.pdf.

^d National Population Commission of Nigeria, UNICEF Nigeria, and U.S. Centers for Disease Control and Prevention, "Violence Against Children in Nigeria: Findings from a National Survey, 2014" (Abuja, Nigeria: UNICEF, 2016), <https://www.togetherforgirls.org/wp-content/uploads/2014-Nigeria-VACS-Report.pdf>.

^e Ministry of Labour and Social Protection of Kenya/Department of Children's Services, "Violence against Children in Kenya: Findings from a National Survey, 2019" (Nairobi, Kenya, 2019), <https://www.togetherforgirls.org/wp-content/uploads/2020-7-16-TfG-Kenya-VACS-report.pdf>.

^f Rwanda Ministry of Health, "Violence Against Children and Youth: Findings from National Survey, 2015-16" (Kigali, Rwanda, 2017), https://www.togetherforgirls.org/wp-content/uploads/2017/10/AUG_2011_VIOLENCE_AGAINST_SURVEY-Report.pdf.

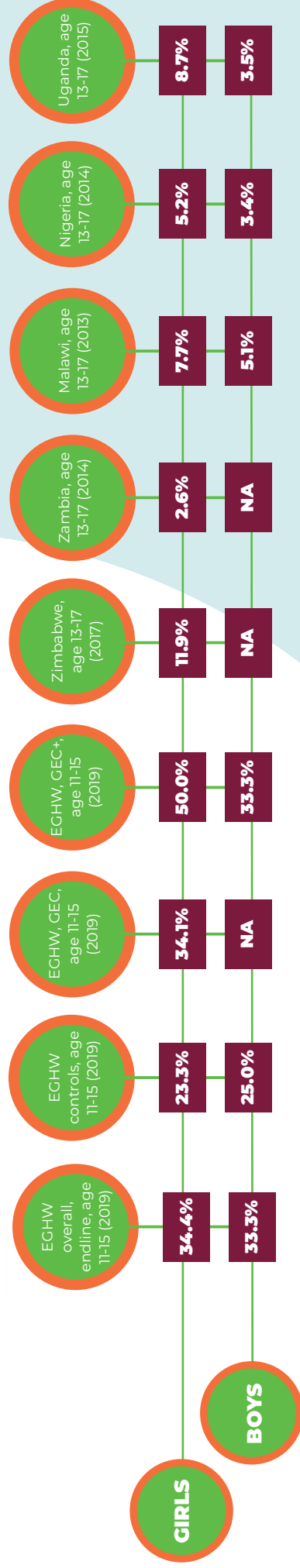
^g UNICEF Tanzania et al., "Violence against Children in Tanzania: Findings from a National Survey, 2009" (Dar es Salaam, Tanzania, 2011), https://www.togetherforgirls.org/wp-content/uploads/2017/10/AUG_2011_VIOLENCE_AGAINST_CHILDREN_IN_TANZANIA_full.pdf.

^h UNICEF Tanzania et al.

ⁱ Ministry of Gender, Labour, and Social Development, "Violence against Children in Uganda: Findings from a National Survey, 2015" (Kampala, Uganda: UNICEF, 2015), <https://www.togetherforgirls.org/wp-content/uploads/VACS-REPORT-FINAL-LORES-2-1.pdf>.

Figure 16.

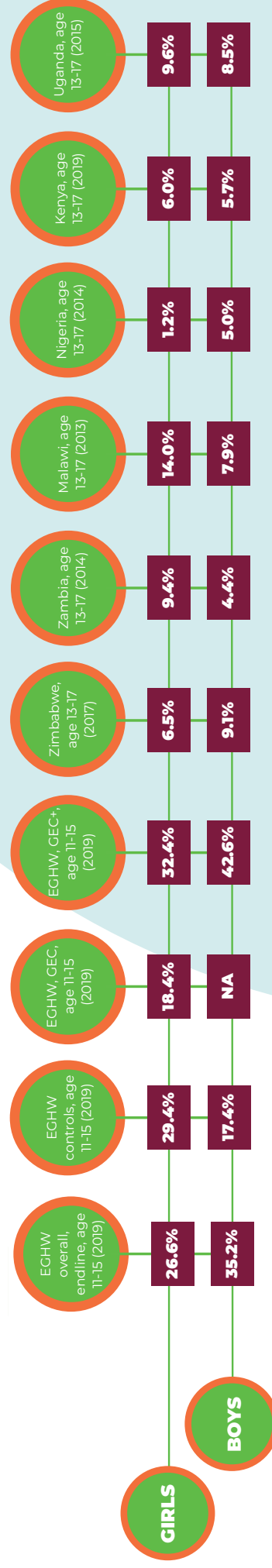
Sought a service after sexual violence experienced in past 12 months: EGHW participants versus 13-17-year-old VACS respondents



Note: VACS for Kenya, Rwanda, Tanzania, Zanzibar did not report this outcome for 13-17-year-olds.

Figure 17.

Sought a service after physical violence experienced in past 12 months: EGHW participants versus 13-17-year-old VACS respondents



Note: VACS for Rwanda, Tanzania, Zanzibar did not report this figure for 13-17-year-olds.

attitudes² among EGHW intervention boys may have been the very short time that had elapsed between the completion of the intervention and the endline survey. There was less than one month between the final intervention sessions and the endline survey. EGHW boys may not have had time to internalize the topics discussed, especially those in the last two sessions of the curriculum. These were entitled “Going full circle and the belief cycle” and “Taking action: Making a difference” and focused on critical consciousness around gender and power in relationships, the very cornerstones of what other research is finding matters for male violence prevention.

Conclusions

Overall, the EGHW intervention appeared to be more efficacious for boys than girls, perhaps because it filled a historic gap in sustained, gender-transformative programming available to boys. More impacts for boys compared with girls could also have been due to a greater emphasis in the boys’ curriculum on critical self-reflection regarding gendered beliefs and behaviors pertaining to violence and relationships. The content and discussion offered to boys appears to have been more gender-transformative than the topics presented in the girls’ curriculum, which focus more on awareness of different types of abuse and where to get help if any of these were experienced. In particular, discussions of power in sexual relationships, components of healthy relationships, communication and conflict management, and a session at the end that brought together all the gender beliefs and behavior change strategies, along with the creation of a personal action plan based upon all the lessons, were available to boys but not to girls. We see this as a major asset of the boys’ curriculum that should also be

offered to girls. There is a growing recognition that it is essential to address systemic and structural factors that support men’s violence, but because males and females both often take men’s power and dominance for granted,³ interventions must start earlier in life and help both girls and boys in understanding what factors are at play.

It is possible that EGHW boys’ gender attitudes and violence perpetration behaviors could still change with time, especially given the program’s crucial impacts on raising their ability to reflect and act in a healthy, non-aggressive and non-impulsive manner to their own experiences of violence. This is evidenced clearly in their substantially higher levels at endline of disclosing their own victimization, seeking services for it, and helping friends who experienced violence. A teenaged boy being able to admit to that he is a survivor of violence and seek help for it is a clear and definitive step toward diminishing the hold of harmful gender norms around masculinity that socialize men to value hierarchy, control, and emotional suppression^{4,5} - the very factors that may be among the primary root causes of violence-related gendered disparities across a range of health and well-being outcomes.⁶ Potentially over the medium- and longer-terms, the favorable impacts of EGHW on boys’ violence disclosure and health-seeking behaviors could translate into less violence committed against both females they have relationships with and peers they interact with, especially if it is that case, as evidence is beginning to suggest, that prevailing norms of masculinity undergird both intimate partner violence and peer violence.^{7,8}

³ Jewkes, Flood, and Lang, “From Work with Men and Boys to Changes of Social Norms and Reduction of Inequities in Gender Relations.”

⁴ Shari L. Dworkin, Sarah Treves-Kagan, and Sheri A. Lippman, “Gender-Transformative Interventions to Reduce HIV Risks and Violence with Heterosexually-Active Men: A Review of the Global Evidence,” *AIDS and Behavior* 17, no. 9 (August 10, 2013): 2845–63, <https://doi.org/10.1007/s10461-013-0565-2>.

⁵ Julie Pulerwitz et al., “Addressing Gender Dynamics and Engaging Men in HIV Programs: Lessons Learned from Horizons Research,” *Public Health Reports* 125, no. 2 (March 1, 2010): 282–92, <https://doi.org/10.1177/003335491012500219>.

⁶ Fulu et al., “Prevalence of and Factors Associated with Male Perpetration of Intimate Partner Violence.”

⁷ Fleming et al., “Men’s Violence against Women and Men Are Inter-Related.”

⁸ Vangie A. Foshee et al., “Shared Longitudinal Predictors of Physical Peer and Dating Violence,” *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine* 56, no. 1 (January 2015): 106–12, <https://doi.org/10.1016/j.jadohealth.2014.08.003>.

² We do not discuss here how EGHW study outcomes on attitudes towards gender equity or gender-based violence compare with those in the literature for two reasons: (1) we saw no significant changes in them, and (2) our calculated indices are not directly comparable to those in the VACS or similar studies.

Recommendations

Retain gender-separate/gender-specific, club-style groups within schools, offered at regular (weekly or fortnightly) intervals, for 1.5-2.0 academic years

- Gender-separate groups for boys and girls can effectively promote critical reflection on gendered behaviors and norms
- Globally, effective interventions that have reduced violence perpetration tend to be many hours in length
- If affected by the COVID-19 pandemic (and other situations where social distancing of students is required), make virtual participation in clubs possible by assisting children with cell phone/tablet access, airtime, and a safe and secure electronic meeting platform

Introduce gender-specific clubs for both girls and boys in the same school

- Having both girls' and boys' clubs operating in same school may have produced synergistic effects, as boys and girls may have jointly discussed gender issues raised in the clubs outside of club time, on the playground and outside of school
- The most impactful interventions from the literature, and in this study, involve both genders with combined single-sex and mixed-sex group delivery
- If schools are conducting virtual learning (for COVID-19 or similar challenges), make virtual clubs possible by assisting children with cell phone/tablet access, airtime, and a safe and secure electronic meeting platform

Strengthen gender-transformative content, especially in the girls curriculum

- There is a need for girls to more explicitly discuss gender norms, behaviours, and relations associated with ideals of womanhood and manhood, and include

more critical reflection on social norms and building of relationship skills

- This could help raise consciousness among girls and enable them to more critically consider how females contribute to male gender socialisation and help maintain gender power hierarchies⁹

Make clubs less optional in nature within the school setting by requiring all students to participate, perhaps by providing academic credit to incentivize participation

- A similar program being undertaken among Native American girls in the U.S.¹⁰ offers girls who participate in matrilineal empowerment clubs the chance to gain extra academic credit and/or shorten any school detention time they may be charged with serving

Institute a stronger club attendance monitoring system

- Program impacts on learners who were directly involved in the clubs could have been usefully examined if more reliable attendance data had been available



⁹ Jewkes, Flood, and Lang, "From Work with Men and Boys to Changes of Social Norms and Reduction of Inequities in Gender Relations."

¹⁰ Kelly Hallman, Stephanie Martinez, Lisa Polen, Angel del Valle. 2020. Reclamation: Returning to Matrilineal Traditions, Building a New Generation of Indigenous Girl Societies. NY, NY. Indigenous Adolescent Girls' Empowerment Network (IMAGEN), www.imagen-network.org, accessed Sept. 9, 2020.

Appendix



Photo Credit: Dr. Kelly Hallman

Appendix I: Primary Outcomes Endline Means (SDs) and Means Tests by Gender (estimation sample)

	Girls				Boys†			
	Control (SD)	GEC (SD)	GEC+ (SD)	Means test (GEC/ GEC+) = Control	Means test GEC = GEC+	Control	GEC+	Means test
Primary Outcome Domain 1: Experience of violence in past 12 months								
Any sexual violence in the past 12 months (0-1)	0.074 (0.352)	0.093 (0.379)	0.067 (0.350)	0.702	0.182	0.032 (0.032)	0.196 (0.227)	0.994
Sexual exploitation (0-1)	0.005 (0.072)	0.014 (0.117)	0.006 (0.077)	0.287	0.164	0.018 (0.133)	0.016 (0.126)	0.858
Physical violence (0-1)	0.059 (0.235)	0.066 (0.248)	0.073 (0.261)	0.405	0.616	0.082 (0.276)	0.095 (0.294)	0.555
Primary Outcome Domain 2: Service-seeking for physical violence in past 12 months								
If physical violence, told anyone	0.576 (0.502)	0.579 (0.500)	0.730 (0.450)	0.447	0.175	0.391 (0.499)	0.596 (0.496)	0.111
If physical violence, sought any service (index)	0.412 (0.743)	0.289 (0.654)	0.405 (0.644)	0.643	0.442	0.304 (0.765)	0.489 (0.655)	0.298
If physical violence, sought health service	0.118 (0.327)	0.053 (0.226)	0.135 (0.347)	0.700	0.225	0.087 (0.288)	0.064 (0.247)	0.729
If physical violence, sought police service	0.088 (0.288)	0.132 (0.343)	0.054 (0.229)	0.933	0.255	0.087 (0.288)	0.043 (0.204)	0.460
If physical violence, sought legal service	0.000 (0.000)	0.026 (0.162)	0.027 (0.164)	0.341	0.985	0.000 (0.000)	0.021 (0.146)	0.488
If physical violence, sought counselling	0.206 (0.410)	0.079 (0.273)	0.189 (0.397)	0.338	0.165	0.130 (0.344)	0.362 (0.486)	0.045**
If physical violence + any service, satisfaction (index)	1.100 (0.994)	1.286 (0.756)	1.167 (0.577)	0.717	0.703	1.750 (0.957)	1.000 (0.649)	0.063*
If physical violence + health service, satisfaction	0.007 (0.083)	0.003 (0.059)	0.010 (0.099)	0.917	0.184	0.007 (0.085)	0.006 (0.078)	0.855
If physical violence + police service, satisfaction	0.002 (0.041)	0.007 (0.083)	0.004 (0.063)	0.252	0.519	0.007 (0.085)	0.004 (0.064)	0.562
If physical violence + legal service, satisfaction	0.000 (0.000)	0.000 (0.000)	0.002 (0.045)	0.465	0.283	0.000 (0.000)	0.002 (0.045)	0.453
If physical violence + counseling, satisfaction	0.010 (0.101)	0.005 (0.072)	0.012 (0.109)	0.676	0.222	0.011 (0.103)	0.028 (0.166)	0.110
Helped a friend who had experienced physical violence	0.587 (0.496)	0.515 (0.504)	0.418 (0.497)	0.114	0.264	0.463 (0.503)	0.429 (0.498)	0.699

	Girls				Boys†			
	Control (SD)	GEC (SD)	GEC+ (SD)	Means test (GEC/ GEC+) = Control	Means test GEC = GEC+	Control	GEC+	Means test
Primary Outcome Domain 3: Male perpetration of violence in past 12 months								
Perpetrated peer violence						0.262 (0.440)	0.233 (0.423)	0.370
Perpetrated verbal GBV						0.330 (0.471)	0.298 (0.458)	0.353
Perpetrated physical GBV						0.133 (0.340)	0.115 (0.320)	0.482
Perpetrated sexual GBV						0.036 (0.186)	0.020 (0.141)	0.190
Primary Outcome Domain 4: SRH behaviors in past 12 months								
Had sex past 12 months	0.009 (0.092)	0.012 (0.109)	0.006 (0.077)	0.896	0.297	0.014 (0.119)	0.028 (0.166)	0.213
If sex, condom used consistently	0.400 (0.548)	0.429 (0.535)	0.333 (0.577)	1.000	0.807	0.750 (0.500)	0.571 (0.514)	0.546
Primary Outcome Domain 5: Service-seeking for sexual violence in past 12 months								
If sexual violence, sought any service (index)	0.367 (0.765)	0.585 (1.048)	1.091 (1.444)	0.106	0.116	0.250 (0.463)	0.583 (1.165)	0.454
If sexual violence, sought health service	0.100 (0.305)	0.098 (0.300)	0.273 (0.456)	0.451	0.072	0.125 (0.354)	0.083 (0.289)	0.776
If sexual violence, sought legal service	0.067 (0.254)	0.195 (0.401)	0.227 (0.429)	0.089	0.768	0.000 (0.000)	0.083 (0.289)	0.429
If sexual violence, sought police service	0.067 (0.254)	0.049 (0.218)	0.136 (0.351)	0.831	0.227	0.000 (0.000)	0.083 (0.289)	0.429
If sexual violence, sought counselling	0.133 (0.346)	0.244 (0.435)	0.455 (0.510)	0.059*	0.090*	0.125 (0.354)	0.333 (0.492)	0.317
If sexual viol, + any service, satisfaction	1.143 (1.069)	1.429 (1.399)	2.000 (1.414)	0.358	0.323	0.500 (0.707)	1.500 (1.000)	0.285
If sexual viol + health service, satisfaction	0.003 (0.059)	0.007 (0.083)	0.012 (0.109)	0.184	0.389	0.004 (0.060)	0.002 (0.045)	0.682
If sexual viol + legal service, satisfaction	0.002 (0.041)	0.010 (0.101)	0.010 (0.099)	0.053**	0.947	0.000 (0.000)	0.002 (0.045)	0.453
If sexual viol + police service, satisfaction	0.002	0.003	0.006	0.349	0.543	0.000	0.000	na

	Girls				Boys†	
	Control (SD)	GEC (SD)	GEC+ (SD)	Means test (GEC/ GEC+) = Control	Means test GEC = GEC+	
If sexual viol + counselling, satisfaction	(0.041) 0.007 (0.083)	(0.059) 0.014 (0.117)	(0.077) 0.016 (0.125)	0.160	0.775	(0.000) 0.000 (0.000) 0.132
Primary Outcome Domain 6: Health and development outcomes						
Contraception use	na	na	na	na	na	na
Mental health	0.864 (1.128)	0.871 (1.143)	1.058 (1.279)	0.124	0.011**	na 0.814 (1.100) 0.969
School progression	1.728 (0.468)	1.664 (0.511)	1.538 (0.577)	0.000***	0.000***	1.457 (0.581) 0.963
Ever pregnant		0.143 (0.378)	0.333 (0.577)	1.000	0.545	
Observations	581	581	504			279 494

†Includes control boys from two GEC-only schools and two pure control schools.

na: not available due to small number of cases

***p<.01; **p <.05; *p <.10

Appendix II. Primary Outcomes OLS Endline Single Difference ITT Treatment Effects by Gender

	Girls			Boys†		
	GEC	GEC+		GEC+	Single difference	
	coeff.	p-val	coeff.	p-val	coeff.	p-val
Primary Outcome Domain 1: Experience of violence in past 12 months						
Any sexual violence in the past 12 months (0-1)	0.019	0.394	-0.007	0.736	0.015	0.201
Sexual exploitation (0-1)	0.008	0.134	0.000	0.983	0.002	0.779
Physical violence (0-1)	0.007	0.593	0.015	0.350	0.032	0.172
Primary Outcome Domain 2: Service-seeking for physical violence in past 12 months						
If physical violence, told anyone	0.002	0.987	0.148	0.154		0.006
If physical violence, sought any service (index)	-0.114	0.478	0.028	0.866	0.217	0.024
If physical violence, sought health service	-0.066	0.247	0.014	0.829	-0.030	0.614
If physical violence, sought police service	0.051	0.484	-0.005	0.949	-0.064	0.088
If physical violence, sought legal service	0.028	0.243	0.035	0.270	0.015	0.386
If physical violence, sought counselling	-0.127	0.146	-0.016	0.854	0.296	0.000
If physical violence + any service, satisfaction (index)	0.220	0.358	-0.014	0.958	-0.766	0.059
If physical violence + health service, satisfaction	-0.088	0.659	-0.044	0.811	-0.394	0.167
If physical violence + police service, satisfaction	0.450	0.116	0.117	0.449	-0.482	0.010
If physical violence + legal service, satisfaction	-0.009	0.449	0.105	0.294	0.025	0.475
If physical violence + counselling, satisfaction	-0.132	0.462	-0.192	0.304	0.086	0.691
Helped a friend past 12 months who had experienced physical violence	0.058	0.896	-0.308	0.496	0.333	0.000
Primary Outcome Domain 3: Male perpetration of violence in past 12 months						
Perpetrated peer violence					0.017	0.767
Perpetrated verbal GBV					0.006	0.889
Perpetrated physical GBV					0.002	0.930
Perpetrated sexual GBV					-0.005	0.553
Primary Outcome 4: SRH behaviors in past 12 months						

	Girls				Boys†			
	GEC		GEC+		GEC+		Single difference	
	coeff.	p-val	coeff.	p-val	coeff.	p-val	coeff.	p-val
Had sex past 12 months	0.004	0.499	-0.002	0.592	0.022	0.095		
If sex, condom used consistently	0.025	0.950	-0.057	0.895	-0.194	0.190		
Primary Outcome 5: Service-seeking for sexual violence in past 12 months								
If sexual violence, sought any service (index)	0.211	0.272	0.718	0.018**	0.453	0.000***		
If sexual violence, sought health service	-0.008	0.909	0.169	0.146	0.021	0.049**		
If sexual violence, sought legal service	0.108	0.108	0.144	0.130	0.127	0.049**		
If sexual violence, sought police service	-0.020	0.703	0.068	0.368	0.127	0.049**		
If sexual violence, sought counselling	0.130	0.172	0.337	0.004***	0.177	0.199		
If sexual viol, + any service, satisfaction (index)	0.184	0.761	0.839	0.146	na	na		
If sexual viol + health service, satisfaction	-0.007	0.965	0.258	0.171	na	na		
If sexual viol + legal service, satisfaction	0.218	0.299	0.299	0.191	na	na		
If sexual viol + police service, satisfaction	-0.022	0.898	0.126	0.512	na	na		
If sexual viol + counselling, satisfaction	-0.004	0.988	0.155	0.612	na	na		
Primary Outcome 6: Health and development outcomes								
Indicator 6.1 Contraception††	na	na	na	na	na	na		
Indicator 6.2 Mental health	0.009	0.903	0.195	0.007***	0.085	0.106*		
Indicator 6.3 School progression	-0.064	0.294	-0.190	0.013**	-0.033	0.754		
Indicator 6.4 Pregnancy	-0.025	0.912	0.057	0.748				
Observations	1,666		1,666		773			

†Includes control boys from two GEC-only schools and two pure control schools.

na: not available due to small number of cases

***p<.01; **p<.05; *p<.10

††Contraceptive use was not asked; participants were only asked about the methods they were aware of, and which ones are suitable for young people.

Appendix III: Intermediate Outcomes Endline Means (SDs) and Means Tests by Gender (estimation sample)

	Girls				Boys†	
	Control (SD)	GEC (SD)	GEC+ (SD)	Means test (GEC/GEC+) = Control	Means test GEC = GEC+	Means test GEC+ = control
Intermediate Outcome Domain 1: Self-efficacy						
Generalized self-efficacy score	5.960 (2.237)	5.950 (2.170)	6.093 (2.213)	0.621	0.284	0.003**
Condom use (if had sex past 12 months)	0.090 (1.032)	0.107 (1.109)	0.046 (0.611)	0.820	0.272	0.379
Condom use (hypothetical among non-sexually debuted)	12.312 (2.998)	12.203 (3.018)	12.153 (2.831)	0.386	0.778	0.530
Ability to decline sexual advances from same-age people	0.883 (0.322)	0.897 (0.305)	0.887 (0.317)	0.569	0.603	0.624
Ability to decline sexual advances from adult	0.807 (0.395)	0.780 (0.415)	0.780 (0.415)	0.190	0.998	0.829
Feels confident obtaining health services	4.627 (0.738)	4.673 (0.717)	4.631 (0.756)	0.477	0.348	0.098*
Intermediate Outcome Domain 2: Social assets						
Adult mentor	0.632 (0.483)	0.633 (0.482)	0.669 (0.471)	0.463	0.225	0.121
Safe local place to meet same sex friends regularly	0.492 (0.500)	0.515 (0.500)	0.506 (0.500)	0.476	0.776	0.049**
One or more same sex friends outside household	0.833 (0.373)	0.773 (0.419)	0.825 (0.380)	0.076	0.032**	0.292
Two or more same sex friends outside household	0.596 (0.491)	0.484 (0.500)	0.619 (0.486)	0.055*	0.000***	0.980
Someone in the community to go for help	0.902 (0.298)	0.893 (0.309)	0.887 (0.317)	0.464	0.770	0.805
Intermediate Outcome Domain 3: Gender equity attitude						
Gender equity attitude (index)	3.220 (0.726)	3.181 (0.736)	3.183 (0.758)	0.308	0.969	0.744
Intermediate Outcome Domain 4: Attitude toward gender-based violence						
Agrees that it's okay for husbands to hit wife (index)	0.988 (1.287)	1.046 (1.278)	0.976 (1.284)	0.695	0.368	0.837
Intermediate Outcome Domain 5: SRH knowledge						
Contraceptive methods knowledge	1.219 (1.045)	1.391 (1.051)	1.397 (1.082)	0.001***	0.925	0.511

	Girls				Boys†		
	Control	GEC	GEC+	Means test (GEC/GEC+) = Control	Means test GEC = GEC+	GEC+	Means test
	(SD)	(SD)	(SD)			(SD)	GEC+ = control
HIV knowledge	6.439 (2.360)	6.571 (2.189)	6.687 (2.186)	0.108	0.388	6.747 (2.054)	0.000***
Condom effectiveness knowledge	2.682 (1.014)	2.731 (1.015)	2.734 (0.957)	0.319	0.965	2.917 (0.790)	0.360
Observations	581	581	504			494	279

†Includes control boys from two GEC-only schools and two pure control schools.

***p<.01; **p<.05; *p<.10

Appendix IV: Intermediate Outcomes OLS Endline Single Difference ITT Treatment Effects by Gender

	Girls			Boys		
	GEC		GEC+	GEC+		
	Single difference coeff.	p-val	Single difference coeff.	p-val	Single difference coeff.	p-val
Intermediate Outcome Domain 1: Self-efficacy						
Generalized self-efficacy score	0.003	0.983	0.143	0.452	0.704	0.004***
Condom use (if had sex past 12 months)	0.019	0.762	-0.042	0.368	0.138	0.246
Condom use (hypothetical among non-sexually debuted)	-0.095	0.611	-0.148	0.460	0.042	0.864
Ability to decline sexual advances from same-age people	0.012	0.616	0.002	0.927	0.011	0.730
Ability to decline sexual advances from adults	-0.036	0.159	-0.034	0.188	-0.001	0.974
Feels confident obtaining health services	0.052	0.202	0.008	0.883	0.048	0.493
Intermediate Outcome Domain 2: Social assets						
Adult mentor	0.003	0.936	0.038	0.357	0.047	0.110
Safe local place to meet same sex friends regularly	0.025	0.323	0.016	0.616	0.084	0.096*
One or more same sex friend outside household	-0.062	0.040**	-0.009	0.784	0.056	0.012**
Two or more same sex friend outside household	-0.123	0.011	0.015	0.774	0.069	0.170
Someone in the community to go for help	-0.010	0.635	-0.016	0.422	-0.015	0.359
Intermediate Outcome Domain 3: Gender equity attitudes						
Gender equity attitude (index)	-0.033	0.382	-0.033	0.469	0.041	0.481
Intermediate Outcome Domain 4: Attitude toward gender-based violence						
Agrees that it is okay for husband to hit wife (index)	0.098	0.372	0.018	0.892	-0.045	0.721
Intermediate Outcome Domain 5: SRH knowledge						
Contraceptive methods knowledge	0.170	0.022**	0.177	0.049**	-0.037	0.349
HIV knowledge	0.168	0.397	0.274	0.173	0.677	0.004***
Condom effectiveness knowledge	0.060	0.349	0.060	0.381	-0.043	0.200

† Includes control boys from two GEC-only schools and two pure control schools.

***p<.01; **p<.05; *p<.10

Appendix V: Analysis Plan for Empowering Girls for Improved Health and Well-being (EGHW) in Two National Regions in eSwatini

1. Introduction

This document contains the analysis plan for the impact assessment of EGHW. Specifically, it describes the processes we will use to:

- a) Generate descriptive statistics that characterize the evaluation's girl-level samples and verify the "balance" of the pre-treatment treatment values of selected variables,
- b) Measure the impact of EGHW on the program's primary and secondary outcome variables (see Table ___ for a full list of outcomes),
- c) Assess participation, attrition, and missing values and determine their implications for EGHW's impact estimates.

We will rely on two samples: the baseline sample and estimation sample. The baseline sample is comprised by the NNNN girls and MMM boys, aged 10-14 years, from a list supplied by the government to SWAGAA of 30 under-resourced schools in two regions, REGION1 and REGION2, interviewed at baseline. This sample consists of girls and boys attending schools that were assigned to treatment and control groups after the baseline survey was completed. The estimation sample will be comprised of girls and boys included in the baseline and endline surveys (Ns to be determined).

2. Descriptive Statistics and Balance Tests¹

To introduce the girls and boys included in the evaluation and discuss their pre-treatment conditions, EGHW's impact assessment will include a descriptive summary of the baseline levels for selected outcome indicators and basic demographic profiles of female and male learners in the study by gender. The former will include all primary outcome indicators listed in Table ___. The latter group of variables will include father's and mother's survival and co-residence, learner age, baseline grade enrolled in, and an indicator for whether the child is over age for grade.

We will use the above variables to observe the "balance" or statistical comparability of the treatment and control group, prior to the girls' and boys' clubs being offered. We will include all primary outcome measures in this exercise, as well as the key learner-level characteristics and variables that may be correlated to program outcomes. For each variable, we report the mean in the control group, the differences in GEC and GEC+ with the control group, the p-value of the difference, and the number of observations, using a standard linear regression model with clustered standard errors.

We will also report a "Chi-Squared Test for the Joint Orthogonality of all baseline covariates," using a multinomial logit regression with treatment status as the dependent variable and the baseline covariates as the independent variables, and (2) testing if the coefficient corresponding to the treatment variable is equal

¹ Because EGHW's evaluation is a cluster-randomized trial with individual-level outcomes, the balance tests described in this section will be derived using individual-level outcome measures and clustered, robust standard errors. Nonetheless, for exploratory purposes, we will complement this analysis with cluster-level balance tests that assess if there are significant differences, by treatment group, in the means of variables of interest, estimated at the cluster-level.

to zero.² Variables for which we do not reject this hypothesis will be considered balanced. We will test for balance over the full baseline sample and the estimation sample. The former will provide some indication on whether our random assignment strategy succeeded in generating similar treatment and control groups. The latter will indicate whether these groups remain (or do not) remain similar, considering the patterns of attrition experienced by the evaluation sample.

Finally, because random assignment ensures that the treatment and control groups' characteristics will be balanced only in expectation, we assume that that some imbalances will be observed. If, however, we observe a suspect amount of imbalances, we will revise if the number of imbalances is greater than what would be expected by chance by: (1) regressing the variable that indicates individuals' intervention status (T_j^2 ; T_j^3) on all covariates subject to testing (i.e., vector, Z_{ij} , which contains learner individual characteristics and outcomes at baseline)

$$T_j^2 = \alpha + \beta Z_{ij0} + \epsilon_{ij} \quad (1a)^3$$

$$T_j^3 = \alpha + \beta Z_{ij0} + \epsilon_{ij} \quad (1b)$$

and (2) testing if the F statistic corresponding to this regression is equal to zero. Failure to reject the aforementioned hypothesis suggests the observed imbalances are chance imbalances (McKenzie, 2015; Gerber & Green, 2012).

3. Estimation Strategy for Measuring the Impact of EGHW⁴

Because participation in EGHW within each school was voluntary, we expect that some learners in treatment schools will not take-up the offer to participate in the program.⁵ Thereby, we will focus EGHW's impact assessment on measuring intent-to-treat (ITT) estimates. We will generate the ITT estimates by exploring the results generated by single difference and ANCOVA. The single difference model measures impact using only endline data, the ANCOVA model exploits data collected at endline and baseline.⁶ Both

² In the latter part of this exercise, we will test for differences using a t-statistic for the null hypothesis of equal means. In addition, following Imbens and Wooldridge (2007), we will conduct tests for normalized differences.

³ The standard errors for this regression are clustered, robust standard errors. If the outcome variables are binary variables, this exercise can be implemented using linear regression/p-values or probit/chi-squared statistic.

⁴ The estimation strategies described in this section are designed to measure individual-level impacts. Nonetheless, we may complement these exercises with an exploration of cluster-level impact estimates. These estimates will most likely be derived using a single difference estimator, which features a comparison the levels of the impact variables corresponding to the treatment and control groups at endline.

⁵ Monitoring data from the EGHW program is currently being inspected for quality and feasibility to utilize in a later TOT analysis.

⁶ We choose to use the information generated by all collection rounds as we expect that our impact variables will demonstrate non-zero levels of autocorrelation between baseline and endline. McKenzie (2012) proposes that for randomized control trials with one baseline and one follow-up, difference-in-differences estimators (which rely on baseline and endline data) should only be preferred (in terms of power) to post-estimators that ignore baseline data, if auto-correlation is below .5. The paper also argues that if auto-correlation is below this threshold, ANCOVA estimators, which also use baseline data in the case of one baseline and one follow-up, may yield gains over difference-in-differences in terms of power. As such, in the absence of other complications (e.g., measurement error), these estimators are may be preferred to simple post-estimators that only make use of endline data.

specifications can be readily adjusted to account for the evaluation's random assignment strategy.⁷ Our final analysis will report estimates generated by both models.⁸

The single difference estimator will measure EGHW's ITT impact by comparing the average levels of our outcome variable, by treatment status, at endline.

This is:

$$Y_{ij} = \alpha + \beta T_j^2 + \beta T_j^3 + \gamma X_{ij} + \epsilon_{ij} \quad (2)$$

where Y_{ij} is an outcome variable for individual i in cluster j ; T_j^2 and T_j^3 are binary indicators for cluster-level interventions GEC and GEC+, respectively; and X_{ij} is a vector of covariates comprised of the dummy for the strata included in EGHW's random assignment protocol, here the region variable. The latter must be included to account for the stratified nature of the evaluation's assignment lotteries. ϵ_{ij1} is a disturbance term clustered at the school level.⁹

The ANCOVA estimator features an ordinary least squares regression

$$Y_{ij1} = \alpha + \beta T_j^2 + \beta T_j^3 + \delta Y_{ij0} + \gamma X_{ij} + \epsilon_{ij} \quad (3)$$

where Y_{ij1} is the level of impact indicator corresponding to girl i in community (cluster) j at endline ($t=1$). T_j^2 and T_j^3 are binary indicators for cluster-level interventions GEC and GEC+, respectively. Y_{ij0} is the value of the impact indicator at baseline ($t=0$). X_{ij0} is a vector of covariates comprised of dummies for the strata included in EGHW's random assignment protocol and the learner's age. ϵ_{ij1} is a disturbance term clustered at the school level. In this specification, β is the coefficient of interest, as it measures the ITT impact on outcome Y .

We will estimate these equations (2) and (3) using the estimation sample and heteroskedasticity robust standard errors.¹⁰ Our final report will include results obtained via both estimations. Finally, we may also generate treatment-on-the-treated effect estimates as a complement to our primary impact equations if the program participation data are of reasonable quality.

To create a more reasonable set of outcomes for analysis and presentation, we will construct indices for our main outcome domains after we inspect each individual variable for its viability as a possible index component.

4. Participation

⁷ See EGHW's randomization protocol for the details of this process. Important features of the randomization strategy that must be accounted for in our estimation strategy include cluster-level assignment, clusters of unequal size, and stratification with an uneven assignment probability. We deal with the former using heteroskedasticity robust, clustered standard errors, following the guidelines proposed by Solon, G., Haider, S. & Wooldridge, J. (2013), and deal the latter by including indicators for each strata in all of our specifications, as is standard practice recommended by Duflo, Glennerster, & Kremer (2007) and Gerber & Green (2012).

⁸ For example, McKenzie (2015) notes that ANCOVA estimates may be better suited to in cases where baseline data is missing for some observations, as this specification allows for missing baseline values to be "dummied" out (where as difference-in-differences specifications discard such observations).

⁹ Following Solon et al. (2013). We will estimate this parameter using cluster robust standard errors, to account for the clustered nature of the evaluation sample and heteroskedasticity, expected due to unequal cluster sizes.

¹⁰ We expect that our standard errors will be heteroskedastic as our clusters vary in size. We will verify that this is the case prior to completing our analysis and, if necessary, explore alternative adjustments that correct for this issue (e.g. weighting).

We will assess participation by verifying what proportion of eligible students joined in study schools where the clubs were offered. We will also assess whether there are differences in girl's participation girl-club only versus girl-club and boy-club schools. For this we will, first, use EGHW's administrative data to construct several measures of participation: enrolled in a club, participated in at least one club session, participated in 50% of offered club sessions, and percent of sessions attended. Next we will identify the learners in the estimation sample that participated in the program.¹¹ Finally, we will test for differences in participation ("participated in at least one session") by intervention group by estimating equation 4 and testing if the coefficient on T_j is different from zero. Equation 4 takes the form of:

$$P_{ij} = \alpha + \beta T_j + \epsilon_{ij} \quad (4)$$

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where P_{ij} is a binary variable that takes a value of 1 if learner i from school (cluster) j participated in at least one session of EGHW and 0 otherwise, T_j indicates intervention status assigned at level j , and ϵ_{ij1} is a disturbance term clustered at the community level. As proposed for the balance tests in section two, we will test for differences using a t-test for null hypothesis of equal means and normalized differences. We expect to soundly reject this hypothesis and to find minimal, if any, participation by the control group, due to the distances between treatment and control communities. As such, we will not define a strategy for dealing with this form of non-compliance at this time.

Once we have confirmed that EGHW's participation variables conform to the expected pattern of compliance (i.e., some compliance in the treatment group and almost no non-compliance in the control group), we will extend our analysis of participation to a descriptive assessment of the characteristics of participants and non-participants within the treatment groups. This is, we will use equation (5) to estimate if there are differences in the baseline levels of the evaluation's impact and outcome variables and other characteristics that may influence these variables, such as: parental survival and co-residence, and girls' age. Equation (5) takes the form of:

$$Y_{ij0} = \alpha + \beta P_{ij} + \epsilon_{ij1} \quad (5)^{13}$$

where Y_{ij0} is the baseline level of the evaluation's outcome variable or a characteristic of interest for learner i in community j , P_{ij} is a binary variable that takes a value of 1 if learner i from community j participated in at least one session of EGHW, ϵ_{ij1} is a disturbance term clustered at the community level. As before, we will test for differences using a t-test and normalized differences. This analysis will be purely for informational purposes and is intended to help us observe whether these groups vary in the initial levels of variables that we expect to be correlated with our impact estimates.

5. Attrition (and Missing Values)

This section establishes our approach for detecting differential attrition by intervention status. The processes defined here, however, can be extended to deal with other forms of missing values that may be systematically correlated with treatment (e.g., missing responses to sensitive questions). If we consider such check to be necessary, we will do so, employing the same (or similar) process described below.

¹¹ Prior to implementing this analysis, we will review the consistency of EGHW's administrative data. If many inconsistencies are detected, we will determine the source of these errors by reviewing field notes and additional administrative records (e.g., program materials, among others).

¹² The standard errors for this regression are clustered, robust standard errors. If the outcome variables are binary variables, this exercise can be implemented using a linear and/or probit regression.

¹³ The standard errors for this regression are clustered, robust standard errors. If the outcome variables are binary variables, this exercise can be implemented using linear and/or probit regression.

Our exploration of attrition will be focused on verifying whether attrition is systematically related to a learner's intervention status and may, thereby, bias our impact estimates. If we find this to be case, we will proceed to define a strategy for dealing with attrition, which will most likely involve weighting or data imputation/bounds (Wooldridge, 2002 and Gerber & Green, 2012). To determine the relation between attrition and intervention status, we will develop a regression model that, in simplest form, can be expressed as:

$$A_{ij} = \alpha + \beta T_j + \epsilon_{ij} \quad (5.1)$$

where A_{ij} is a binary variable that takes a value of 1 if learner i from community j attrited between baseline and endline and 0 otherwise, T_j indicates intervention status assigned at level j , and ϵ_{ij} is a disturbance term clustered at the community level. By testing if the coefficient on T_j is different from zero we will verify whether attrition differs significantly by intervention status. Once we have obtained this result, we will test if it holds given the addition of indicators for strata, variables we expect to be correlated to attrition (e.g., learner age, ever pregnant, parent survival and co-residence, enrolment at baseline, among others), and interaction terms between intervention status and the correlates of attrition. We will include the results for all models in our final report.