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# More Than Brides Alliance: Baseline report, Malawi

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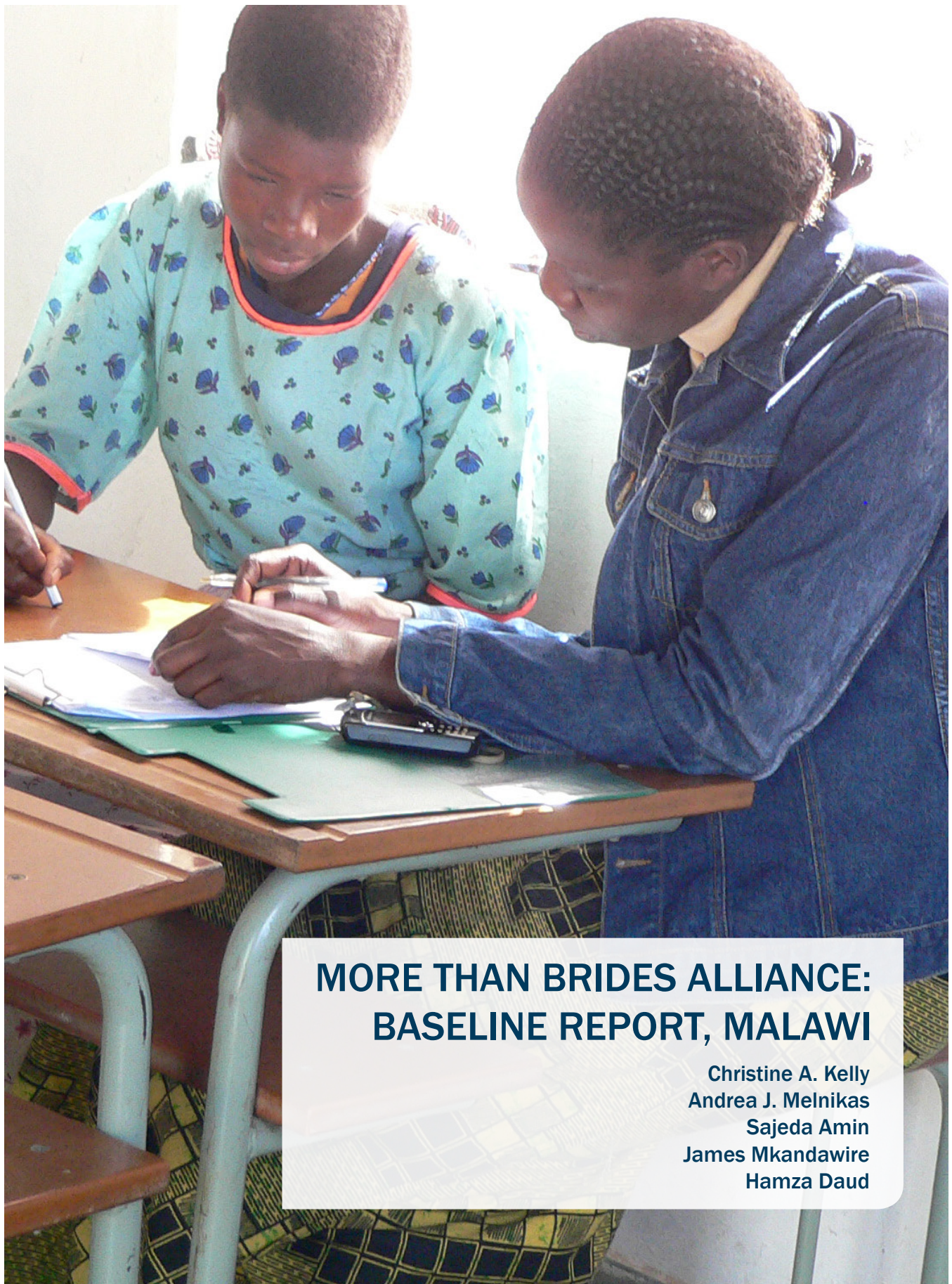
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# MORE THAN BRIDES ALLIANCE: BASELINE REPORT, MALAWI

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Hamza Daud

The Population Council confronts critical health and development issues—from stopping the spread of HIV to improving reproductive health and ensuring that young people lead full and productive lives. Through biomedical, social science, and public health research in 50 countries, we work with our partners to deliver solutions that lead to more effective policies, programs, and technologies that improve lives around the world. Established in 1952 and headquartered in New York, the Council is a nongovernmental, nonprofit organization governed by an international board of trustees.

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The **More Than Brides Alliance** Baseline Reports are available for India, Malawi, Mali, Niger.

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# Table of Contents

Acknowledgments .....	iv
Executive Summary .....	1
List of Abbreviations .....	3
Background .....	4
Methods.....	6
Demographics .....	9
Education and Skills .....	11
Early Marriage .....	15
Relationships, Sex, and Pregnancy.....	18
Safety and Mobility.....	22
Social Networks.....	23
Gender and Rights .....	24
Livelihoods.....	27
Discussion .....	28
Appendix 1.....	30
Appendix 2.....	31
References.....	32

# Acknowledgments

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We thank the members of the More Than Brides Alliance, including Save the Children Netherlands, Oxfam Novib, and Simavi. In Malawi, Simavi is implementing programs to delay marriage and improve outcomes for adolescent girls in cooperation with local partners GENET and YONECO. We look forward to seeing the results from these interventions.

We also thank the Ministry of Foreign Affairs Netherlands for their support of the More Than Brides Alliance and of the research and evaluation component specifically.

At the Invest in Knowledge Initiative (IKI), we would like to thank our colleagues who oversaw the data collection in the field including Hamza Daud. We have been fortunate to work with a talented team who were instrumental in conducting the household listing and baseline survey with adolescent girls and young women.

Finally, we are grateful for the research participants, in particular the adolescent girls and young women who shared their experiences, thoughts, and ambitions with the research team. We thank them for their participation, without which this report would not be possible.

# Executive Summary

We conducted baseline surveys of adolescents in select areas of two districts in Malawi (Mangochi and Nkhata Bay) as part of an evaluation of interventions to delay marriage. The goals of the baseline were to: 1) provide information about the current situation and context for adolescent girls in select areas in Malawi in order to inform the intervention; 2) provide a benchmark against which changes resulting from the intervention may be measured at the midline and endline periods; and 3) identify themes in need of further exploration through qualitative research. The baseline survey was carried out in partnership with a local research group based in Zomba, Invest in Knowledge Initiative (IKI). Baseline data collection included a household listing (n=7,604) that included data on females aged 10–21 living in the household and baseline surveys with female adolescents and young women aged 12–19 (n=1,020) to collect information on marital status and history, education, sexual and reproductive health knowledge and experience, learning outcomes, migration history, livelihoods, and social connections. Surveys were carried out in intervention (n=26) and comparison (n=23) enumeration areas that had been randomly assigned.

Respondents were, on average, 14.9 years of age. In Mangochi, most respondents were Muslim (95.5%) and Yao (93.3%), while in Nkhata Bay respondents were Christian (98.3%) and Tonga (71.9%). Sixty-four percent of girls were currently in school, with more girls in school in Nkhata Bay (77.8%) compared to Mangochi (56.7%), which may be due in part to higher rates of early marriage and pregnancy in the Southern region. More girls were currently married in Mangochi (15.6%) than Nkhata Bay (9.1%) and more reported ever being pregnant (25.1% compared to 19.9%). Among those in school, learning outcomes were mixed suggesting that school quality may be an issue: In Nkhata Bay, 76.4% of girls could read two sentences in English, but in Mangochi just 39.4% could. Similarly, girls in Nkhata Bay scored higher on a numeracy assessment (mean score 6.3 of a possible 10) compared to girls in Mangochi (3.8).

Overall, some never-married respondents (7.5%) reported ever being pregnant and 60.0% of never-married respondents who reported having a boyfriend reported ever having sex (32.8% of respondents 15–19 overall reported ever having sex). Among ever-married respondents, 49.4% reported having at least one child. Sexual and reproductive health knowledge was high in both districts: Overall, 82.2% of girls had heard of HIV and 78.6% had heard of at least one family planning method, but contraceptive knowledge was lower among never- than ever-married girls and just 4.1% of participants had a youth-friendly health facility in their community.<sup>1</sup> There were also some differences by education level, with knowledge of family planning methods positively associated with educational attainment.

Findings regarding gender norms were mixed. Although 75.0% of girls agreed with a statement that women and men should be treated equally, 82.9% agreed that a woman should always obey her husband and 78.7% agreed that a woman should tolerate violence to keep her family together. We did not find consistent differences by district, marital status, or level of schooling.

About 1 in 4 girls reported ever being engaged in income-generating work (25.4%) and even fewer reported currently working for income (4.4%). Among the few who did report currently working, day labor (26.7%) and farming/agricultural work (24.4%) were the most common forms of income generation. Given the low proportion of girls working, we were not surprised to find that few (8.4%) reported saving money for the future.

The More Than Brides Alliance seeks to improve the lives of adolescent girls and includes activities across multiple domains (reproductive health, education, gender norms, and livelihoods, to name a few). Overall, most girls in these communities reported ever being in school (96.8%) and about 1 in 6 were ever married (15.9%). However, there

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<sup>1</sup> Note that these areas may still have health facilities; the question focused on youth-friendly health facilities.

were significant differences between districts, and vulnerabilities emerged as we examined the data by education level and marital status. Our findings suggest that girls in these communities have a demonstrated need for interventions to address these vulnerabilities. Findings from the baseline study will be used both to evaluate changes over time that may be attributable to the MTBA intervention and to inform programmatic staff seeking to understand the populations they are serving.

# List of Abbreviations

DHS	Demographic and Health Survey
EA	Enumeration Area
GHV	Group Head Village
IKI	Invest in Knowledge Initiative
MTBA	More Than Brides Alliance
SRHR	Sexual and Reproductive Health and Rights
TA	Traditional Authority



# Background

Malawi is one of the poorest countries in the world (ranked 174 of 187 on the Human Development Index, 2014) with high gender inequality (ranked 129 of 148 on the UN Gender Inequality Index, 2013). Similar to other countries in sub-Saharan Africa, Malawi also has an HIV epidemic with 10% of adults aged 15–49 living with HIV (UNAIDS 2014). HIV in Malawi disproportionately affects women, particularly at younger ages, with 4.2% of females 15–19 years of age HIV-positive compared to 1.3% of their male counterparts (Population Council 2009).

Since 1994, Malawi has had free primary school education, which has resulted in high enrollment rates for young adolescents. Among children of primary school age (6–13) 11% are out of school, with those in rural areas more likely to be out of school (11%) compared to those in urban areas (5%). Among adolescents of secondary school age (14–17), 27% are out of school and again we see more out of school in rural (28%) compared to urban (23%) areas (EPDC 2014). Among males and females, the proportion out of school at primary school age was similar (11% among males; 10% among females) but by secondary school age this gap had widened (23% among males; 32% among females) (EPDC 2014).

Child marriage is also a significant issue in Malawi. Although the percent of women aged 20–24 who report being married by age 15 is low compared to some other countries in Africa (11.7% nationally report being married by age 15, compared to 28.0% in Niger, for example), nearly half of all women aged 20–24 (49.6%) report being married by age 18 (DHS 2010). These percentages vary regionally, with the Southern region having the highest percentage of 20–24-year-old females reporting marriage by age 18 (55.5%) and by age 15 (16.5%) (DHS 2010).

Sexual initiation occurs early for many females in Malawi. As Table 1 shows, nationally 16.6% of women aged 20–24 report having had sex by age 15, and by age 18, 59.7% have had sex. In the Southern region, 24.3% of women aged 20–24 report that they had already had sex by age 15, and by age 18 two-thirds of women 20–24 (66.6%) report that they had already become sexually active, compared to 12.3% and 59.0%, respectively, in the Northern region.

The More Than Brides Alliance implements and evaluates the effectiveness of a range of interventions to delay child marriage, including education, economic opportunities, child promotion, SRHR services, community engagement, and others. In Mali and Niger, the Council is conducting a quasi-experimental matched study, and in India and Malawi a cluster randomized trial to evaluate whether and to what extent these child marriage interventions improve young people’s ability to decide when to marry and pursue their sexual and reproductive health rights in a supportive environment.

**TABLE 1. Percent of women 20-24 who had sex by age 15, 18 (DHS 2010)**

	Had sex by age 15	Had sex by age 18
Northern	12.3	59.0
Central	9.5	52.5
Southern	24.3	66.6
Urban	12.3	47.5
Rural	17.7	62.8
National	16.6	59.7

In rural areas, girls are at increased risk of sexual activity relative to their urban peers (17.7% of women aged 20–24 in rural areas had sex by age 15 compared to 12.3% of their urban counterparts), which may be driven in part by higher marriage rates (54% of rural women aged 20–24 report being married by age 18 compared to 31% of urban women aged 20–24). Unlike in West Africa, where the timing of marriage and sexual activity are closely related, in Malawi sexual activity frequently occurs outside of marriage. Among never-married women aged 15–19, 24.1% report that they had already had sex. By age 20–24, 56.8% of never-married females report having had sex (DHS 2010).

## Intervention

The More Than Brides Alliance (MTBA), a program implemented by Save the Children International, Oxfam Novib, and Simavi, aims to improve outcomes for adolescent girls

in five countries: India, Malawi, Mali, Niger, and Pakistan. Broadly, the MTBA programs have defined five key result areas:

- Empowering at-risk and already married adolescents, girls in particular, with life skills education (LSE), comprehensive sexuality education (CSE), and sexual and reproductive health and rights (SRHR) information;
- Providing alternatives to child marriage and mitigating the impact on married girls through enhancing access to education, economic opportunities, and child protection systems for girls and their families;
- Increasing access to SRHR services for young people;
- Changing social norms;
- Influencing legal and policy frameworks.

In Malawi, the MTBA is being implemented in Mangochi, Mchinji, and Nkhata Bay districts by Simavi in cooperation with local NGOs.<sup>2</sup> As the research and learning agenda partner of the MTBA, the Population Council is evaluating interventions in India, Malawi, Mali, and Niger.

## Study Aims

The aims of this baseline study were to: 1) provide information about the current situation and context for adolescent girls in select areas in Malawi in order to inform the MTBA intervention; 2) provide a benchmark against which changes resulting from the MTBA intervention may be measured at the midline and endline periods; and 3) identify themes in need of further exploration through qualitative research.

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<sup>2</sup> Mchinji is not included in the research component due to contamination concerns.

# Methods

The baseline research included the following data collection components:

- Household listing of select intervention and comparison villages with collection of key outcome indicators for females aged 10–21, including marital status, school enrollment, childbearing status, and work status
- Baseline survey of females aged 12–19 in select intervention and comparison communities. Categories of questions included:
  - Background characteristics
  - Migration
  - Education and schooling experience, including literacy and numeracy evaluation
  - Reproductive health knowledge
  - Marriage and dowry
  - Sexual experience
  - Mobility
  - Social context
  - Gender equality
  - Livelihoods

As described above, the MTBA seeks to improve the lives of adolescent girls, including increasing school enrollment and educational attainment, improving reproductive health outcomes, and empowering girls to have more agency in decisions about their lives, including marriage. Primary outcomes of interest include indicators such as proportion married before age 18, proportion pregnant before age 18, and proportion in school. Many of the domains included in the survey are directly related to these outcomes (e.g., questions about age at first marriage) while others provide information about possible risk factors (e.g., migration may make girls more or less vulnerable to negative outcomes depending on the circumstances surrounding the migration). We collect data on indicators that will help us measure program impact as well as help us to better understand the context and constraints around key outcomes in order to inform program design and delivery.

Although the MTBA program is implemented in three districts (Mangochi, Mchinji, and Nkhata Bay) the baseline research was conducted in the Mangochi and Nkhata Bay districts of Malawi by the Invest in Knowledge Initiative (IKI) based in Zomba. Mchinji was excluded from the research component—but not the program—due to the presence of multiple interventions targeting adolescent girls, which would influence our ability to measure the impact of the MTBA program. Figure 1 shows the locations for the baseline data collection.

**Ethical review:** Ethical and research clearance for this study was issued by the Institutional Review Board of the Population Council and by the National Committee on Research in the Social Sciences and Humanities (NCRSH) in Lilongwe.

**Sample size:** We conducted sample size estimations using Optimal Design, assuming that half of data collection areas would be designated as comparison areas. Our calculations and assumptions are included in Appendix 1. We estimated that we would reach 80% power to detect a minimum effect size of 15% for the proportion of females aged 12–19 married at endline with 45 clusters (GHVs) and 20 girls per cluster, for a total sample size of 900 females aged 12–19.

**Trial design:** We employed a cluster randomized design for implementation of the MTBA program in Malawi, using group head village (GHV) as the unit for randomization.

## Data Collection

### Site Selection

For the MTBA program, sites were randomized as intervention or comparison areas at the group head village (GHV) level. All villages connected to the selected GHV were designated as either intervention or comparison based on the designation of their GHV. However, we could not use GHVs for baseline survey sampling due to the following reasons:

1. GHVs are not official government boundaries with associated maps;
2. We did not have GPS points for the “center” of the GHV from which to draw a catchment area for the household listing; and

3. Some GHVs appeared to overlap—villages in different GHVs appeared to be very close to each other—which we felt could potentially contaminate our findings.

We therefore assigned enumeration areas (EAs)<sup>3</sup> as the sampling unit for the baseline survey. To do so, we took the following steps:

1. Mapped GPS points for villages in each GHV provided by the MTBA program staff;
2. Loaded a spatial file with the boundaries of each EA;
3. Mapped GHV “coverage” by connecting villages in the same EA;
4. Selected the “best fit” EA for each GHV;
5. Reassigned GHVs when potential contamination issues were clear after mapping; and
6. Created a list of EAs to be used for the baseline survey.

Enumeration areas, including maps of these areas, were acquired from the National Statistical Office of Malawi in Zomba. A total of 48 EAs were included in the research, with 32 in Mangochi and 16 in Nkhata Bay.<sup>4</sup> All households within the selected enumeration area were eligible for inclusion in the study. From the household listing frame, we randomly selected households with females 12–19 years of age for participation in the baseline survey. Only one female per household was included in the baseline survey.

#### *Household Listing and Baseline Survey*

In November and December 2016 household listing and household survey data collection was carried out in select communities in Mangochi and Nkhata Bay (Figure 1 shows traditional authorities (TAs) included in the baseline data collection). Enumerators were selected from a roster of enumerators with previous experience working with IKI. Forty enumerators were selected for their experience working on surveys with adolescents and/or surveys with sensitive topics. Training for the household listing took place on November 5 and 6, 2016 in Zomba. After training, enumerators completed the household listing. The best enumerators from the household listing (as judged by IKI research leaders) were asked to stay on after the listing to receive training for the baseline survey. Twenty-five enumerators

**FIGURE 1. Areas Included in baseline data collection**



were selected for the 5-day training from November 21–25 in Zomba. The training session included background information about the project, study goals and objectives, the content of the household listing and baseline survey tools, data entry, and research ethics and participant protection. Pretesting of the tools was conducted during the training in two small villages outside Zomba, after which enumerators debriefed with the Population Council team and made minor changes to the electronic data capture tool.

The household listing was conducted in 48 enumeration areas (26 intervention and 22 comparison), from which households were randomly selected for the baseline survey (n=22 per enumeration area), using a Kish grid if more than one eligible girl aged 12–19 was included in the selected household. All data from the household listing and baseline surveys were captured electronically using mobile phones. Sampling for the baseline survey was done remotely by

<sup>3</sup> Enumeration areas are geographic units defined by the Malawi National Statistical Office.

<sup>4</sup> The scale of the program is larger in Mangochi than in Nkhata Bay.

Population Council staff, including replacement selections as needed. A total of 7,604 households were listed and a total of 1,020 baseline surveys were completed.

Individual written informed consent was obtained from all participants prior to conducting the surveys. For adolescents under age 18, parental permission was first obtained before obtaining adolescent assent.

Data for key indicators (proportion married, proportion who had begun childbearing, proportion in school) were collected in both the household listing and baseline survey instruments. Data from the household listing were collected from the head of household or another adult in the household about females aged 10–21 living in the household. Data from the baseline survey were collected directly from female respondents aged 12–19. This report presents findings from the baseline survey.

## Data Analysis

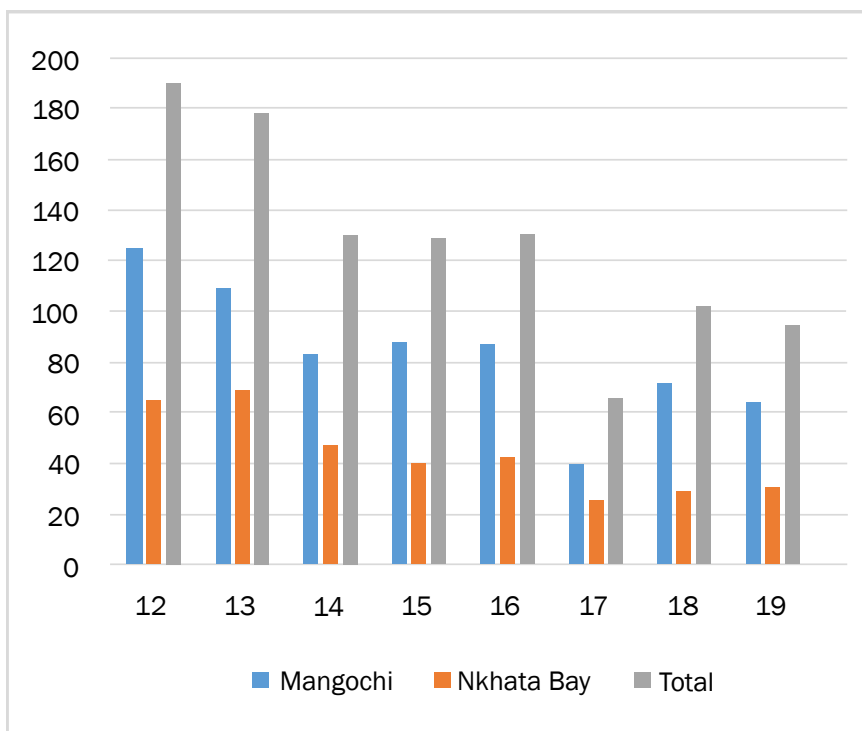
Data were entered directly into SurveyCTO via a mobile app and uploaded to a secure server. Data were downloaded and imported into STATA 14.1 for cleaning and analysis. Data analysis primarily focused on descriptive statistics for variables of interest. Although throughout the report we focus on geographic comparisons, we have included a table comparing intervention and comparison areas on key indicators in Appendix 2.

# Demographics

Table 2 shows selected demographic characteristics of the baseline sample, by randomization arm and district. Approximately two-thirds of interviewed girls came from Mangochi district, while the remainder came from Nkhata Bay. Participants ranged from 12–19 years of age, with a mean age of 14.9 years. As Table 2 indicates, background characteristics were closely balanced across intervention and comparison areas, but large differences were evident by district, particularly with respect to religious and ethnic composition. The vast majority of girls in Mangochi were Muslim and Yao (93.3% and 95.5%, respectively), while in Nkhata Bay most were Christian (98.3%) and Tonga (71.9%). One-third of girls in Mangochi had mothers who had never attended school and just 4.3% of mothers had attended secondary; by contrast, the mothers of only 4.3% of girls in Nkhata Bay had not attended school, while 19.3% had progressed at least to secondary. Similar educational imbalances were found with respect to father’s education. These sociodemographic differences may have important implications for marriage patterns in each district by shaping norms and expectations for girls.

Figure 2 shows the number of survey respondents by age. Despite random selection of girls from the household listing for participation in the baseline survey, our sample skews younger (12–14 years old), likely due to younger girls being easier to locate for participation in surveys because they are still in school, not yet married, and have not migrated in search of work or educational opportunities. A higher number of girls in the youngest age group (12) and fewer girls in the oldest age group (19) may be also the result of age heaping due to age misrepresentation, so girls either aged into or aged out of participation in the survey.

**FIGURE 2. Number of survey respondents, by age**



**TABLE 2. Demographic characteristics of baseline participants, by randomization arm and district; n (%)**

	Intervention	Comparison	Mangochi	Nkhata Bay	Total
Mean age (years)	14.8	15.0	14.9	14.8	14.9
Religion					
Christian	214 (38.4)	161 (34.8)	29 (4.3)	346 (98.3)	375 (36.8)
Muslim	342 (61.4)	301 (65.0)	638 (95.5)	5 (1.4)	643 (63.0)
Other	1 (0.2)	1 (0.2)	1 (0.1)	1 (0.3)	2 (0.2)
Ethnic group					
Chewa	42 (7.5)	19 (4.1)	25 (3.7)	36 (10.2)	61 (6.0)
Tonga	124 (22.3)	130 (28.1)	1 (0.1)	253 (71.9)	254 (24.9)
Tumbuka	31 (5.6)	8 (1.7)	7 (1.0)	32 (9.1)	39 (3.8)
Yao	333 (59.8)	296 (63.9)	623 (93.3)	6 (1.7)	629 (61.7)
Other	27 (4.8)	10 (2.2)	12 (1.8)	25 (7.1)	37 (3.6)
Father's education					
None	93 (16.7)	66 (14.3)	145 (21.7)	14 (4.0)	159 (15.6)
Primary	235 (42.2)	202 (43.8)	275 (41.2)	162 (46.2)	437 (42.9)
Secondary +	81 (14.6)	71 (15.4)	45 (6.7)	107 (30.5)	152 (14.9)
Don't know	148 (26.6)	122 (26.5)	202 (30.3)	68 (19.4)	270 (26.5)
Mother's education					
None	136 (24.4)	103 (22.2)	224 (33.5)	15 (4.3)	239 (23.4)
Primary	279 (50.1)	250 (54.0)	293 (43.9)	236 (67.0)	529 (51.9)
Secondary +	51 (9.2)	47 (10.2)	29 (4.3)	69 (19.6)	98 (9.6)
Don't know	91 (16.3)	63 (13.6)	122 (18.3)	32 (9.1)	154 (15.1)
Father alive					
Yes	443 (79.5)	362 (78.4)	545 (81.7)	260 (73.9)	805 (79.0)
No/don't know	114 (20.5)	100 (21.6)	122 (18.3)	92 (26.1)	214 (21.0)
Mother alive					
Yes	517 (92.8)	432 (93.3)	628 (94.0)	321 (91.2)	949 (93.0)
No	40 (7.2)	31 (6.7)	40 (6.0)	31 (8.8)	71 (7.0)

# Education and Skills

Previous Population Council research on adolescents in Malawi has examined the relationship between schooling and health (Mensch et al. 2015) and schooling and violence (Psaki, Mensch, and Soler-Hampejsek 2017). We examined a number of indicators related to education and school quality in Malawi to understand how education may influence the pathways to early marriage and other outcomes of interest, such as sexual activity and pregnancy.

We found that most girls reported ever attending school (96.8%) with near universal coverage in Nkhata Bay (99.1%) and only slightly less in Mangochi (95.5%). In examining current school attendance, we found some differences

between districts: current school attendance was considerably higher in Nkhata Bay (77.8%) compared to Mangochi (56.7%). Girls were also more likely to start school on time in Nkhata Bay, where 78.5% entered primary school at the official age of 6 or lower (among girls who knew their age at entry), compared to 48.7% of girls in Mangochi who did the

**64.0%:** Girls 12–19 currently enrolled in school.

**16.8%:** Girls report being harassed in school.

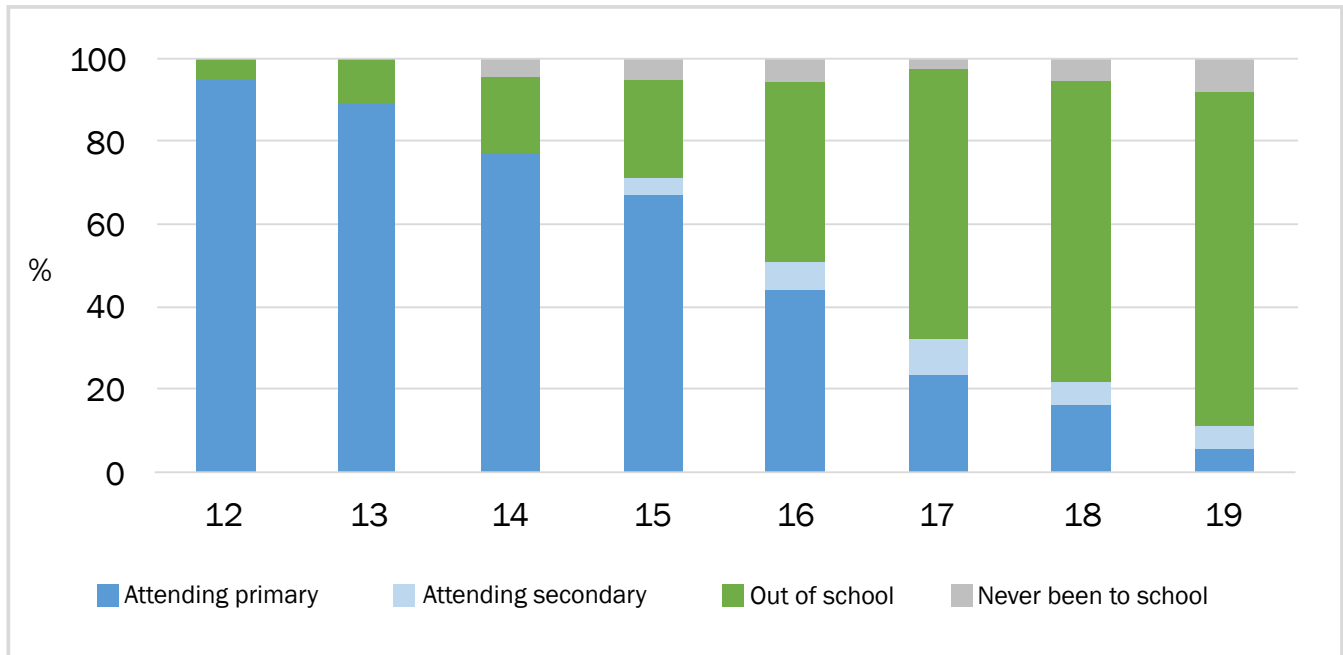
**4.3:** Mean years of education completed (among ever attended school).

**TABLE 3. Education status and level, by district**

	Mangochi	Nkhata Bay	Total
School attendance	(N=668)	(N=352)	(N=1,020)
Currently attending	379 (56.7)	274 (77.8)	653 (64.0)
Previously attended	259 (38.8)	75 (21.3)	334 (32.7)
Never attended	30 (4.5)	3 (0.9)	33 (3.2)
Among ever attended:			
Age started school	(N=637)	(N=349)	(N=986)
≤5	132 (20.7)	76 (21.8)	208 (21.1)
6	135 (21.2)	191 (54.7)	326 (33.1)
7	46 (7.2)	34 (9.7)	80 (8.1)
≥8	235 (36.9)	39 (11.2)	274 (27.8)
Don't know	89 (14.0)	9 (2.6)	98 (9.9)
Highest grade completed	(N=631)	(N=349)	(N=980)
<Standard 1	8 (1.3)	0 (0.0)	8 (0.8)
Standard 1–4	431 (68.3)	111 (31.8)	542 (55.3)
Standard 5–7	162 (25.7)	176 (50.4)	338 (34.5)
Standard 8	21 (3.3)	28 (8.0)	49 (5.0)
Form 1–4	9 (1.9)	34 (9.7)	43 (4.4)
Mean years of schooling	3.5	5.7	4.3
Highest desired grade	(N=626)	(N=348)	(N=974)
<Standard 8	32 (5.1)	3 (0.9)	35 (3.6)
Standard 8	170 (27.2)	3 (0.9)	173 (17.8)
Form 2/4	252 (40.3)	108 (31.0)	360 (37.0)
Vocational	20 (3.2)	33 (9.5)	53 (5.4)
Bachelor's +	117 (18.7)	150 (43.1)	267 (27.4)
Current grade	18 (2.9)	47 (13.5)	65 (6.7)
Don't know	17 (2.7)	4 (1.1)	21 (2.2)



**FIGURE 3. Percentage of baseline participants by school status and age**



same. Corresponding to the higher current attendance rate and earlier age at school entry, mean years of schooling was fully two years higher in Nkhata Bay—5.7 versus 3.4 years

Educational aspirations were similarly more advanced in Nkhata Bay, with 43.1% of students reporting a desire to obtain at least a bachelor’s degree, compared with 18.7% in Mangochi. On the other hand, more than one-quarter of respondents in Mangochi aspired just to complete primary school, while less than 1% of girls in Nkhata said the same.

Figure 3 shows the schooling status of baseline respondents by age. It demonstrates that the vast majority of girls were attending school at ages 12 and 13, but at age 16 nearly half of girls had dropped out. The figure also reveals that many girls continued to attend primary school at ages much older than would be expected if they started on time and progressed smoothly through the eight-year primary cycle. Indeed, nearly 10% of 19-year-olds reported last completing a primary school grade. It also makes clear that transition to secondary school is exceedingly low in this population. Overall, just 4.4% of girls interviewed had completed at least one year of secondary, while most girls of secondary age were no longer enrolled in school.

Girls who were not attending school were asked to list the factor(s) responsible for their school discontinuation. Most school leavers attributed their nonattendance to financial constraints, with similar proportions citing cost concerns in Mangochi and Nkhata Bay (Table 4). About one-third of girls reported having no interest in staying in school, again with only minor differences between districts. Interestingly, while 10.8% of all school leavers reported withdrawing due to pregnancy, this proportion was considerably higher in Nkhata Bay (26.3%), although fewer girls had left school there overall. Fewer girls (3.9% in Mangochi and 7.9% in Nkhata Bay) reported leaving school due to marriage. In questions about harassment, we found that overall 16.8% of girls report ever being harassed in school,<sup>5</sup> which may contribute to the decision to discontinue (though notably respondents cited other reasons for discontinuation as shown in Table 4).

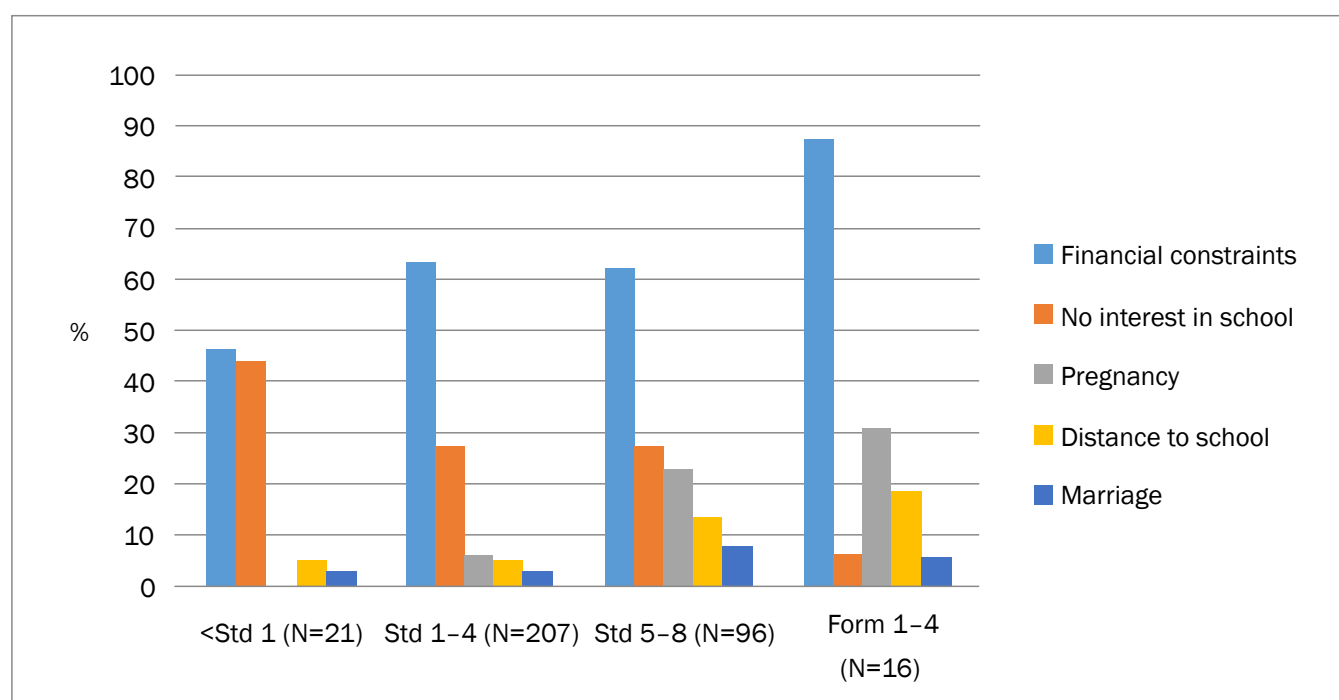
Figure 4 shows that the reason(s) reported for leaving school were also sensitive to how far the student had progressed. As years of schooling increased, a greater proportion of school leavers highlighted the importance of financial constraints, particularly at the secondary level when school fees are introduced. The opposite pattern was observed with respect to interest in school continuation: whereas a substantial proportion of girls who had reached

<sup>5</sup> Question does not specify whether harassment is from teachers or other students.

**TABLE 4: Last grade attended and reasons for school discontinuation, among girls not currently attending school, by district; n (%)**

	Mangochi	Nkhata Bay	Total
Reason(s) for school discontinuation	(N=285)	(N=76)	(N=361)
Financial constraints	178 (62.5)	46 (60.5)	224 (62.0)
No interest in school	84 (29.5)	20 (26.3)	104 (28.1)
Pregnancy	19 (6.7)	20 (26.3)	39 (10.8)
Distance to school	18 (6.3)	14 (18.4)	32 (8.9)
Marriage	11 (3.9)	6 (7.9)	17 (4.7)
Last grade completed	(N=286)	(N=77)	(N=363)
<Standard 1	37 (12.9)	2 (2.6)	39 (10.7)
Standard 1-4	191 (66.8)	20 (26.0)	211 (58.1)
Standard 5-7	45 (15.7)	34 (44.2)	79 (21.8)
Standard 8	8 (2.8)	9 (11.7)	17 (4.7)
Form 1-3	5 (1.7)	6 (7.8)	11 (3.0)
Form 4	0 (0.0)	6 (7.8)	6 (1.7)

**FIGURE 4. Reason(s) reported for leaving school, by highest grade completed**



only the early years of primary school (or had not attended at all) indicated they left school due to lack of interest, this share declined as students advanced further. The relative importance of pregnancy and distance to school increased with years of schooling—and presumably with age—but, interestingly, marriage did not appear to be as sensitive to grade attainment, although the number of girls who reported leaving school due to marriage was very small overall.

### Skills acquisition and media access

Respondents were asked to report on their own literacy and then complete a short literacy assessment in English, which included reading two short sentences aloud. Self-reported literacy was fairly high: 60.2% of respondents reported being able to both read and write, but was much higher in Nkhata Bay (86.6%) compared to Mangochi (46.3%). Results from the literacy assessment found similar district-

level differences: three-quarters of girls in Nkhata Bay could fully read two short sentences, while only 39.4% of girls in Mangochi could do the same. Participants also completed a numeracy assessment, which consisted of 10 questions involving ordering numbers, addition, subtraction, multiplication, and division (2 questions per domain), as well as 10 word problems covering more advanced competencies including financial transactions, fractions and decimals, and basic geometry. Numeracy skills, too, were significantly higher in Nkhata Bay, with girls achieving an average of 6.3 correct answers on the 10-item arithmetic test, compared with 3.8 correct among girls in Mangochi. We examined media use, theorizing that access to media may influence skill retention for girls who are out of school and reinforce skills among those in school. Although levels were low throughout, use of radio, TV, and newspapers was consistently higher in Nkhata Bay, which may also help to reinforce literacy and numeracy skills.

As would be expected, the proportion of girls able to read the two sentences in the literacy assessment increased with years of schooling (Figure 5). Of concern, however, is that nearly 10% of girls had reached the end of the primary cycle without the ability to read. Performance on the numeracy assessment also increased substantially with schooling attainment, with girls who had completed form 3 or 4 averaging 8.5 correct answers on the 10-item arithmetic assessment, relative to 1.8 correct answers among those who had attained standard 1. Ability to solve the more challenging set of word problems also increased with schooling, but remained consistently lower than for the arithmetic questions. Even those who had completed the most advanced stages of secondary school could answer just over half correctly.

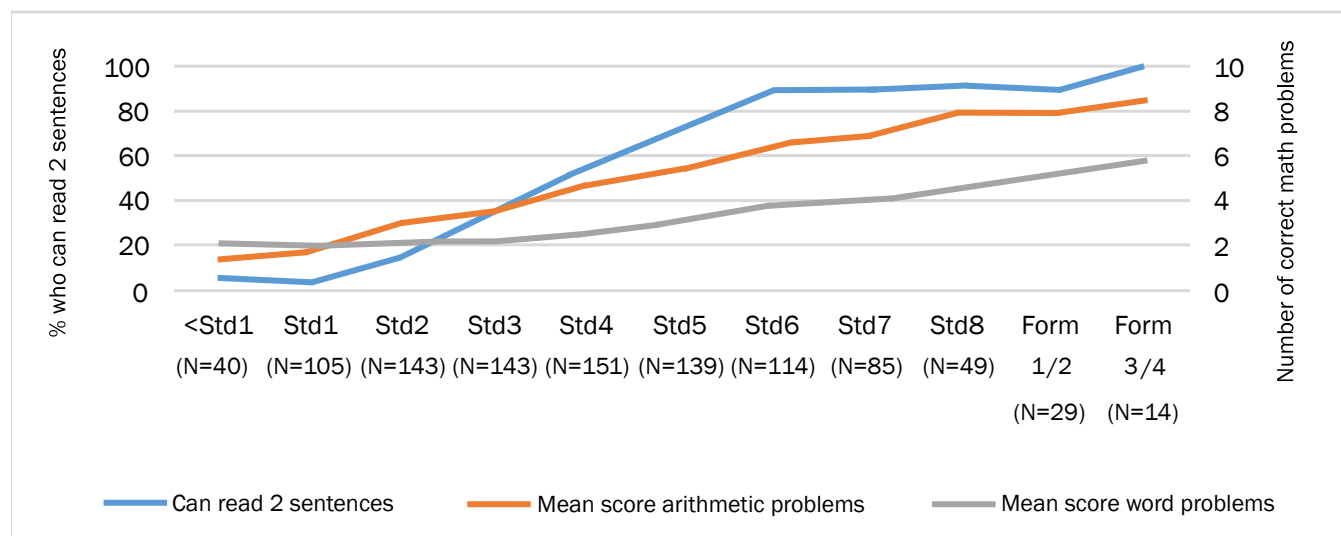
Not surprisingly, girls who could read both sentences in the literacy assessment scored more highly on the word problems than did girls who could only read some or nothing at all (3.7 versus 2.9 versus 2.0 correct answers, respectively).

**TABLE 5. Literacy and numeracy skills, by region (N=1,020)**

	Mangochi (N=668)	Nkhata Bay (N=352)	Total (N=1,020)
Able to read two sentences in English			
Cannot read any	369 (55.2)	55 (15.6)	424 (41.6)
Reads some	36 (5.4)	28 (8.0)	64 (6.3)
Reads all	263 (39.4)	269 (76.4)	532 (52.2)
Numeracy			
Ordering numbers <sup>a</sup>	417 (62.4)	249 (70.7)	666 (65.3)
Addition <sup>a</sup>	91 (13.6)	173 (49.1)	264 (25.9)
Subtraction <sup>a</sup>	283 (42.4)	241 (68.5)	524 (51.4)
Multiplication <sup>a</sup>	91 (13.6)	163 (46.3)	254 (24.9)
Division <sup>a</sup>	31 (4.6)	70 (19.9)	101 (9.9)
Mean correct, arithmetic problems (max 10)	3.8	6.3	4.7
Mean correct, word problems (max 10)	2.5	3.8	2.9

<sup>a</sup> Percentage of respondents who correctly solved two questions in each respective domain.

**FIGURE 5. Literacy and numeracy skills by highest grade completed**



# Early Marriage

According to the 2015–16 Malawi DHS, 24.9% of young women aged 15–19 had ever been married (NSO and ICF 2017). In our sample, 31.0% of 15–19-year-olds, or 15.9% of all participants ages 12–19, had ever been married (Table 6). Variation was once again evident between districts: in Nkhata Bay, 9.1% of girls were currently married and 11.9% ever married, while in Mangochi the figures were 15.6% and 18.0%, respectively. We found that 15.1% of girls had married by age 18. On average, girls married nearly one year earlier in Mangochi relative to Nkhata Bay (16.4 years old versus 17.2). Table 7 shows the breakdown of marital status by educational attendance and attainment. Interestingly, although a greater proportion of married girls had never attended school, never- and ever-married girls had completed a similar number of years of schooling at baseline. Tellingly, however, three-quarters of never-married girls were still attending school, while only three ever-married girls, or 1.9%, reported current enrollment.

## Circumstances surrounding marriage

Overall, the majority of girls indicated that entering into marriage had been their own choice, as opposed to being necessitated by external factors such as lack of educational prospects or parental pressure, but 19.1% of girls—and 35.7% in Nkhata Bay—reported pregnancy as the primary reason for marriage (Table 8). Marriages were more commonly reported as mutual decisions between the respondent and her husband in Mangochi (44.2%) than in Nkhata Bay (21.4%); in Nkhata Bay, most of the 42 ever-married girls reported that their husbands had chosen them for marriage. Just over 40% of marriages were accompanied by the promise of a bride price, with a slightly higher proportion of girls in Nkhata Bay reporting that lobola or other demands were agreed upon. Importantly, too, although overall numbers were small, a higher proportion of girls in Nkhata Bay reported being forced into marriage, either through kidnapping (16.7%) or pregnancy (35.7%) than in Mangochi (5.8% and 16.7%, respectively).

Among patrilineal ethnic groups, located predominantly in the Northern region, payment of lobola, or bride price, by the husband or his family forms a prerequisite for a valid marriage under customary law (Mwambene 2010). In

addition to a transfer of money or property, lobola signifies the creation of an alliance between families, as well as establishes a formal role for the male guardian who received the lobola as a mediator of disputes and protector of the bride in the event of mistreatment, desertion, or neglect. At

**44.9%:** Girls can correctly identify the legal age of marriage for girls in Malawi (18).

**7.6%:** Girls can name at least three adverse effects of early marriage for girls.

**3.7:** Mean age difference between partners (among married girls).

**TABLE 6. Key marriage indicators by district**

	Mangochi (N=668)	Nkhata Bay (N=352)	Total (N=1,020)
Currently married	104 (15.6)	32 (9.1)	136 (13.3)
Ever married	120 (18.0)	42 (11.9)	162 (15.9)
Married by age 18	115 (17.3)	38 (10.9)	153 (15.1)
Mean (median) age of marriage	16.4 (17)	17.2 (17)	16.6 (17)

**TABLE 7: Educational attendance and attainment by marital status; n (%)**

	Never married (N=857)	Ever married (N=162)
School attendance		
Currently attending	649 (75.7)	3 (1.9)
Previously attended	188 (21.9)	146 (90.1)
Never attended	20 (2.3)	13 (8.0)
If attended, highest grade completed	(N=832)	(N=147)
<Standard 1	7 (0.8)	1 (0.7)
Standard 1–4	460 (55.3)	81 (55.1)
Standard 5–8	328 (39.4)	59 (40.1)
Standard 9–12	37 (4.4)	6 (4.1)
Mean years of schooling	4.3	4.3

the same time, lobola symbolizes the transfer of a woman from her own to her husband's kin (Kachika 2004), while a husband obtains the right to custody of any children born during the marriage upon payment of lobola obligations (Mwambene 2010).

In our sample, just over 30% of marriages were accompanied by the promise of lobola. A higher proportion of girls in Nkhata Bay than in Mangochi reported that lobola had been agreed upon—45.2% versus 25.8%, respectively—consistent with the greater predominance of patrilineal ethnic groups including the Tumbuka in the Northern region. This may be due in part to terminology issues in the survey question itself. The way the initial question<sup>6</sup> was worded may not have captured wealth transfer adequately in both Nkhata Bay and Mangochi.

Marriages in each district also differed with respect to the type of ceremony performed. Most marriages in Nkhata Bay were traditional unions, or recognized by virtue of cohabitation, rather than by a religious or civil ceremony. In contrast, the bulk of marriages in Mangochi (52.3%) were conducted through a religious ceremony, with comparatively few cohabiting unions reported (19.3%). Similar proportions of marriages in both districts, and 69.8% overall, were officially registered. These patterns highlight the fluidity of marriage in Malawi, where rates of separation, divorce, and remarriage are high. Previous studies have also shown important regional variation in patterns of marriage dissolution. Using data from the Malawi Longitudinal Study of Families and Health (formerly known as the Malawi Diffusion and Ideational Change Project), Reniers (2003) found that divorce probabilities were lowest in the Northern region, where 14% and 40% of first marriages ended in divorce within 5 and 25 years, respectively, and highest in the Southern region, where 33% and 65% of marriages ended within these periods.

The MBTA survey did not collect information about whether marriages involved the mediation of *ankhoswe*, known as *thenga* in the Northern region, whereby representatives from both the husband's and wife's families negotiate the terms of the union via an appointed mediator. Since the presence of *ankhoswe* may influence the timing, duration, or stability of the marriage, future instruments will include

additional questions about the marriage process, including whether *ankhoswe* were involved.

Table 9 shows the characteristics of husbands of currently married or separated respondents. All but four girls reported marrying an older man, but in most cases, particularly in Nkhata Bay, the age gap was within five years. Three girls reported marrying a husband 10 or more years older, with the largest age difference being 13 years. Note that 38 girls—all in Mangochi—did not know their husband's age, which could have implications for their sexual risk profile. Husbands of 6.0% of girls, primarily in Mangochi, were married to more than one wife.

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<sup>6</sup> Question was asked as: Did your future husband or his family promise to make a payment to your family when you got married?

**TABLE 8. Circumstances surrounding marriage, by district (n=162)**

	Mangochi (N=120)	Nkhata Bay (N=42)	Total (N=162)
Primary reason for marriage			
Own choice	85 (70.8)	20 (47.6)	105 (64.8)
Pregnancy	16 (13.3)	15 (35.7)	31 (19.1)
No prospect of continuing school	7 (5.8)	4 (9.5)	11 (6.8)
Parents felt pressured/afraid	2 (3.4)	1 (2.4)	5 (3.1)
Other/don't know	8 (6.7)	1 (2.4)	9 (5.6)
Who chose husband			
Chose each other	53 (44.2)	9 (21.4)	62 (38.3)
Girl chose him	4 (3.3)	1 (2.4)	5 (3.1)
Husband chose girl	57 (47.5)	32 (76.2)	89 (54.9)
Father's family arranged	2 (1.7)	0 (0.0)	2 (1.2)
Mother's family arranged	2 (1.7)	0 (0.0)	2 (1.2)
Other	2 (1.7)	0 (0.0)	2 (1.2)
Bride price promised			
Lobola <sup>a</sup> only	25 (20.8)	8 (19.0)	33 (20.4)
Lobola and other demands	6 (5.0)	11 (26.2)	17 (10.5)
Other demands only	16 (13.3)	2 (4.8)	18 (11.1)
No lobola or other demands	72 (60.0)	19 (45.2)	91 (56.2)
Don't know	1 (0.8)	2 (4.8)	3 (1.9)
Kidnapped into marriage	7 (5.8)	7 (16.7)	14 (8.6)
Forced into marriage due to pregnancy	20 (16.7)	15 (35.7)	35 (21.6)
Type of ceremony <sup>b</sup>	(N=110)	(N=39)	(N=149)
None (living together)	21 (19.3)	23 (59.0)	44 (29.7)
Religious	57 (52.3)	1 (2.6)	58 (39.2)
Traditional	30 (27.5)	14 (35.9)	44 (29.7)
Civil	1 (0.9)	0 (0.0)	1 (0.7)
Other	0 (0.0)	1 (2.6)	1 (0.7)
Marriage was registered <sup>a</sup>	76 (69.1)	28 (71.8)	104 (69.8)

<sup>a</sup> Lobola is a "bride price" paid by a prospective husband (or his family) to his prospective wife's family.

<sup>b</sup> Excludes divorced participants.

**TABLE 9. Husband's characteristics, among currently married or separated respondents, by district; n (%)**

	Mangochi (N=110)	Nkhata Bay (N=39)	Total (N=149)
Age difference with husband <sup>a</sup>			
Husband younger/same age	2 (1.9)	2 (5.4)	4 (2.8)
Husband 1–5 years older	50 (46.3)	30 (81.1)	80 (55.2)
Husband >5 years older	18 (16.7)	51 (13.5)	23 (15.9)
Don't know	38 (35.2)	0 (0.0)	38 (26.2)
Husband has other wives	8 (7.3)	1 (2.3)	9 (6.0)

<sup>a</sup> Excludes 4 missing values.

# Relationships, Sex, and Pregnancy

Of the 522 girls aged 15–19 who were asked about relationships, sex, and pregnancy, 187 (35.9%) reported ever having a boyfriend (Table 10). Of these, 66.8% overall, and 77.8% among ever-married respondents, indicated they had sex with this boyfriend. Nearly one-quarter of girls aged 15–19 (23.4%) reported ever being pregnant, including 7.5% of never-married girls.

With respect to district differences, a significantly higher proportion of girls reported having a boyfriend in Nkhata Bay relative to Mangochi (49.1% versus 29.3%) but, interestingly, reporting of sex within these relationships was higher in Mangochi (77.7% versus 53.6%). A slightly higher proportion of girls reported ever being pregnant in Mangochi relative to Nkhata Bay (25.1% versus 19.9%).

## HIV and reproductive and sexual health knowledge

Overall, 82.2% of girls had heard of HIV, with no differences across trial groups. HIV awareness was significantly higher in Nkhata Bay, where the vast majority of girls (93.5%) had heard of HIV, compared to Mangochi, where 76.3% had heard of HIV. Although we might expect HIV knowledge to

**47.3%:** Girls know about HIV and know that using a condom every time they have sex can reduce their risk of acquiring HIV.

**4.1%:** Girls report their community has a youth-friendly health clinic.

**7.5%:** Never-married girls who were ever pregnant.

correlate with risk, HIV prevalence is considerably lower in the Northern region relative to the Southern region (5.1% versus 12.8%, respectively) (National Statistical Office and ICF 2017). This suggests that other demographic factors, including urban/rural residence, socioeconomic status, or level of education, may better explain the differences in knowledge levels between districts. Indeed, as Table 11 shows, knowledge of HIV was strongly associated with educational attainment.

Among girls who had heard of HIV, most correctly identified that it could not be transmitted by sharing food, mosquito bites, or hugging an infected person. Greater uncertainty

**TABLE 10. Boyfriends, sex, and pregnancy among girls aged 15–19, by marital status; n (%)**

	Never married (N=360)	Ever married (N=162)	Total (N=522)
Ever had a boyfriend <sup>a</sup>	115 (32.0)	72 (44.4)	187 (35.9)
Hugged boyfriend <sup>b</sup>	85 (73.9)	63 (87.5)	148 (79.1)
Kissed boyfriend <sup>b</sup>	67 (58.3)	62 (86.1)	129 (69.0)
Had sex with boyfriend <sup>b</sup>	69 (60.0)	56 (77.8)	125 (66.8)
Pregnancy status <sup>c</sup>			
Never pregnant	332 (92.5)	67 (41.4)	399 (76.6)
Previously pregnant	20 (5.6)	78 (48.1)	98 (18.8)
Currently pregnant	7 (1.9)	17 (10.5)	24 (4.6)
Number of children			
None	340 (95.0)	82 (50.6)	422 (81.2)
1	18 (5.0)	77 (47.5)	95 (18.3)
2	0 (0)	3 (1.9)	3 (0.6)

<sup>a</sup> If married, refers to boyfriend prior to marriage; excludes 5 participants who answered “don’t know” or gave no response.

<sup>b</sup> Among girls who had a boyfriend.

<sup>c</sup> Excludes 2 participants who answered “don’t know.”

was demonstrated with respect to suggested preventive measures. Nearly half of girls (42.8%; 39.5% in Nkhata Bay, 44.9% in Mangochi) indicated that chances of HIV infection could not be reduced by having one sex partner, or they weren't sure, while 39.4% (34.7% in Nkhata Bay, 40.2% in Mangochi) expressed uncertainty that condom use could reduce infection chances.

With respect to sexual and reproductive health knowledge, almost all girls correctly indicated that pregnancy could not occur after kissing or hugging, but only 41.4% believed that pregnancy could occur after having sex for the first time.

Overall, 15.8% of respondents believed that menstruation is a disease, but the proportion declined substantially with education level.

### Family planning knowledge

Bearing in mind considerable variation by education status and district, knowledge surrounding HIV was nevertheless higher than observed in other contexts. Awareness of family planning methods was somewhat lower overall, with the same variation observed across districts and education levels (Table 12). Interestingly, although girls in Nkhata Bay had heard of more modern contraceptive methods than

**TABLE 11: HIV and reproductive and sexual health knowledge by educational attainment; n (%)**

	No schooling (N=40)	Grade 1–4 (N=542)	Grade 5–8 (N=387)	Grade 9–12 (N=43)	Total (N=1,012)
Heard of HIV					
Yes	30 (75.0)	391 (72.4)	367 (94.8)	43 (100)	831 (82.3)
No/don't know	10 (25.0)	149 (27.6)	20 (5.2)	0 (0)	179 (17.7)
Among those who had heard of HIV:	(N=30)	(N=391)	(N=367)	(N=43)	(N=831)
Can reduce infection chances by having one sex partner					
Yes	14 (46.7)	195 (50.0)	235 (64.0)	31 (72.1)	475 (57.2)
No/don't know	16 (53.3)	195 (50.0)	132 (36.0)	12 (27.9)	355 (42.8)
Can get HIV from mosquito bites					
Yes	4 (13.3)	78 (20.0)	67 (18.3)	6 (14.0)	155 (18.7)
No/don't know	26 (86.7)	312 (80.0)	300 (81.7)	37 (86.0)	775 (81.3)
Can reduce infection chances by using condoms					
Yes	15 (50.0)	207 (53.4)	242 (66.1)	37 (86.0)	501 (60.6)
No/don't know	15 (50.0)	181 (46.7)	124 (33.9)	6 (14.0)	326 (39.4)
Can get AIDS virus by sharing food					
Yes	7 (23.3)	74 (19.0)	35 (9.5)	2 (4.7)	118 (14.2)
No/don't know	23 (76.7)	316 (81.0)	332 (90.5)	41 (95.3)	712 (85.8)
Can get AIDS virus by hugging					
Yes	6 (20.0)	88 (22.7)	33 (9.0)	1 (2.3)	128 (15.5)
No/don't know	24 (80.0)	300 (77.3)	334 (91.0)	42 (97.7)	700 (84.5)
All participants:	(N=40)	(N=542)	(N=387)	(N=43)	(N=1,012)
Can get pregnant by kissing/hugging					
Yes	2 (5.0)	61 (11.3)	20 (5.2)	1 (2.3)	84 (8.3)
No/don't know	38 (85.0)	478 (88.7)	367 (94.8)	42 (97.7)	935 (91.7)
Can get pregnant at first sex					
Yes	14 (35.0)	189 (35.1)	180 (46.8)	34 (79.1)	417 (41.4)
No/don't know	26 (65.0)	350 (64.9)	205 (53.2)	9 (20.9)	590 (58.6)
Menstruation is a disease					
Yes	14 (35.0)	90 (16.7)	51 (13.2)	4 (9.3)	159 (15.8)
No/don't know	26 (65.0)	449 (83.3)	336 (86.8)	39 (90.7)	850 (84.2)

Note: Denominators vary slightly due to missing values.



girls in Mangochi—3.4 relative to 2.8, of 8 possible methods<sup>7</sup>—awareness specifically of injectables was significantly higher in Mangochi (58.0% versus 48.9%).

As Figure 6 demonstrates, there were also stark differences in family planning knowledge by marital status, with ever-married girls considerably more likely to have heard of each contraceptive method relative to never-married

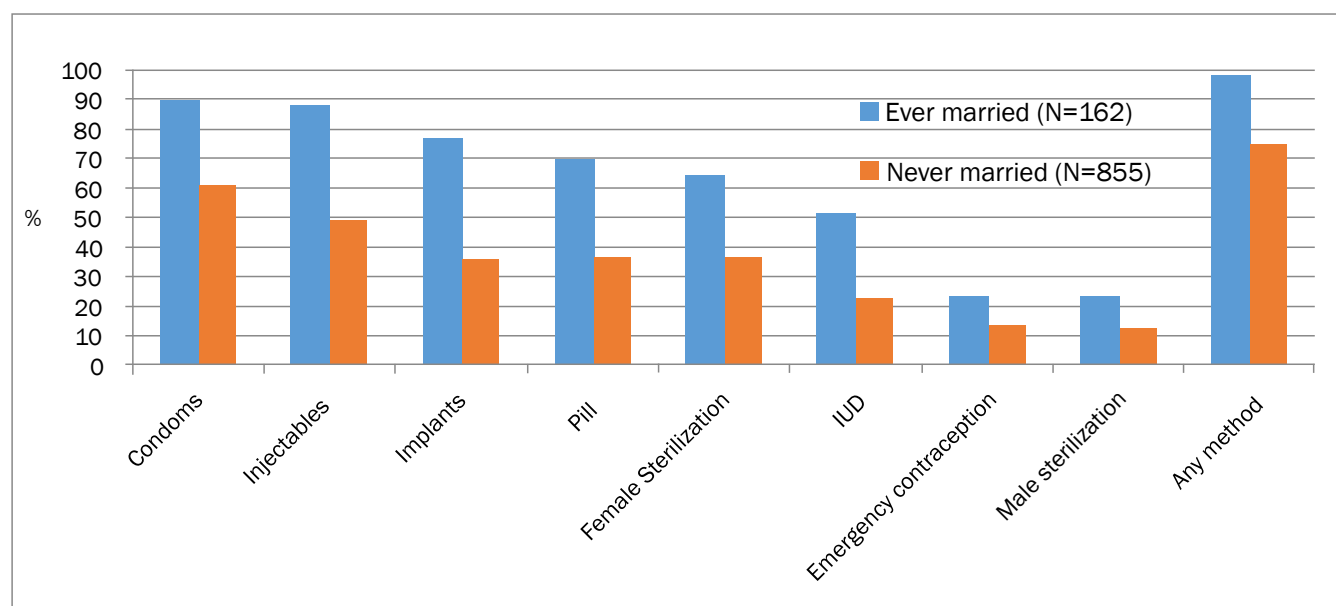
girls. The most commonly recognized methods among both groups were condoms and injectables, followed by implants, the contraceptive pill, and female sterilization. We also examined knowledge by pregnancy status (not shown) and found that for the majority of methods (condoms, injectables, implants, pill, and IUD) ever-pregnant respondents were more likely to have heard of the method than never-pregnant respondents, perhaps due to their engage-

**TABLE 12. Family planning knowledge by educational attainment; n (%)**

	No schooling (N=40)	Grade 1–4 (N=542)	Grade 5–8 (N=387)	Grade 9–12 (N=43)	Total (N=1,012)
Heard of method:					
Pill	19 (47.5)	185 (34.2)	184 (47.5)	32 (74.4)	420 (41.4)
IUD	19 (47.5)	97 (17.9)	124 (32.0)	32 (74.4)	272 (26.9)
Injectables	24 (60.0)	265 (49.0)	235 (60.7)	31 (72.1)	555 (54.9)
Condom	24 (60.0)	305 (56.4)	292 (75.5)	39 (90.7)	660 (65.3)
Female sterilization	16 (40.0)	177 (32.8)	181 (46.8)	34 (79.1)	408 (40.4)
Male sterilization	5 (12.5)	60 (11.1)	59 (15.2)	15 (34.9)	139 (13.7)
Emergency contraception	8 (20.0)	62 (11.5)	69 (17.8)	12 (27.9)	151 (14.9)
Implants	20 (50.0)	168 (31.1)	201 (51.9)	37 (86.0)	426 (42.2)
Any method	32 (80.0)	376 (69.4)	346 (89.4)	41 (95.3)	795 (78.6)

Note: Denominators vary slightly due to missing values.

**FIGURE 6. Percentage of respondents who had heard of contraceptive methods, by marital status**



<sup>7</sup> Methods included: pill, IUD, injectables, condoms, female sterilization, male sterilization, emergency contraception, and implants.

ment in antenatal care services. A notable exception was emergency contraception: for both ever- and never-pregnant respondents, knowledge of this method was low (24.6% ever pregnant and 19.0% never pregnant).

We also examined whether levels of HIV awareness were associated with knowledge of modern contraceptive methods. We found that among those who had heard of HIV, only 84.9% had also heard of a modern method, suggesting that despite high levels of HIV knowledge in this group, a gap exists in knowledge of means to protect oneself from pregnancy and STIs.

# Safety and Mobility

Girls across both districts voiced a number of safety concerns about their communities (Table 13). Overall, just under half of participants indicated that they felt safe to move around at night, while only 10% were allowed to leave their household after dark. Almost two-thirds of girls in both Mangochi and Nkhata Bay felt that many crimes were committed in their village or area. Nearly four girls in ten (38.1%) reported that they had been teased or harassed by men or boys. Of these, 44.2% indicated that they had experienced such harassment at home or from a close relative, 62.2% outside the home, and 46.0% in school. A higher proportion of girls in Nkhata Bay than in Mangochi reported being teased or harassed, 48.3% relative to 33.0%.

Among girls, 78.8% indicated that they had always lived in the same village or area; as such, just over one-fifth had previously moved between villages. Migration was higher in

Nkhata Bay, where 68.1% of girls reported they had always lived in the same location, compared to 84.4% in Mangochi. In both districts, the most common reason reported for moving was to join or accompany family, but a substantial number of moves related to marriage or schooling were also reported (Table 13).

**TABLE 13. Safety and mobility, by district**

	Mangochi (N=668)	Nkhata Bay (N=352)	Total (N=1,020)
Feel safe to move at night	296 (44.4)	179 (50.9)	475 (46.6)
Allowed outside after dark <sup>a</sup>	52 (12.0)	12 (5.53)	64 (9.9)
Many crimes committed in village	409 (61.2)	221 (62.8)	630 (61.8)
Experienced teasing or harassment from men/boys	219 (33.0)	170 (48.3)	389 (38.3)
At home <sup>b</sup>	106 (48.4)	66 (38.8)	172 (44.2)
Outside home <sup>b</sup>	141 (64.4)	101 (59.4)	242 (62.2)
At school <sup>b</sup>	134 (61.2)	76 (44.7)	210 (54.0)
Always lived in current location	564 (84.4)	239 (68.1)	803 (78.8)
If moved, reason:	(N=102)	(N=112)	(N=214)
Accompanying/joining family	43 (42.2)	48 (42.9)	91 (42.5)
Marriage	20 (19.6)	15 (13.4)	35 (16.4)
Schooling	8 (7.8)	20 (17.9)	28 (13.1)
Death of parent/guardian	5 (4.9)	11 (9.8)	16 (7.5)
Could not afford to stay	8 (7.8)	4 (3.6)	12 (5.6)
Personal problems at home	8 (7.8)	2 (1.8)	10 (4.7)
Work	4 (3.9)	5 (4.5)	9 (4.2)
Separation/divorce	2 (2.0)	6 (5.4)	8 (3.7)
Other/don't know	4 (3.9)	1 (0.9)	5 (2.3)

<sup>a</sup> Note smaller denominator for this question (N=649).

<sup>b</sup> Among girls who had experienced teasing or harassment.

# Social Networks

Table 14 indicates that most girls, irrespective of district, felt they had many friends in their village or area, but the extent to which girls interacted with peers of different religions and ethnicities did differ substantially. In Mangochi, where girls were predominantly Muslim and Yao, just one-quarter reported having friends of a different religion or ethnicity, compared to upwards of 60% in Nkhata Bay. However, similar proportions of girls in both districts, and 23.8% overall, reported facing family restrictions with respect to socializing with peers of different religions/ethnicities, suggesting that the absence of mixing in Mangochi may be attributable to a more homogeneous population in that area.

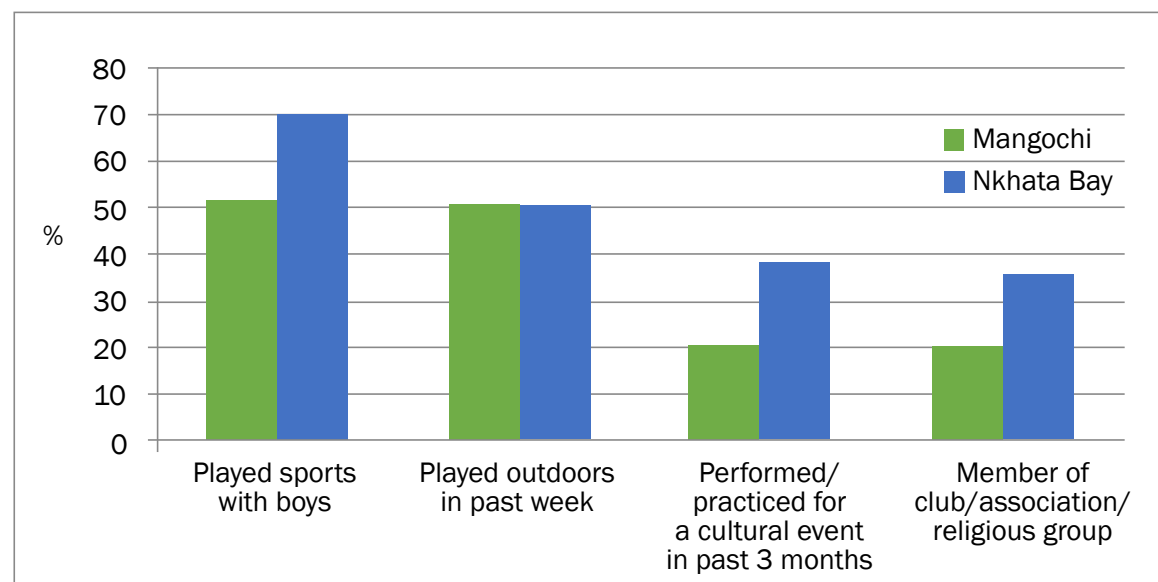
District-level differences were also evident with respect to girls' participation in social activities. Overall, 57.5% of respondents (51.2% in Mangochi and 69.3% Nkhata Bay) reported having played a mixed sport along with boys. Participation in cultural activities and membership in clubs, associations, or religious groups were also significantly higher in Nkhata Bay. In particular, participation in faith-based activities such as Bible groups or church choirs was somewhat common in Nkhata Bay, with 13.4% of girls reporting involvement in such activities, but negligible in Mangochi (0.7%). Approximately 7% of girls overall were members of youth clubs or adolescent groups.

**75.8%:** Girls not part of a club or group.

**TABLE 14. Social connectedness of respondents, by district**

	Mangochi (N=668)	Nkhata Bay (N=352)	Total (N=1,020)
Have many friends in the village	555 (83.2)	310 (88.1)	865 (84.9)
Have friends of different religion	199 (29.8)	281 (79.8)	480 (47.1)
Have friends of different ethnicity	177 (26.5)	220 (62.5)	397 (39.0)
Family restrictions on socializing with different religions/ethnicities	72 (20.5)	170 (25.6)	242 (23.8)
Support marriage between different ethnicities/religions	265 (40.0)	265 (75.3)	530 (52.2)

**FIGURE 7. Participation in social activities, by district**



# Gender and Rights

Respondents' values and beliefs surrounding gender and rights were solicited through a series of questions about boys' and girls' literacy and numeracy competence, gender equality, women's role in the family, masculinity, marriage, and violence. Table 15 shows girls' views concerning gender and education, by district, marital status, and level of schooling. Overall, just under half of respondents (49.1%) indicated that boys are smarter than girls in mathematics, while 30.4% felt that girls are smarter or 17.4% that both boys and girls perform the same. Gender differences were slightly smaller with respect to English, in which subject 41.6% of respondents felt boys are smarter, compared to 31.5% for girls, or 23.3% who felt that boys and girls perform equally well. Respondents in Nkhata Bay were more likely to think that girls are the same or smarter than boys in English, compared to in Mangochi. The relationship between gender perceptions and education or marital status was more complicated. Higher proportions of married respondents indicated that boys and girls are equally competent in math and English than their unmarried counterparts, but

the remainder were correspondingly less likely to indicate that girls were smarter than boys. A similar pattern was observed with respect to education level.

In spite of disagreement about the relative competence of male and female students, the majority of respondents (51.4%) indicated that it was more important to educate girls than boys, while just one-quarter felt that education was more important for boys (25.5%), or equally important for both sexes (21.9%). Respondents in Nkhata Bay and those who had completed primary school were most likely to consider girls' education more important than boys', while ever-married respondents were least likely to think this.

Table 16 shows the girls' perceptions regarding gender equality, marriage, women's household roles, masculinity, and violence. While three-quarters of girls across all categories supported a generic statement that women and men should be treated equally, distinct gendered patterns emerged with respect to women's and men's roles in the

**TABLE 15. Respondents' views regarding gender and education, by district, marital status, and education level; n (%)**

	District		Marital status		Level of schooling	
	Mangochi	Nkhata Bay	Never married	Ever married	Less than primary	Completed primary
Who is smarter in mathematics?	(N=665)	(N=352)	(N=856)	(N=160)	(N=921)	(N=92)
Boys	316 (47.5)	183 (52.0)	422 (49.3)	76 (47.5)	445 (48.3)	51 (55.4)
Girls	202 (30.4)	107 (30.4)	274 (32.0)	35 (21.9)	291 (31.6)	17 (18.5)
Both	119 (17.9)	58 (16.5)	136 (15.9)	41 (25.6)	154 (16.7)	23 (25.0)
Don't know	28 (4.2)	4 (1.1)	24 (2.8)	8 (5.0)	31 (3.4)	1 (1.1)
Who is smarter in English?	(N=663)	(N=352)	(N=855)	(N=160)	(N=919)	(N=92)
Boys	303 (45.7)	119 (33.8)	347 (40.6)	75 (46.9)	394 (42.9)	26 (28.3)
Girls	197 (29.7)	123 (34.9)	287 (33.6)	33 (20.6)	288 (31.3)	30 (32.6)
Both	131 (19.8)	106 (30.1)	195 (22.8)	42 (26.3)	201 (21.9)	36 (39.1)
Don't know	32 (4.8)	4 (1.1)	26 (3.0)	10 (6.3)	36 (3.9)	0 (0.0)
Who needs more education?	(N=666)	(N=351)	(N=854)	(N=162)	(N=921)	(N=92)
Sons	237 (35.6)	22 (6.3)	197 (23.1)	61 (37.7)	250 (27.1)	8 (8.7)
Daughters	283 (42.5)	240 (68.4)	465 (54.4)	58 (35.8)	463 (50.3)	57 (62.0)
Both	135 (20.3)	88 (25.1)	183 (21.4)	40 (24.7)	196 (21.3)	27 (29.3)
Don't know	11 (1.7)	1 (0.3)	9 (1.1)	3 (1.9)	12 (1.3)	0 (0.0)

**TABLE 16. Percentage of respondents who agree with statements regarding gender equality, marriage, women's roles in the family, masculinity, and violence, by district, marital status, and education level; n (%)**

	District		Marital status		Level of schooling	
	Mangochi (N=668)	Nkhata Bay (N=352)	Never married (N=857)	Ever married (N=162)	Less than primary (N=924)	Completed primary (N=92)
<b>Gender equality</b>						
Men and women should be treated equally	500 (75.1)	280 (79.5)	656 (76.7)	123 (75.9)	696 (75.5)	80 (87.0)
Boys are given more food than girls in the family	248 (37.3)	83 (23.6)	283 (33.1)	47 (29.2)	312 (33.9)	19 (20.7)
Men should assist women with household chores	337 (50.6)	166 (47.3)	430 (50.4)	72 (44.4)	448 (48.6)	51 (55.4)
<b>Marriage</b>						
Boys are allowed to say "no" to an arranged marriage	411 (61.9)	200 (57.0)	502 (58.9)	188 (67.1)	544 (59.2)	64 (69.6)
Girls are allowed to say "no" to an arranged marriage	451 (67.6)	198 (56.3)	539 (63.0)	109 (67.3)	585 (63.4)	60 (65.2)
<b>Women's roles</b>						
A woman's most important role is to take care of the family and cook	596 (89.4)	304 (86.4)	748 (87.4)	151 (93.2)	819 (88.7)	77 (83.7)
It is a mother's duty to take care of children	517 (77.4)	245 (69.6)	642 (74.9)	119 (73.5)	700 (75.8)	59 (64.1)
A woman should always obey her husband	585 (88.0)	258 (73.3)	708 (82.9)	134 (82.7)	773 (83.9)	69 (75.0)
<b>Masculinity</b>						
A man should use force to defend his reputation	488 (73.9)	218 (62.3)	578 (68.2)	127 (78.4)	647 (70.8)	56 (60.9)
A real man must be tough	589 (88.2)	291 (82.9)	730 (85.3)	149 (92.0)	794 (86.0)	83 (90.2)
A man's decisions should be final in family matters	541 (81.4)	222 (63.2)	632 (74.1)	130 (80.2)	698 (75.9)	63 (68.5)
A man should be outraged if his wife asks to use a condom <sup>a</sup>	174 (49.7)	52 (30.4)	148 (41.2)	78 (48.1)	199 (45.4)	25 (31.6)
<b>Violence</b>						
A woman deserves to be beaten in some instances	353 (52.9)	132 (37.5)	402 (46.9)	82 (50.9)	448 (48.5)	34 (37.0)
It is a woman's responsibility to avoid getting pregnant	447 (67.3)	236 (67.4)	553 (65.0)	130 (80.2)	603 (65.7)	78 (84.8)
A woman should tolerate violence for the sake of her family	520 (78.4)	278 (79.2)	660 (77.6)	138 (85.2)	717 (78.1)	79 (85.9)
A woman should have the right to divorce	380 (57.0)	168 (48.0)	447 (52.3)	100 (61.7)	490 (53.2)	55 (59.8)
It is a woman's fault if she is raped <sup>a</sup>	182 (52.0)	44 (25.7)	156 (43.5)	70 (43.2)	203 (46.3)	21 (26.6)
A woman cannot refuse to have sex with her husband <sup>a</sup>	196 (55.8)	76 (44.4)	177 (49.2)	95 (58.6)	233 (53.1)	38 (48.1)

<sup>a</sup> Restricted to participants 15–19 years old (N=521).

Note: Denominators vary slightly due to missing values.

household, as well as in attitudes surrounding masculinity and violence. In particular, fully 82.9% of girls indicated that a wife must always obey her husband, although some variation was observed by district and education level. Among respondents, 78.7% also felt that a woman should tolerate violence for the sake of her family; 47.6% of girls believe women deserve to be beaten under certain circumstances.

With respect to men and masculinity, girls stressed the importance of toughness both within the household and in the community, favoring a man's use of violence to defend his reputation, and agreeing that men should have the final say in household decisions.

# Livelihoods

We examined income-generating opportunities for girls to understand what options they have outside of school and marriage. Among all girls 12–19, 25.4% reported ever working for income. This was similar across districts, with 22.4% in Nkhata Bay ever working for income and 26.9% in Mangochi. Among respondents 15–19, proportions were similar: 26.8% reported ever working, with no notable differences by district (26.3% in Nkhata Bay and 27.1% in Mangochi). We did not find large differences in the proportion ever worked by education status (those currently enrolled in school were not less likely to have ever worked [24.0%] compared to those not enrolled [27.8%]) or marital status (24.6% of never-married girls reported ever working compared to 29.6% of ever married). We found that slightly more ever-pregnant respondents reported working (33.6%) compared to never pregnant (24.8%), but this may be due to the respondent's age (the majority [75.6%] of those who reported ever working and ever being pregnant were age 18 and 19).

Among those who reported ever working (n=259) we asked about current involvement in income-generating activities and the type of work they did. We found that very few girls (4.4%) reported currently working for income (4.3% in Nkhata Bay and 4.5% in Mangochi), with no differences by school enrollment status. Among those currently working, the most common occupations were day laborer/piece worker (26.7%) followed by farmer/agricultural work (24.4%), “business” (20.0%), and other (17.8%). The mean weekly reported income among those currently working was 1,898 kwacha (about US\$2.60; median was 1,000 or about \$1.36). Notably, when asked to report a monthly income from their occupation, 11 respondents (24.4%) reported zero, suggesting that perhaps these jobs are so short and unpredictable that asking about monthly income was more confusing than weekly income (among those 11 respondents, all but one was able to report a weekly income amount).

Given the limited number of respondents who reported currently working for income, we were not surprised to find that few respondents reported saving money (8.4%). Slightly more reported saving money in Mangochi (9.1%) compared to Nkhata Bay (7.1%). Among those who reported saving money (n=86), the majority reported saving at home (58.1%) followed by with a friend or relative (18.6%). Very few respondents reported saving in a bank (4.6%).

**4.4%:** Girls currently involved in income-generating activities (among girls 12–19 who ever worked).

**8.4%:** Girls report saving money for the future.

Among those who reported saving income (n=86), the reported reasons for saving included for clothing/shoes/personal items (48.8% mentioned this as one reason for saving), for a future emergency (32.5%), and medical reasons (17.4%).

From our examination of livelihoods among girls in Mangochi and Nkhata Bay we found that about one-quarter of girls had ever worked, with a slightly higher proportion of those 15–19 reporting ever working (26.9%) compared to those under 15 (23.9%). There were not notable differences among districts or by education or marital status. These findings suggest that few work opportunities exist for girls in these communities and legal restrictions (regarding age and type of employment) mean few girls may seek employment. The few who did report currently working for income (4.4%) reported low wages, suggesting that even when work opportunities exist they may not provide a reasonable alternative to early marriage and/or childbearing.



# Discussion

In the baseline research with girls in Mangochi and Nkhata Bay we have examined the lives of adolescent girls, including reproductive health knowledge and experiences, education and learning outcomes, and experience with and perceptions of early marriage, with an eye toward areas where interventions could improve outcomes for girls in these communities. Findings from the baseline survey may help programs to better understand the girls in these communities and provide insights into which interventions may be most effective in reaching these girls and providing opportunities to improve their lives.

Although this report has highlighted a number of issues girls face in these communities, here we highlight a few findings that may influence program implementation:

- Almost all girls in these communities report ever being in school, but by age 14 dropout starts to accelerate. Among those that were not in school, financial constraints were a commonly cited reason for school discontinuation. Girls have limited opportunities to earn money (only 4.4% were currently working for income), such that girls who leave school have few choices beyond marriage and childbearing. Interventions that aim to keep girls in school will need to address these financial barriers that contribute to dropout.
- Premarital sexual activity was common (60.0% of those who ever had a boyfriend reported having sex; 32.8% of those 15–19 overall) and 7.5% of never-married girls aged 15–19 reported ever being pregnant. Although knowledge of both HIV and some family planning methods is high, very few respondents (4.1%) reported that their community had a youth-friendly health clinic, so access to methods to protect themselves from pregnancy and STIs may be limited.
- Respondents in these communities had high levels of awareness of HIV, which was strongly associated with educational attainment. However, specific knowledge of how to protect oneself from HIV was lower. For example, 34.7% in Nkhata Bay and 40.2% in Mangochi expressed uncertainty that condom use could reduce

one's risk of HIV infection. These findings suggest that although interventions have been successful in raising awareness of HIV, there is still work to be done in providing adolescents with deeper knowledge of HIV transmission and protection strategies.

- Despite most girls ever attending school, learning outcomes as measured by our literacy and numeracy assessments were worryingly low. Two of five girls overall (41.6%) and more than half in Mangochi (55.2%) could not read at all. Numeracy scores were similarly concerning, with girls in Mangochi scoring an average of 3.8 and girls in Nkhata Bay 6.3 on a numeracy assessment (out of a possible 10). These findings suggest that interventions may provide opportunities for skill building outside of formal education, targeting both those in school as well as those who have already dropped out.

There are a number of limitations to consider. One is the timing of the data collection. We conducted fieldwork in November and December 2016 and had to pause for a few days as girls sat for exams. Although enumerators made attempts to reach individuals chosen at random for participation in the survey, this timing may have influenced who was available to participate in the research. Our sample suggests that more young girls (aged 12–14) were interviewed than older girls, which may be related to the mobility of those older adolescents and the difficulty in locating them for participation in the research. Another potential limitation is self-reporting bias. Our survey asks a number of sensitive questions, including questions about early marriage which is considered illegal for girls under age 16. Girls may not have been willing to answer truthfully about early marriage and other sensitive topics, such as sexual activity.

Regarding questions of lobola, we may have missed nuances helpful to understanding the transfer of wealth at the time of marriage. In Mangochi, which we understand to be a more matrilineal society compared to Nkhata Bay, lobola may not have been the correct terminology to use and thus

responses to these questions may reflect some bias. At the midline and endline surveys we will revisit these questions to make sure we understand how best to inquire about marital transactions in each region.

Despite these limitations, we believe this baseline survey provides rich information on adolescent girls in Nkhata Bay and Mangochi and includes a number of interesting findings that programs may consider as they design and implement interventions to improve the lives of adolescent girls in these communities. Additional data collection, including midline and endline surveys, will provide more information and will give us a sense of how the MTBA program influences the lives of adolescent girls in these communities.

# Appendix 1

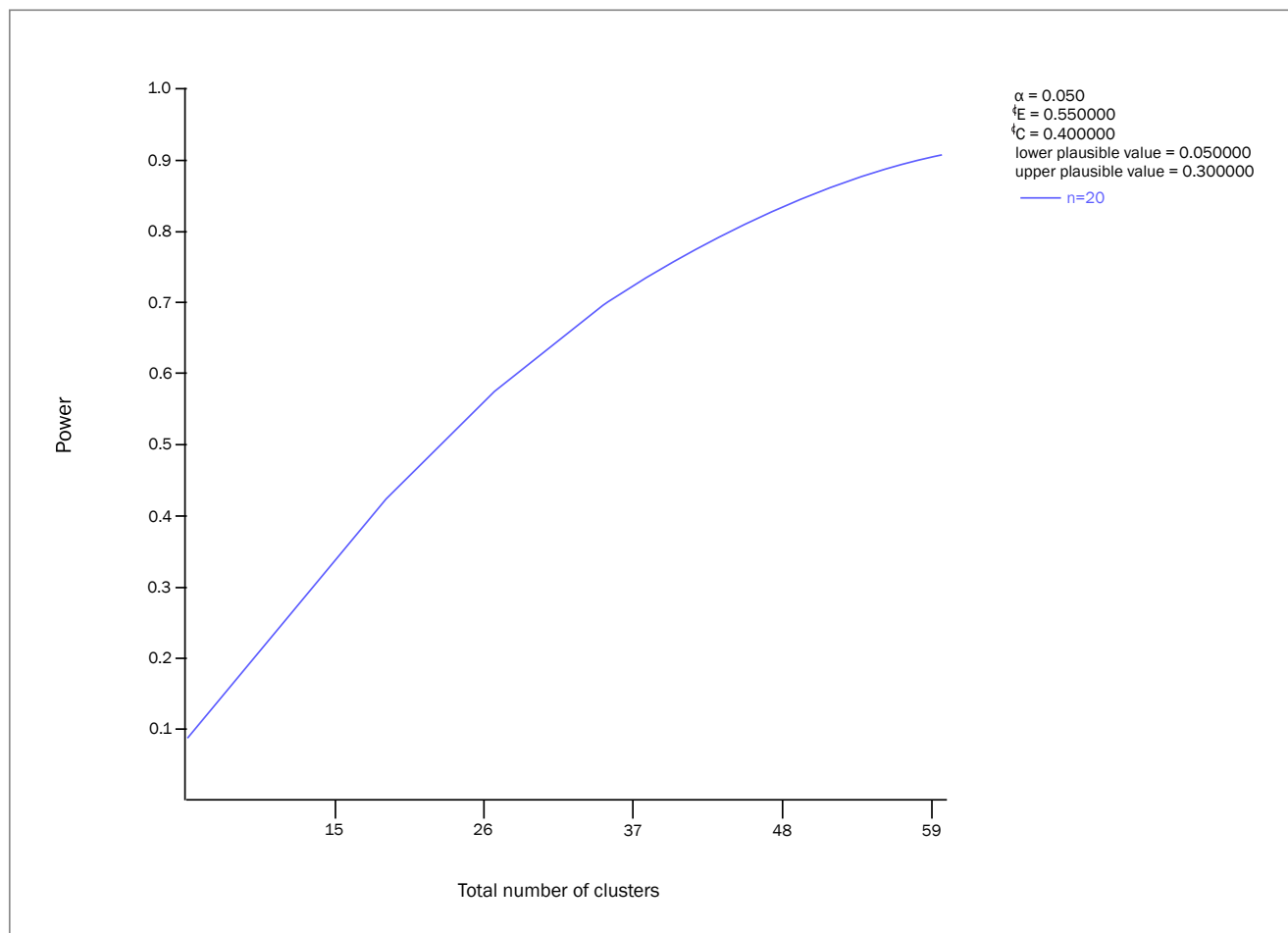
The MTBA intervention in Malawi is implemented by one organization (Simavi) and spread across three regions (Northern, Southern, and Central) with one district per region (Nkhata Bay, Mchinji, Mangochi). We had to drop Mchinji due to contamination concerns. Without Mchinji, we have 5 traditional authorities (TAs): 3 in Nkhata Bay and 2 in Mangochi. Within each TA there are approximately 8–10 group head villages (GHVs) for a total of approximately 40–50 GHVs.

We propose a two arm cluster randomized design in Malawi. We propose to randomly select both intervention and comparison areas (each representing 50% of the total sample) for the baseline survey based on randomization at the GHV

level. Based on a target sample size of 1,000 girls (45 clusters of 20 girls each (for a sample of 900, assuming ~10% refusal rate), we estimate a minimum detectable effect size of 15% for the outcome of proportion of females 12–19 married at endline.

Data from the 2008 Malawi Census provide estimates of upper and lower plausible values for early marriage in Malawi. From the Census we find that the proportion of females 12–19 currently married or in union varies from about 5% to 30%. Using these values and assuming a total of 20 girls per GHV will be interviewed, we should have 80% power at 45 clusters (45 GHVs).

FIGURE 1. Power calculation for proposed sample size in Malawi



Assumption: Cluster is GHV level (approximately 45 total).

# Appendix 2

TABLE 1. Key indicators, girls aged 12–19 in intervention and comparison areas

	Intervention	Comparison
	N=557	N=463
Ever married (%)	17.2	14.2
Mean age difference w/spouse (among married) (years)	3.4	4.2
Never attended school (%)	4.3	1.7
Not currently enrolled in school (%)	35.1	32.3
Cannot read or write (%)	32.3	24.8
Is non-Muslim (%)	38.6	35.0

\*\*\*p<.001, \*\* p<.01, \*p<.05.

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