



Original article

## Measuring Social Norms Related to Child Marriage Among Adult Decision-Makers of Young Girls in Phalombe and Thyolo, Malawi

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### ABSTRACT

**Purpose:** Given the importance of developing appropriate measures for assessing social norm change, this article documents the process, results, and lessons learned from a baseline survey measuring social norms related to child marriage in Phalombe and Thyolo districts in Southern Malawi.

**Methods:** A quantitative questionnaire was administered to a representative sample of all adults (age  $\geq 18$  years) who self-identified as a decision-maker for at least one girl between the ages of 10 and 17 years, for a total sample size of 1,492 respondents. Measures of empirical expectations, normative expectations, and sanctions related to child marriage were modeled after previously developed measures and social norm theory.

**Results:** Using an established social norm diagnostic process, this study found that, despite Southern Malawi having the lowest median age of first marriage in the country, child marriage may not be a strong social norm in the intervention communities. Specifically, although 89.3% of respondents expressed the empirical expectation that “Most girls in this community marry before the age of 18,” agreement with the normative expectation that “Most people in this community expect girls to marry before the age of 18” was just 53.2% overall and fear of sanctions was just 36.4%.

**Conclusions:** Taken together, the presence of prudential reasons for child marriage and the weak evidence of normative expectations and sanctions indicate that child marriage may not be a social norm in these communities although it may be indirectly perpetuated by other norms related to adolescent sexuality and access to contraception.

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### IMPLICATIONS AND CONTRIBUTION

This article applies rigorous social norm theory and measures to offer learnings that can both inform program design to prevent child marriage in Malawi and improve the quality of social norms research related to child marriage globally.

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Child marriage, defined as marriage before the age of 18 years, is a human rights violation so widely acknowledged that its complete elimination by 2030 was included among the Sustainable Development Goals, which were adopted by more than 190 countries in 2015 [1]. Success of this bold endeavor in such a short time will hinge on prevention programs' abilities to rapidly assess and act to change the factors perpetuating child marriage in the diverse locations where it exists. To that end, the development community has recently taken an interest in

understanding the role that social norms play in perpetuating child marriage, believing they may represent a missing piece of the puzzle critical to prevention [2–4]. This interest in social norms related to child marriage coincides with a burgeoning research field dedicated to measuring the presence and strength of social norms, raising new insights and questions about when and how norms drive human behavior [5,6]. This article documents the process, results, and challenges from a quantitative survey that measured social norms related to child marriage in Malawi's Phalombe and Thyolo districts.

As of the most recent Demographic and Health Survey, conducted in Malawi in 2015, 42% of women aged 20–24 married before the age of 18 years [7]. Phalombe and Thyolo are located in Malawi's Southern region, where the median age at first marriage and median age at first sex are the lowest in the country, at 17.9 years and 16.4 years, respectively [7]. Malawi's government has recently enacted laws to end child marriage at a national level. In 2015, parliament passed a law that banned marriage before the age of 18 years and, in April 2017, the exception allowing child marriage with parental consent was removed [8]. Despite this progress, it is uncertain whether administrators are enforcing these laws at local levels.

Previous work exploring reasons for child marriage in Malawi found that most young women married because of poverty and, to a lesser extent, unplanned pregnancy [9], while education plays a protective role in delaying age at first marriage [10]. These findings are consistent with findings from other contexts in sub-Saharan Africa and South and Southeast Asia [3,11–15]. However, few studies have explored the role that social norms play driving child marriage using rigorous social norm theory and measures. By applying these measures, we can better understand how social norms are related to child marriage in Malawi and inform program approaches to address and prevent child marriage.

There is no universally accepted definition of social norms and no standard methodology for quantifying their presence and strength [5]. However, many organizations have recently based their social norms measurement work on theory developed by the University of Pennsylvania Social Norms Group, led by Dr. Cristina Bicchieri [16]. According to this theory, a minimum of the following must be measured to assess the presence of a social norm:

1. *Behavior*: what individuals do;
2. *Prudential reasons*: reasons for a behavior that do not depend on social expectations;
3. *Empirical expectations*: what individuals believe others do;
4. *Personal normative beliefs*: what individuals believe should be done; and
5. *Normative expectations*: what individuals believe others think they should do.

In each case, the “others” in question are an individuals' *reference group*, defined as those people whose opinions matter to the individual. In addition, the strength of norms can be assessed through measures of *sanctions*, the social consequences (positive or negative) of an action. One of the leading organizations working on translating Bicchieri's social norm theory into measures for informing and evaluating development interventions is CARE, which since 2014 has tested and refined social norms measures in several projects [6].

The International Center for Research on Women (ICRW) is the evaluation partner for the Enabling Girls to Advance Gender Equity (ENGAGE) project, which is being implemented by Rise Up

and the Girls Empowerment Network of Malawi. ENGAGE seeks to empower girls and civil society organization (CSO) leaders to shift attitudes and social norms around child marriage and increase gender equity. The quasi-experimental, four-arm evaluation will allow for the comparison of the effectiveness of the different interventions—empowering girls only, building the capacity of CSOs only, or the combination of both—against a comparison site where no intervention will take place. This article focuses on the measurement of social norms related to child marriage in the implementation communities using data from the cross-sectional baseline survey conducted from May to August 2017.

## Methods

### Intervention site selection

To select the intervention sites, the ENGAGE team restricted their search to districts in Southern Malawi with few child marriage interventions. After visiting these districts, the team selected Phalombe and Thyolo as the two districts most comparable on relevant characteristics, using available statistics related to child marriage and interviews with key governmental and community stakeholders. Both arms including the CSO intervention were a priori assigned to Thyolo, the district with the fewest resources. Within each district, the arms were then randomly assigned to traditional authorities (TAs), the geographic division below the district level in Malawi, excluding TAs that were atypical or too challenging for program implementation. Ultimately, in Thyolo District, TA Changata was assigned both the girls and CSO intervention, and TA Mchiramwera was assigned the CSO-only intervention. In Phalombe, TA Chiwalo was assigned the girls-only intervention, and TA Nazombe was designated as the comparison site. A map of the selected TAs is shown in [Figure 1](#).

### Sample

Quantitative questionnaires were administered to a representative sample of 1,492 adults who self-identified as a decision-maker for at least one girl between the ages of 10 and 17 years. The sampling for baseline data collection followed a two-stage sampling design. First, 15 villages were randomly selected in each TA with probability proportional to size. Then, 25 eligible households were randomly selected within each village. Households were considered eligible if they contained any individual eligible for the survey. Individuals were considered eligible if they were aged 18 years or above, had lived in the community for at least 1 year, and self-identified as a decision-maker for at least one girl between the ages of 10 and 17 years. Finally, one eligible household member was randomly selected to be interviewed, without respect to the gender of the individual. If the randomly selected individual did not consent to be interviewed, they were replaced by another eligible individual in their household. If the selected household member was not home, enumerators made three visits to attempt to interview that person before replacing them with another member of the household. If an entire household was not home after three visits or if no eligible individual in the household consented to participate in the study, it was replaced with the next household on the randomized list.

Before the start of data collection, enumerators completed a 1-week training facilitated by two ICRW staff members covering topics including research ethics, the study purpose and methodology, a question-by-question review of the tool, including review



**Figure 1.** Map of Malawi showing the four selected TAs.

of the accuracy of the translation, and piloting. During data collection, enumerators sought informed consent after ensuring individual eligibility and before beginning the interview. Interviews were conducted in a location where privacy could reasonably be expected, out of earshot of other family members. Informed consent and the surveys were administered in the local language, Chichewa, with translated survey instruments. Data were collected on tablets, and no identifiable information was collected. At the end of each day, all data collectors submitted their tablets to the field supervisor, who uploaded the data to a secure laptop and backed up all data onto an online, secure server. The tablets, laptops, and server were all password-protected, and the passwords were only known to members of the study team. Ethical approval of the research protocol and tools was obtained from both the Institutional Review Board of ICRW and Malawi's National Commission for Science and Technology.

### Measures

The social norms measures were based on previously established measures and social norms theory [16,17]. As shown in Table 1, in this study, measures of social expectations and sanctions related to child marriage were adapted from measures developed for CARE's Abdiboru project in Ethiopia, which aims to reduce marriage among young adolescent girls and was the

closest topical fit to the present study. The measures of empirical and normative expectations were used almost verbatim, whereas the measure of sanctions was refined in conversation with the ENGAGE project's local implementation team to relate specifically to what they perceived as the most common social sanction for families that failed to marry their daughters young in these communities—loss of respect.

Behaviors related to child marriage were assessed by asking respondents about their past decisions and intentions for one unmarried or recently married girl aged 10 to 17 years, called the "reference girl." To select the reference girl, participants were asked to complete a roster of all unmarried or recently married girls of that age under their decision-making influence. They were then asked to identify the girl over whom they had the most decision-making influence, who was used as the reference girl during that module of the interview.

Personal normative beliefs were assessed by measuring agreement with the statement "it is wrong to marry a girl before the age of 18" and other related questions about personal opinions of whether a girl should have a say in when and whom to marry.

Questions about prudential reasons for child marriage were asked as part of Plan International's Child Marriage Acceptability score, a 23-item score developed in 2015 to assess child marriage acceptability at the individual level that had previously been adapted to the Malawian context by KIT Health as part of their Yes I Do project [18,19]. The five individual questions used to assess prudential reasons for child marriage include statements such as "Marrying girls at a young age can help provide them security" and "Marrying girls young can help prevent sexual violence, assault, and harassment."

In addition to data collected as part of the questionnaire, enumerators were asked to document their own observations of relevant information about local child marriage bylaws or interventions that they opportunistically observed in the field.

### Analyses

All statistical analyses were conducted in Stata 14.0 (Stata-Corp. 2015. Stata Statistical Software: Release 14. College Station, TX).

To assess the presence of a social norm related to child marriage, descriptive statistics for each component of the norms measures were calculated. Chi-squared tests for significant differences by gender and simple logistic regression to test for differences by age were performed on key outcome variables. Then, the structured diagnostic process established by Bicchieri et al. [16] was followed, as explained in more detail in the Results section. When these results suggested that child marriage may not be a social norm, opportunistically collected contextual information was reviewed to hypothesize explanations for this unanticipated result. Other data from the survey, particularly data on decision-makers' attitudes toward adolescent sexuality, were also analyzed to inform alternative explanations for child marriage in these communities of Malawi. Unfortunately, although analyses linking these potential factors with behavioral outcomes were planned, very few (<2.0%) adults selected reference girls who had ever been married, rendering this line of investigation inadvisable.

### Results

Sample characteristics are shown in Table 2. Most respondents were parents, grandparents, or adult siblings of their

**Table 1**  
Comparative table of measures used to assess the presence and strength of social norms related to child marriage

Concept	Bicchieri's example measure	CARE's Abidiboru project measure	ICRW's ENGAGE measure
<b>Empirical expectations</b> Beliefs about what others do	<b>Question:</b> Think about married women in between 18 and 25 years old in your community. Out of 100 such women, how many do you think got married before they were 18 years old?  <b>Response options:</b> Number of women 0–100	<b>Question:</b> Most adolescent girls marry before the age of 17  <b>Response options:</b> Agree a lot; Agree a little; Disagree a little; Disagree a lot	<b>Question:</b> Most girls in this community marry before the age of 18  <b>Response options:</b> Agree a lot; Agree a little; Disagree a little; Disagree a lot
<b>Normative expectations</b> Beliefs about what others expect one to do	<b>Question:</b> Out of 100 men in your community who are at least 40 years old, how many think that it is good that girls get married before they are 18 years old?  <b>Response options:</b> Number of men 0–100	<b>Question:</b> Most people in the community expect adolescent girls to get married before the age of 17 years  <b>Response options:</b> Agree a lot; Agree a little; Disagree a little; Disagree a lot	<b>Question:</b> Most people in this community expect girls to marry before the age of 18  <b>Response options:</b> Agree a lot; Agree a little; Disagree a little; Disagree a lot
<b>Sanctions</b> Social consequences (positive or negative) of an action	<b>Question:</b> Not provided  <b>Response options:</b> Not provided	<b>Question:</b> Marrying early avoids social stigma  <b>Response options:</b> Agree a lot; Agree a little; Disagree a little; Disagree a lot	<b>Question:</b> If I do not ensure my daughters and/or nieces are married early, my family will not be respected in the community  <b>Response options:</b> Agree a lot; Agree a little; Disagree a little; Disagree a lot

ENGAGE = Enabling Girls to Advance Gender Equity; ICRW = International Center for Research on Women.

reference girl. The sample obtained was about 73% female overall, most heavily in Mchiramwera at 84%. This was largely a result of the selection criteria; men were often away from home working for several weeks and therefore were considered ineligible as they were not currently in residence at the household. Respondents ranged in age from 18 to 92 years, with a median age of 37 years. Overall, most respondents had completed primary school but not beyond (63.9%), whereas about one in four (23.5%) had no formal education. Just one in eight (12.6%) had completed secondary education or higher. Overall, about 62% of respondents had paid employment within the past year. Compared with male respondents, female respondents had significantly lower educational attainment ( $\beta = -.9, p = .000$ ) and were significantly less likely to have had paid employment in the past year (odds ratio = .7,  $p = .004$ ).

Responses to the measures required to assess whether child marriage is a social norm are shown in Table 3. We found very high empirical expectations in all four sites; almost 9 in 10 adult decision-makers (89.3%) agreed that most girls in their community marry before the age of 18 years. However, there was less evidence of normative expectations and even less evidence of sanctions across most sites. Agreement with the normative expectation that “Most people in this community expect girls to marry before the age of 18” was 53% overall and did not vary significantly by age or gender. Agreement with the statement about sanctions, “If I do not ensure my daughters and/or nieces are married early, my family will not be respected in the community,” was 36% overall and decreased slightly but significantly with age (odds ratio = 0.99; no significant difference by gender).

These results were cross-checked with contextual information observed by the study team during data collection. They documented many instances of intervention by local leaders against child marriage. For example, just as data collection was starting, the District Executive Council for Phalombe adopted district-wide laws setting the age of marriage at 21 years for men and 18 years for women and officially annulling all marriages that did not meet these criteria. Several village chiefs in both districts had also set by-laws with higher ages of marriage and were breaking up marriages involving girls. In Thyolo, several village groups had instituted laws where men who married or impregnated women below the age of 18 years or their families were required to pay a fine of money/livestock to the village chief and other local leaders. However, not all local leaders sanctioned child marriage, and some had married children themselves.

We then explored alternative explanations for child marriage in these communities. First, we verified that personal normative beliefs were not supportive of child marriage. More than 9 of every 10 respondents (92.3%) agreed that it is wrong to marry a girl before the age of 18 years and, similarly, about 95% of adult decision-makers agreed that a girl should have a say in who she marries, and nearly 90% agreed that a girl should have a say in when she marries.

Then, we explored the possibility that child marriage occurs for prudential reasons. We found little evidence that respondents considered child marriage protective for girls, either by providing them security (8.0% agreement) or by preventing sexual violence, assault, or harassment (10.1% agreement). However, many respondents reported that child marriage sometimes happens for financial reasons, and more than three in four (78.2%) reported that child marriage “mostly happens because there is a lack of education and job opportunities.”

**Table 2**  
Baseline demographic characteristics of respondents by site, Malawi, 2017

	Chiwalo (n = 375)		Mchiramwera (n = 375)		Changata (n = 372)		Nazombe (n = 370)		Total (n = 1,492)	
	n	%	n	%	n	%	n	%	n	%
Sex										
Male	133	35.5	59	15.7	101	27.2	117	31.6	410	27.5
Female	242	64.5	316	84.3	271	72.8	253	68.4	1,082	72.5
Age (y)										
Mean		39.0		40.0		43.0		40.9		40.7
Median		35		37		40		38		37
Range		18, 84		18, 92		18, 85		18, 86		18, 92
Respondent's highest level of education										
None	90	24.0	78	20.8	97	26.1	85	23.0	350	23.5
Primary	244	65.1	248	66.1	226	60.8	235	63.5	953	63.9
Secondary	39	10.4	46	12.3	46	12.4	44	11.9	175	11.7
Higher	2	.5	3	.8	3	.8	6	1.6	14	.9
Paid employment, past 12 mo										
No	165	44.0	113	30.1	135	36.3	159	43.0	572	38.3
Yes	210	56.0	262	69.9	237	63.7	211	57.0	920	61.7
Religion										
Catholic	64	17.1	48	12.8	46	12.4	51	13.8	209	14.0
Seventh Day Adventist/Baptist	26	7.0	68	18.1	157	42.2	36	9.7	287	19.2
Other Christian	275	73.5	242	64.5	168	45.2	280	75.7	965	64.7
Muslim	7	1.9	9	2.4	1	.3	1	.3	18	1.2
None	2	.5	0	.0	0	.0	0	.0	2	.1
Other	0	.0	8	2.1	0	.0	2	.5	10	.7
Ethnicity										
Chewa	16	4.3	5	1.3	5	1.3	7	1.9	33	2.2
Lomwe	327	87.4	285	76.0	275	73.9	350	94.6	1,237	83.0
Mang'anja	3	.8	51	13.6	59	15.9	3	.8	116	7.8
Ngoni	2	.5	9	2.4	7	1.9	1	.3	19	1.3
Nyanja	22	5.9	1	.3	2	.5	3	.8	28	1.9
Sena	1	.3	6	1.6	1	.3	1	.3	9	.6
Yao	3	.8	3	.8	0	.0	3	.8	9	.6
Khokhola	0	.0	15	4.0	23	6.2	2	.5	40	2.7
Marital status										
Never married	8	2.1	12	3.2	5	1.3	3	.8	28	1.9
Currently married	271	72.3	233	62.1	242	65.1	270	73.0	1,016	68.1
Widowed	45	12.0	52	13.9	67	18.0	39	10.5	203	13.6
Divorced/separated	51	13.6	78	20.8	58	15.6	58	15.7	245	16.4
Relationship to reference girl										
Parent/guardian	174	46.4	253	67.5	227	61.0	225	60.8	879	58.9
Grandparent	60	16.0	61	16.3	87	23.4	72	19.5	280	18.8
Sibling	61	16.3	24	6.4	24	6.5	38	10.3	147	9.9
Maternal uncle/uncle	36	9.6	21	5.6	17	4.6	22	5.9	96	6.4
Paternal aunt/uncle	11	2.9	6	1.6	6	1.6	8	2.2	31	2.1
Cousin	6	1.6	3	.8	5	1.3	0	.0	14	.9
Other	27	7.2	7	1.9	6	1.6	5	1.4	45	3.0

Finally, given that more than four in five respondents (84.9%) reported that child marriage may happen because of pregnancy in their community, we investigated the possibility that child marriage occurs because of social norms and sanctions related to adolescent sexuality and access to contraception. Although we did not have measures of social expectations related to these topics in our baseline dataset, we did measure adult decision-makers' attitudes toward adolescent sexuality and girls' access to sexual and reproductive health services, as shown in Table 4. More than 9 of 10 (92.7%) adult decision-makers agreed with the statement "Unmarried girls who get pregnant are naughty," and fewer than 1 in 20 felt it was acceptable for boys (4.1%) or girls (3.8%) to have sex before marriage. In addition, less than half (44.5%) agreed with the statement "All girls have a right to access contraceptives/family planning services," and even fewer (37.9%) agreed that unmarried adolescent girls should have access. Fully four of five adult decision-makers (79.7%) felt that "Giving unmarried girls access to contraceptives makes them promiscuous."

## Discussion

Our results indicate that child marriage may not be a social norm in these communities in Southern Malawi. Other studies indicating strong child marriage norms have shown high levels of both empirical and normative expectations [20], with participants reporting that there are sanctions when the norm is not complied with [6]. In addition, social norms theory suggests that as social norms relax or shift, empirical expectations should decrease before normative expectations [21]. Instead, the majority of our sample had high empirical expectations, weak normative expectations, and little concern for sanctions, indicating that child marriage is likely a descriptive norm, defined as one that people follow because they think others are doing it or because they lack alternative options [4,16]. As explained further below, we specifically hypothesize that child marriage occurs because of a lack of alternative options for adolescent girls. Therefore, although norms may provide a partial explanation for



**Table 3**

Percent agreement with statements related to prudential reasons, personal normative beliefs, and social expectations regarding child marriage at baseline by site, Malawi, 2017

	Chiwalo (n = 375)		Mchiramwera (n = 375)		Changata (n = 372)		Nazombe (n = 370)		Total (n = 1,492)	
	%	CI	%	CI	%	CI	%	CI	%	CI
<b>Empirical expectations</b>										
Most girls in this community marry before the age of 18 y	85.1	79.3, 89.4	94.1	89.6, 96.7	95.1	89.7, 97.8	82.7	76.9, 87.3	89.3	86.9, 91.3
<b>Normative expectations</b>										
Most people in this community expect girls to marry before the age of 18	53.6	45.0, 61.9	48.5	43.5, 53.6	62.6	55.9, 68.9	48.1	42.7, 53.5	53.2	49.9, 56.4
<b>Sanctions</b>										
If I do not ensure my daughters and/or nieces are married early, my family will not be respected in the community	54.0	45.8, 61.9	31.1	26.4, 36.2	36.8	31.8, 42.0	23.9	18.4, 30.4	36.4	33.4, 39.6
<b>Personal normative beliefs</b>										
It is wrong to marry a girl before the age of 18	91.6	87.7, 94.4	93.9	90.9, 95.9	88.9	83.9, 92.6	94.6	91.9, 96.4	92.3	90.5, 93.7
<b>Prudential reasons</b>										
Marrying girls at a young age can help provide them security	9.6	6.5, 13.9	7.2	5.1, 10.1	7.8	5.4, 11.1	7.3	5.3, 9.9	8.0	6.7, 9.5
Marrying girls young can help prevent sexual violence, assault, and harassment	14.4	10.0, 20.3	6.1	4.0, 9.3	10.5	8.0, 13.6	9.2	6.7, 12.5	10.1	8.4, 11.9
Marriage of girls under 18 y sometimes happens for financial reasons	62.4	57.6, 67.0	64.5	59.7, 69.1	58.9	51.8, 65.6	57.0	51.0, 62.9	60.7	57.9, 63.5
Marriage of girls under 18 y mostly happens because there is a lack of education and job opportunities	81.1	78.0, 83.8	74.4	69.5, 78.8	80.4	76.0, 84.1	76.8	69.2, 82.9	78.2	75.6, 80.5
Marriage of girls under 18 y may happen because of pregnancy in this community	79.2	71.4, 85.3	90.1	86.4, 92.9	83.9	76.9, 89.0	86.5	81.0, 90.5	84.9	82.0, 87.4

child marriage in these communities, they are likely not the exclusive or primary reason for child marriage.

Fortunately, we could explore several complementary explanations for child marriage within the baseline data. Participants reported prudential reasons—especially financial reasons—for girls marrying before the age of 18 years in these communities. This means that child marriage is likely, in part, the result of financial constraints that eliminate alternatives to marriage for girls who are unable to attend school or find gainful employment. This is consistent with recent work by Mann et al. [22] in Zambia that found that “economic factors, including household poverty, are more likely to drive child marriage than cultural pressures” and that “sex and marriage were often pursued in the absence of any other available avenues”. However, our data on prudential reasons should be interpreted cautiously, as we were limited by the wording of the

questions, which were individual items within Plan’s Child Marriage Acceptability score module and included words such as “may” or “sometimes,” possibly overestimating agreement among respondents to our survey.

Additionally, social norms related to adolescent sexuality and pregnancy might indirectly drive girls toward marriage. In our sample, we found strong, negative attitudes toward adolescent sexuality and use of and access to family planning methods and services. Given that adult decision-makers are key gate-keepers to adolescents’ access to sexual and reproductive health services, these findings suggest that adults in these communities hold strong moral opinions that may prevent adolescent girls from accessing the services they need to avoid pregnancy. Other studies have shown that these attitudes, if present in a community with strong social sanctions against having children outside of marriage, may first expose adolescent girls to a high

**Table 4**

Baseline attitudes toward adolescent sexuality and girls’ access to sexual and reproductive health services by site, Malawi, 2017

	Chiwalo (n = 375)		Mchiramwera (n = 375)		Changata (n = 372)		Nazombe (n = 370)		Total (n = 1,492)	
	%	CI	%	CI	%	CI	%	CI	%	CI
<b>Agree that...</b>										
It is acceptable for girls to have sex before marriage	4.0	2.3, 6.9	1.1	.4, 2.6	7.0	4.8, 10.2	3.0	1.8, 4.9	3.8	2.9, 4.9
It is acceptable for boys to have sex before marriage	4.8	2.9, 7.8	1.6	.8, 3.1	7.3	5.0, 10.5	2.7	1.7, 4.3	4.1	3.2, 5.2
Unmarried girls who get pregnant are naughty	95.4	92.9, 97.1	90.7	88.6, 92.4	91.7	88.9, 93.8	93.2	90.3, 95.3	92.7	91.5, 93.8
<b>Agree that...</b>										
All girls have a right to access contraceptives/family planning services	43.4	36.3, 50.8	38.9	33.2, 44.9	47.2	41.8, 52.6	48.8	41.7, 55.8	44.5	41.3, 47.8
Unmarried adolescent girls should have access to contraception/family planning services	39.3	32.8, 46.2	32.5	27.9, 37.5	44.6	38.3, 51.2	35.1	29.2, 41.6	37.9	34.9, 41.0
Married adolescent girls should have access to contraception/family planning services	96.0	92.7, 97.8	94.7	91.8, 96.6	91.4	84.3, 95.4	96.4	92.3, 98.4	94.6	92.6, 96.1
Giving unmarried girls access to contraceptives makes them promiscuous	84.6	80.1, 88.3	76.7	72.4, 80.6	74.7	70.0, 78.8	82.8	78.9, 86.0	79.7	77.6, 81.6
I would like contraceptives/family planning services to be available to girls in my community	39.2	33.7, 44.9	37.5	33.3, 41.9	41.2	35.1, 47.6	40.5	34.6, 46.7	39.6	36.8, 42.4

CI = confidence interval.

risk of becoming pregnant and then lead to the social expectation that they marry [11,13].

Finally, limitations in our measures may have prevented us from revealing the underlying norms around child marriage in these communities. Few studies to date have validated these questions; it could be that decision-makers did not understand the question or had a different interpretation of what the questions were asking than was intended. To mitigate this risk, these questions and their translations were reviewed with the enumerators during training and included in the survey pilot before data collection. It also could be that the measure of sanctions, although determined with the implementing partners, did not match with the sanctions most often experienced in the community. Social desirability bias, and the recent push to enforce laws against child marriage, may have prevented respondents from responding honestly. Finally, it should be noted that our article was motivated by a desire to understand norms around child marriage and not the myriad of other important norms, such as those related to girls' education and sexuality, that shape child marriage itself.

Our results offer many lessons learned that may improve the quality of social norms research related to child marriage. First, it is essential to conduct formative research to challenge any preconceptions about norms related to child marriage or key reference groups. In addition, quantitative data collection should always be paired with qualitative data collection to increase explanatory power. Furthermore, even studies with advanced norms measures should include questions about prudential reasons for marriage and alternative norms that may indirectly perpetuate child marriage to be able to support or exclude them as additional contributing factors. Finally, given our measure of normative expectations and our measure of sanctions did not have similar levels of agreement, we recommend avoiding using them interchangeably.

Despite the information we were able to glean from this survey about measurement of norms related to child marriage and the potential drivers of child marriage in these communities in Southern Malawi, our study had several limitations. First, we a priori chose to measure social norms in support of child marriage and did not include measures that could have checked for normative expectations *against* child marriage. This approach was selected based on the information gathered by the implementing team during the intervention design phase, which concluded that norms in these communities were supportive of child marriage, hence the need for the intervention. Second, although we plan to rigorously investigate norms through qualitative vignettes and in-depth interviews in our mid and end-line work, we were unable to do so at baseline, limiting our ability to explore causality, sensitivity, and exceptions to sanctions. Third, we conducted interviews with adults rather than girls, which means that we did not capture girls' own perceptions of social expectations related to marriage. Fourth, very few respondents chose a married reference girl for the section of questions related to their decision-making for a particular girl. This likely occurred because we instructed respondents to choose the girl over whom they had the most decision-making power, perhaps inadvertently leading them to pick younger, unmarried reference girls. This selection bias may also have been exacerbated by respondents' awareness of our interest in child marriage and subsequent reluctance to disclose involvement in the decision for a girl to marry early. Finally, it is important to note that the ENGAGE interventions are not

explicitly designed to change norms; ICRW's inclusion of social norms measures is exploratory.

Notwithstanding these limitations, our data suggest that child marriage is less a social norm in these communities, but more the result of poverty and negative attitudes toward and norms around adolescent sexuality and contraceptive access that result in adolescent pregnancy. We suggest that future research on child marriage in Southern Malawi investigate adolescent pregnancy, norms around adolescent sexuality, and attitudes around adolescent access to and use of contraception. Our experience implementing these norms measures also suggests that researchers interested in investigating norms on child marriage must not only take into consideration social expectations about child marriage but must continue to acknowledge how other factors such as prudential reasons, knowledge of laws, attitudes, and related norms such as those related to adolescent sexuality are at play.

Similarly, data about all drivers of child marriage, including norms, economic insecurity, access to schools, and attitudes toward adolescent sexuality, need to be considered when developing evidence-informed programming. For implementers, program activities that target key decision-makers for adolescent girls, such as parents, to reduce negative opinions of contraceptive use among youth may better link to changes in behavior. It is also important that future work explore and potentially build upon existing prosocial or protective norms.

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