Do layered adolescent-centric interventions improve girls' capabilities? Evidence from a mixed-methods cluster randomised controlled trial in Ethiopia

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Abstract

Adolescence is a 'critical period' of development, and a window for interventions to improve well-being. However, it is also a time when girls face an array of restrictive gender norms, reinforced by their peers, families, communities and broader institutions. It stands to reason that without norms change at each of these levels, it may be difficult to improve girls' outcomes in a sustainable way. This study analyses data from a cluster randomised controlled trial (RCT) to evaluate the short- and medium-term impacts of a set of layered adolescent-centric interventions designed to transform gender norms on the outcomes of approximately 2,300 girls. Study sites in two rural zones of Ethiopia were randomly allocated to a control group or one of four layered intervention groups. Analysis of mixed-methods follow-up data suggests that, in locations where there is strong community-level support and where interventions are implemented well, there are improvements in girls' outcomes, and these improvements are both more wide-ranging and more sustainable (at least up to 2.5 years) when interactions with boys, parents and the community are included. Yet, impacts are weaker (and sometimes even negative) without such community support and where implementation is less consistent, which suggests the need for tailored and well-monitored implementation approaches in different contexts.

Keywords: Gender, Very Young Adolescents, Capabilities, Gender Norms, Ethiopia, RCT, Mixed-Methods

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1. Introduction

Adolescence (age 10–19 years) is recognised as a 'critical period' for development, akin to the first 1,000 days of life (Bundy et al., 2017). As such, it is considered a key window of opportunity for interventions to improve both contemporaneous and longer-term economic and social well-being (Bundy et al., 2017; Sheehan et al., 2017; Steinberg, 2015; United Nations Population Fund (UNFPA), 2014). In low- and middle-income countries (LMICs), where nearly 90% of adolescents live (United Nations, 2017), programmes designed to improve outcomes typically address specific challenges, such as keeping adolescents in school, providing life skills and/or vocational training, or improving health services.

However, adolescence is also a time when gender norms and expectations – reinforced by families, communities and institutions – are keenly felt and internalised, determining what young people do and expectations around appropriate behaviour (Chung and Rimal, 2016). This transitional time is particularly fraught for adolescent girls living in poverty in LMICs; these girls face an array of restrictive gender norms – from child marriage to disproportionate care, domestic and paid work burdens – that ultimately lead to economic disadvantage (Duflo, 2012; Jayachandran, 2015). Girls are often kept home from school and face mobility restrictions in their community; they rarely have access to formal employment, and are especially vulnerable due to their emergent sexuality. In many contexts, girls are required to leave school and marry early, abandoning not only their educational and occupational plans but also their peer support systems (International Center for Research on Women (ICRW), 2016). Constrained by the intersection of age and gender, adolescent girls in LMICs also have fewer routes to economic empowerment and less voice and agency within their homes, schools and communities (Rahman et al., 2007; World Bank, 2016).

This is certainly the case in Ethiopia, the context for our study. School dropout rates are high for girls and boys alike, with only about half of youth completing grade 5 (UNICEF, 2016) and enrolment rates at around 12% in upper-secondary school (grades 11 and 12; MoE, 2020). Yet girls are substantially more disadvantaged than boys across a range of economic, social and health outcomes. Of girls aged 15–19 years, 18% are not in education, employment or training (compared to 9% of boys), and nearly half of girls in rural areas are married before the age of 18 (UNICEF, 2016). Moreover, Ethiopian girls are particularly vulnerable to sexual and gender-based violence; 25% of married girls aged 15–19 have experienced physical and/or sexual violence committed by a partner, and 47% report having undergone female genital mutilation or cutting (FGM/C) (Central Statistical Agency (CSA) and ICF, 2017; UNICEF, 2016).

Our aim is to evaluate the short- and medium-term impacts of a set of layered adolescent-centric interventions designed to change gender norms and empower young adolescents (aged 11–13 years). Across two rural zones in Ethiopia, 155 study sites are randomly allocated to: (1) curriculum-based group meetings for girls only; (2) curriculum-based group meetings for girls, for boys, and for parents; (3) the latter, plus community-level systems strengthening; (4) the group meetings and community-level engagement, with the addition of in-kind transfers to girls; and (5) control sites. Group meetings for girls, boys and parents used the Act With Her curriculum, and were held over 10 months, while community-level engagement lasted up to 24 months. We employ

a mixed-methods study to explore the impacts of the multi-level layers of this programming on a broad range of outcomes for nearly 2,300 adolescent girls living in these study sites.

Research in development economics on programmes targeting adolescent girls has provided evidence on improved educational outcomes, especially increasing enrolment and attendance, and, to some extent, better test scores. Özler (2016) summarises the evidence on such interventions, including those that increase the returns to schooling, those that reduce the direct, indirect and opportunity costs of schooling, and those that provide financial support (either cash or in-kind) to parents and adolescent girls. Similarly, a variety of interventions have been shown to be effective in reducing child marriage and teen pregnancy, and increasing the use of contraceptives and knowledge of sexual and reproductive health. These interventions include cash transfer programmes (conditional and unconditional) (e.g. Baird et al., 2011), but also a large number of girl-focused programmes that provide various combinations of life skills, vocational skills, and educational and financial support to adolescent girls and their families (e.g. Bandiera et al., 2020). The evidence on technical and vocational education and training (TVET) programmes, which typically target out-of-school adolescents, remains mixed (Blattman and Ralston, 2015; Chakravarty et al., 2015), but Chakravarty and colleagues (2015) conclude that for girls, the most promising programmes take place in girl-only or girl-friendly settings, providing a combination of information on sexual and reproductive health, and complementary training and assets.

Yet programmes that ignore the entrenched norms within families, communities and broader institutions that restrict women's and girls' opportunities are unlikely to lead to sustained change for those women and girls. The literature on gender norms in development economics has largely centred on adults (Beaman et al., 2009; Jensen and Oster, 2009; La Ferrara et al., 2012). Although many of the programmes discussed above focus on adolescent girls, gender norms are, for the most part, not at the centre of programming. That said, there is an increased interest in the specific role of gender norms during adolescence (see, for example, Dhar et al., 2022), and in programmes that target gender norm change more broadly at the parent or community level, including Tesfa in Ethiopia (Edmeades et al., 2014). Our study seeks to contribute to the evidence base in this area by evaluating the impacts of adolescent programming that takes a complex, multi-level approach.

Our evaluation fills critical evidence gaps around the potential value of beginning interventions with very young adolescents, as well as around the added value of specific components of complex interventions such as in-kind asset transfers and community-level systems strengthening. The study also adds to the evidence base by moving beyond simply measuring gains in education, health and/or income-generating activities, and instead attempting a more comprehensive measure of adolescent empowerment across six domains: education; bodily integrity; physical health, nutrition and sexual and reproductive health; psychosocial well-being; voice and agency; and economic empowerment. We include both quantitative and qualitative measures to understand program impacts.

Following a detailed pre-analysis plan registered prior to the launch of follow-up data collection (Jones et al., 2020), our quantitative analysis focuses on 14 primary outcomes for girls across those six domains. Results are robust to including a basic or rich set of controls, as well as controlling for baseline outcome measures. Analysis of 10-month follow-up data suggests that, in locations

where there is strong community-level acceptance of adolescent-centric interventions and where those interventions are implemented well, such programming can improve girls' voice and agency and psychosocial outcomes. In these contexts, programme variations that include boys, caregivers, and dedicated community interactions can also improve girls' economic empowerment and lead to attitudes more favourable toward gender equality, with some of these improvements sustained for at least 2.5 years. Yet where there is no such community acceptance and where implementation is less smooth, impacts are weaker (and sometimes even negative), which suggests the need for tailored and well-monitored implementation approaches in different contexts.

The increasing recognition that adolescence – as with the first 1,000 days of life – is a critical period of transition suggests that interventions that tackle the multitude of disadvantages that adolescents face may be particularly effective. Our evaluation provides an opportunity to contribute to the knowledge base on the effectiveness of multi-level programming during adolescence.

2. Study setting

This study was conducted in two rural zones of Ethiopia with high rates of poverty: South Gondar zone, in Amhara region; and East Hararghe zone, in Oromia region (see Figure 1). Oromia and Amhara are Ethiopia's two most populous regional states. Zones were selected on the basis of two criteria: (1) programming capacity on the part of the implementing partners, Pathfinder (in Amhara) and CARE (in Oromia)[2]; and (2) key vulnerability criteria, including high child marriage rates (as a proxy for conservative gender norms) and high levels of food insecurity.[3]

On the one hand, Amhara and Oromia share some similarities; their economies are centred around agriculture, and they have seen less improvements recently in tackling poverty than the country as a whole (Beyene et al., 2020). However, similarities begin to fade on closer examination. Regional differences are especially marked in terms of gender outcomes, with girls and women in Amhara broadly advantaged over their peers in Oromia. Recent macro-level events, including the Covid-19 pandemic, drought and ethnic conflict, have further contributed to regional divergence.

In a report for the World Bank, Beyene and colleagues (2020) note that in Amhara in 2016, 26% of the population lived below the national poverty line, with the rural poverty rate effectively unchanged since 2011. UNICEF (2022a) adds that food poverty is even more common than monetary poverty, and at 31%, Amhara's rate was the second highest in Ethiopia. With the caveat that figures pre-date the recent drought, which has impacted Oromia more than Amhara, Oromia has made faster progress on poverty reduction than Amhara. Beyene and colleagues (2020) report that 24% of the Oromia region's population lived below the national poverty line in 2016 and

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[2] Key programming capacity criteria included operational presence and experience, and an absence of security concerns.

[3] According to the 2016 Ethiopia Demographic and Health Survey, Oromia has a median age at first marriage of 17.4 years among women aged 20–24 years, and Amhara has a median age at first marriage of 16.2 years.

UNICEF (2022b) observes that declines in the rate of food poverty in Oromia – from 33% in 2011 to 21% in 2016 – were the largest in the country.

On nearly every other indicator, however, progress made in Amhara progress outstrips progress made in Oromia. For example, the Ministry of Education (2023) reports that for the 2021/2022 school year, the net secondary enrolment rate (NER) in Amhara was 40%, compared to 27% in Oromia. Girls in Amhara were especially advantaged in that they were more likely to be enrolled in secondary school (45%) than boys in their own region (35%), boys in Oromia (29%) and girls in Oromia (26%). Findings from the Gender and Adolescence: Global Evidence (GAGE) research programme, which has been collecting longitudinal data on adolescents in both regions since 2017, help explain patterning (Presler-Marshall et al., 2020a). They suggest that girls' educational advantage in Amhara is driven by boys' engagement in paid agricultural labour, and that boys' educational advantage in Oromia is primarily shaped by parents' under-investment in girls' education, especially in relation to demands on girls' time, and a growing trend of adolescent-driven child marriage.

Alongside improvements in girls' education in Amhara there have been declining rates of child marriage and adolescent pregnancy. Although historically, girls in Amhara were more at risk of child marriage than girls in Oromia, UNICEF (2022a, 2022b) reports that this is no longer the case. Of women aged 20–24 years, 43% of those in Amhara and 48% of those in Oromia were married before the age of 18. Driven by their higher likelihood of child marriage – and by Oromia's lower uptake of modern contraceptives (28% versus 47% for all married women aged 15–49 years) – the 2016 Ethiopian Demographic and Health Survey reports that of girls aged 15–19, those in Oromia are now more than twice as likely to have begun childbearing as those in Amhara (17% versus 8%) (CSA and ICF, 2017). The Ethiopian government adds that girls in Oromia are also twice as likely to die in childbirth as their peers in Amhara: 0.88/1000 versus 0.44/1000 (CSA, 2019). Findings from GAGE add nuance to these broader patterns. Not only is the risk of child marriage declining for girls in Amhara (especially in early adolescence), but married girls are supported to use contraception to delay first pregnancy until their body is mature (Presler-Marshall et al., 2020b, 2020c). This is not the case in Oromia, where adolescent-driven marriages are pushing up the incidence of child marriage and pushing down the age at which girls marry, and where contraception is strictly forbidden until girls have demonstrated their fertility. GAGE midline research found that 79% of married girls in South Gondar (Amhara) had ever used a form of modern contraception, compared to only 7% of their peers in East Hararghe (Oromia).

Girls and women in Amhara are also less likely than those in Oromia to have undergone FGM/C. The most recent Demographic and Health Survey reports that of women aged 15–49 years, 62% of those in Amhara compared to 76% of those in Oromia had undergone the procedure (CSA and ICF, 2017). GAGE midline research found an even larger gap: 32% of adolescent girls in South Gondar (Amhara) had undergone FGM/C compared to 73% of girls in East Hararghe (Oromia) (Presler-Marshall et al., 2022a). Incidence rates reflect beliefs that FGM/C is required by religion (13% in South Gondar compared to 76% in East Hararghe), has benefits (17% in South Gondar compared to 39% in East Hararghe), and entails risks (72% compared to 34%) (ibid.). Qualitative findings highlight that the regional government of Amhara has worked especially hard to eliminate

FGM/C; those findings also highlight that FGM/C is seen as a prerequisite for marriage in East Hararghe (Oromia) (Presler-Marshall et al., 2022b).

The more advantageous position of girls in Amhara is evident in the region's economic outcomes too. For example, 21% of married women aged 15–49 in Amhara have a bank account, compared to only 8% in Oromia (CSA and ICF, 2017). Compared to their peers in Oromia, married women in Amhara are also less likely to report that their husband has primary control over women's earnings (3% compared to 10%) and more likely to individually or jointly own land (51% compared to 37%) (ibid.). GAGE's research with adolescents extends these findings. Midline research found that 12–14-year-old girls in East Hararghe were four times as likely as their peers in South Gondar to have worked for pay in the past year (20% versus 5%) – and twice as likely as boys in either region (10%) – primarily because girls in East Hararghe become responsible for paying for their own clothing (and school supplies if they are still enrolled) in early adolescence (Presler-Marshall et al., 2021). It also found that although girls in East Hararghe (Oromia) are more likely to have their own savings than girls in South Gondar (Amhara) (72% compared to 32% for 17–19-year-olds), they not only save informally – because they lack access to formal financial services – but often save secretly, hiding their savings from parents and husbands who might appropriate them.

The national and international events that have unfolded over the past few years have had myriad and diverse impacts on adolescent girls and boys in Amhara and Oromia. Pandemic-related school closures in spring 2020, for example, knocked students in both regions off their educational trajectories. GAGE research found that although 73% of rural adolescents tried to keep learning while schools were closed, two-thirds (69%) depended entirely on self-study, because other options were not available (Jones et al., 2022). Of the three-quarters (76%) of previously enrolled students who returned to formal education when classrooms re-opened in the fall of 2020, those in Amhara were advantaged, because they were far more likely to be offered catch-up classes (74%) than those in Oromia (24%) (ibid.).

The drought that began in late 2020 has also further disadvantaged adolescents in Oromia. ACAPS (2023) reports that the drought (the worst in at least a decade) is affecting nearly 3.5 million people in that region, and GAGE research has found especially devastating impacts on girls' access to education due to increased demands on their time for collecting water (Presler-Marshall et al., 2022c).

The waves of ethnic violence that have roiled Ethiopia in recent years have impacted adolescents in both regions, albeit at different times and in different ways. Young people living in Amhara experienced spill-over violence from the conflict that started in Tigray in late 2020 and later on spread to North Wollo and parts of South Gondar (Center for Preventive Action, 2023; Human Rights Watch (HRW), 2022). GAGE research has found that violence impacted adolescents' access to education, especially at secondary and tertiary levels, and that community-level violence tended to increase the violence that adolescents experienced inside the home as well (Woldehanna et al., 2023). Young people living in Oromia have also been impacted by violence, which was intense in 2017 and 2018 and re-erupted in the middle of 2022, just as the conflict was Tigray was being resolved (Harter, 2023).

GAGE data indicates that while households in both study zones are poor, vulnerable and largely agrarian, East Hararghe is somewhat more disadvantaged than South Gondar across a range of criteria. Table 1 presents summary statistics from baseline surveys among adolescents in our sample and their households. Across both zones, 30% of households had received support from Ethiopia's Productive Safety Net Programme (PSNP), which targets food-insecure households. Yet the household Food Insecurity Experience Scale (HFIES), developed by the Food and Agriculture Organization of the United Nations (FAO) as an eight-question metric to capture individual and household experience of constrained access to food (Cafiero et al., 2018), suggests somewhat higher levels of food insecurity in East Hararghe (4.7 out of 8) compared to South Gondar (3.0). Furthermore, girls in East Hararghe reported substantially higher rates of hunger (30% report feeling hungry in the past 4 weeks due to lack of food) compared to those in South Gondar (14%). Household head literacy rates were also lower in East Hararghe (28%) than in South Gondar (38%).

It is important to note that the two zones also differ significantly in terms of cultural factors: East Hararghe is predominately settled by ethnic Oromos practicing the Muslim faith, while South Gondar is mainly inhabited by ethnic Amhara predominantly practicing Ethiopian Orthodox Christianity. Both areas are characterised by strongly conservative gender norms and attitudes, and high rates of harmful traditional practices (including early marriage and FGM/C). At the time of our baseline survey (late 2017 and early 2018), when girls were aged 10–12, girls in East Hararghe were much less likely to be enrolled in school (79%) than their counterparts in South Gondar (93%) (Table 1, Panel B). Rates of FGM/C are high in both zones, though the practice occurs at different times and in different forms. In Amhara, it is practiced in infancy, and is Type 1 (partial or total removal of the clitoris); in our South Gondar sample, one-quarter of girls reported having experienced this. In Oromia, FGM/C is often carried out in early adolescence, and is Type 2 (partial or total removal of the clitoris and labia) or 3 (sewing the labia together); in our East Hararghe sample, more than a third of girls reported having experienced FGM/C by the time of the baseline survey (when they were aged 10–12).

Panel C of Table 1 summarises attitudes toward gender equality elicited from primary female caregivers of the adolescent girls in our sample at study baseline. Across a range of statements related to gender equality across men and women and boys and girls in the household, female caregivers in both zones display conservative attitudes; for instance, 85% of female caregivers in South Gondar and 90% in East Hararghe agree that 'a man should have the final word on decisions in his home'. Yet attitudes in East Hararghe in somewhat more conservative than in South Gondar. For example, 89% of female caregivers in South Gondar agree that 'girls and boys should share household tasks equally', though on 65% of female caregivers in East Hararghe agree with this statement.

These distinct economic, social and cultural settings provide an interesting backdrop for our study, which seeks to understand the impacts of programming designed to transform gender norms in order to improve girls' outcomes.

3. Interventions

In this section, we detail the set of layered interventions that we study in this paper. Figure 2 provides a summary.[4] These interventions were implemented in South Gondar zone by Pathfinder International, and in East Hararghe zone by CARE.

Her Spaces is a safe spaces programme pioneered in Ethiopia in which young adolescent girls aged 11–13 participate in 10 months of weekly curriculum-based, mentor-led group sessions (40 sessions in total).[5,6] The curriculum covers a range of topics, including nutrition, puberty and menstrual health, relationships, negotiation skills, harassment and safety in the community, community services (health, justice and financial), financial management, and creating an aspirational plan; there is some emphasis on discussion of attitudes and norms related to gender equality among boys and girls. The group leaders (mentors) are young women, typically from the local area or nearby, in their early 20s. A small number of sessions invite male relatives to join, but other interactions with the family and community are fairly light-touch, consisting of a couple of community sensitisation meetings held during implementation to raise awareness of and familiarity with the programme.

The intervention that we call Act With Her Essential (AWH Essential) builds on and expands the Her Spaces model.[7] Girls aged 11–13 participate in the same 10 months of weekly curriculum-based, mentor-led sessions (again, 40 in total), but there are also separate curriculum-based groups for boys of the same age, as well as for the primary caregivers of the girls and the boys. Boys' groups meet approximately twice a month (18 sessions), covering topics that are temporally aligned with the girls' groups. Four sessions bring the boys' and girls' groups together for interactions that are specifically designed to delve deeper into topics around gender equality. The Building on the Her Spaces curriculum, the Act With Her curriculum was designed by Pathfinder International in collaboration with the Government of Ethiopia, in partnership with CARE International, and through funding from the Bill & Melinda Gates Foundation. It includes many of the same topics as Her Spaces, but goes into more depth on several issues – particularly sexual and reproductive health, sexual and gender-based violence and harmful traditional practices.[8] Act

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[4] The set of interventions we study here also include adolescent-focused systems-strengthening work at the district level and above, which include strategically engaging key stakeholders across multiple sectors at the national, regional and *woreda* (district) levels, with the objective of raising the visibility, prioritisation and subsequent improvement of adolescent-responsive systems and services (particularly those related to health, education, sexual and gender-based violence, and child protection). Because this work focuses on broader institutional structures at the national and subnational levels, it potentially impacts all of our study sites (control and intervention sites alike), and we cannot disentangle impacts of that higher-level systems work here.

[5] The Her Spaces curriculum was developed through a collaboration between the Ethiopian Federal Ministry of Health and the international non-profit organization, Girl Effect. It was piloted with approximately 2,000 girls in four regions of Ethiopia (including our study regions) prior to the launch of the present study.

[6] Note that Her Spaces and Act With Her programming attempted to include all adolescents of the relevant gender aged 10–13 in programme sites. However, the present evaluation focuses only on adolescents aged 11–13 at the time of programme launch, as this was the group for which baseline data were collected. Throughout this report we refer to programming as including those aged 11–13 years to avoid confusion.

[7] In earlier descriptions of this study, we referred to this treatment arm as Act With Her (curriculum only).

[8] The global versions of the Act With Her curriculum and key tools are open-access and freely available at
https://www.pathfinder.org/publications/act-with-her-program-package.

With Her also places much more emphasis on changing attitudes and norms around gender equality. Six caregiver sessions are held over the 10-month period in order to orient parents to topics covered in the adolescent curricula, and to help them create a supportive home environment for their adolescent child.[9]

The intervention that we call Act With Her Comprehensive (AWH Comprehensive) includes all of the activities in the AWH Essential model, but adds a two-pronged community-level component.[10] This community-level work is operationalised by: (1) a social norms change component that brings together key decision-makers and stakeholders from the community for regular, structured meetings led by trained facilitators to establish locally led mechanisms for discussing social norms in ways that initiate shifts over time;[11] and (2) a local-level systems strengthening approach that enhances community-level capacity for social accountability through increased participation, accountability and transparency between service users, providers and decision-makers.[12] The systems strengthening component focuses on: (1) supporting multi-stakeholder, cross-sector action in the public sector; (2) enhancing social accountability structures via community scorecards; (3) offering gender and age sensitivity training with a focus on school-based violence; (4) strengthening implementation of the national School Health and Nutrition Package; (5) improving menstrual health and hygiene management in schools; and (6) establishing 'Roll Back Early Marriage' clubs for girls at school. The social norms change community group meetings and the local system strengthening efforts were launched in AWH Comprehensive sites approximately 2 months after the first adolescent groups started, and continued for approximately 2 years (though implementation was disrupted for several months due to pandemic-related closures and restrictions).

The final intervention variation that we study, which we refer to as AWH Comprehensive Plus Transfers (AWH Comprehensive+), implements the full AWH Comprehensive programme but with in-kind transfers to the participating girls. The transfers consist of three equal-value ($115) supply package options: one including school supplies, one including personal hygiene supplies, and one that is a combination of the first two. Each girl chose the package she wanted to receive within the first weeks of the group meetings (those who did not choose were assigned the combination package), and received three deliveries of that package over the course of the first 10 months of the project.

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[9] Caregiver sessions are not segregated by the gender of the parent, but sessions are held separately for the parents of adolescent boys and girls.

[10] In earlier descriptions of this study, we referred to this treatment arm as Act With Her.

[11] Work on catalysing shifts in social norms is primarily focused on applying CARE's well-known Social Analysis and Action (SAA) approach to gender and social transformation, which seeks to enable communities to identify for themselves the linkages between social factors and well-being, and then determine what actions will help improve them (Mekuria et al., 2018). Groups meet monthly to discuss harmful socio-cultural norms relevant to their local community, and to devise an action plan as to how they can be tackled.

[12] Strengthening local capacity for social accountability is approached through the implementation of CARE's Community Score Card (CSC) intervention. Used throughout CARE's programming, the Community Score Card offers a way to increase participation, accountability and transparency between service users, providers and decision-makers. In Act With Her, particular attention is paid to ensuring that adolescent girls and boys directly participate in the Score Card processes, with the objective of improving local stakeholders' ability to hold providers of key services for adolescents accountable for optimal access and quality.

4. Research design

4.1 Experimental design

In order to study and contrast the impacts of these layers of adolescent-centric programming, we employ a multi-arm parallel cluster randomised controlled trial (RCT) in 155 communities across the two rural zones of Ethiopia (South Gondar and East Hararghe). This section describes our research design, but there are more details in the registered pre-analysis plan (Jones et al., 2020).

Five *woredas* (districts) were purposely selected within each zone on the basis of implementing partner programming capacity and key vulnerability criteria (as described in Section 2, 'Study setting'). Within these 10 *woredas*, all *kebeles* (communities) were characterised into one of three groups: (1) unsafe for data collection and programming; (2) marginalised (lack of programming, isolated from key services and road/transport infrastructure); and (3) less marginalised (in terms of access to services and to the main *woreda* town). *Kebeles* identified by local officials as a high security concern fell into this first group and were excluded from consideration. Among the remaining eligible sites, 16 *kebeles* (6 marginalised, 10 less marginalised) in each district were randomly selected to be included in the study. Prior to any quantitative data collection, these 155 communities were block randomised (by *woreda*, and *kebele* marginalisation status) into one of five study arms: (1) pure control; (2) curriculum-based programming for girls only (Her Spaces); (3) curriculum-based programming for girls, boys and parents (AWH Essential); (4) curriculum-based programming for girls, boys and parents as well as community-level work (AWH Comprehensive); and (5) curriculum-based programming for girls, boys and parents, with community-level work plus in-kind transfers for girls (AWH Comprehensive+).[13] Randomisation within each *woreda* and by *kebele* marginalisation status ensures balance on these two critical observables.

4.2 Enrolment of study participants

Although the randomisation was performed at the *kebele* level, our unit of analysis is the adolescent. The population of eligible adolescents was identified through a census-style household listing conducted in each *kebele*, identifying all adolescents aged 10–12 living in each household. A total of 15 girls and 11 boys were randomly sampled from this census list in each *kebele*, and the final study sample includes 3,991 adolescents (2,294 girls and 1,697 boys).[14] Recruitment also included female primary caregivers of these adolescents (a total of 3,218 women), and a randomly selected subset of male primary caregivers. Power calculations conducted during study inception suggested that this adolescent sample size would be able to detect small-to-medium effect sizes on girl and boy outcomes, reasonable in the context of the existing literature (see Jones et al., 2020

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[13] In South Gondar, we allocated 19 communities to control and 14 communities per treatment arm; in East Hararghe, there were 20 communities allocated to control and 15 communities per treatment arm.

[14] If the household had more than one eligible adolescent, one adolescent was randomly selected to be the designated eligible adolescent; thus, the evaluation includes only one adolescent per household.

for more details). (See Table 1 for some key sample adolescent and household characteristics at baseline.)

4.3   Research data collection and programme implementation

Figure 3 shows the timeline of the study. Recruitment of adolescent participants and baseline data collection were conducted between November 2017 and January 2018. In total, 3,962 adolescents (99% of the sample) completed a baseline interview. At baseline, 86% of adolescent girls in our sample were enrolled in school, though absenteeism was frequent (affecting 27% of school days in the two weeks preceding the survey). Health was generally poor, with 50% of adolescent girls and boys reporting at least one of 14 common health ailments (such as fever, headache or cough) in the two weeks preceding the survey.

Programme implementation (of Her Spaces and all variations of Act With Her) by Pathfinder (in South Gondar) and CARE (in East Hararghe) began about one year after baseline data collection, in February 2019.[15] Programme recruitment was done separately from the research study recruitment, but also used a household listing methodology aiming to locate all adolescent girls and boys (where appropriate for the intervention arm) aged 10–13. Staff implementing the programme aimed to include as many eligible adolescents from each community as possible, and so most communities had two girls' groups and two boys' groups (where applicable), with up to 35 members each. Approximately 84% of girls in the research sample living in treatment communities in South Gondar were enrolled in programming, and 81% of boys. Recruitment rates among the research sample in East Hararghe were somewhat lower, with 64% of girls enrolling, and 68% of boys.[16] Weekly adolescent group meetings began in March 2019 and continued for 10 months, with parent group meetings starting shortly thereafter. Community-level and higher-level systems strengthening began by June 2019. Although this component was meant to continue for 24 months, in practice there was disruption for a number of months due to pandemic-related closures.[17] The adolescent and parent group meetings were completed by January 2020, so were not affected by those closures.

Our own quantitative and qualitative data collection efforts, as well as information from our programme implementation partners, confirm that implementation in East Hararghe did not run as

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[15] The time lag between baseline data collection and programme implementation may raise concerns of non-compliance with treatment group assignment, particularly if adolescents move between communities in the intervening period. Note that study participants are assigned to trial groups in the analysis on the basis of their residential location at the time of the household listing activity, not at the time of programme implementation.

[16] We also note interesting enrolment differences across programme arms. For South Gondar, 90% of girls from the research sample in Her Spaces communities enrolled in programming, while 80%–83% of girls in Act With Her (all variations) communities were enrolled. For East Hararghe, 57% of girls from the research sample in Her Spaces communities enrolled in programming, while 82% of girls in AWH Essential sites, 66% of girls in AWH Comprehensive sites, and 51% of girls in AWH Comprehensive+ sites were enrolled. We see a similar trend for boys. In South Gondar, 74% of boys in AWH Essential sites, 79% of boys in AWH Comprehensive sites, and 89% of boys in AWH Comprehensive+ sites were enrolled. In East Hararghe, 82% of boys in AWH Essential sites, 71% of boys in AWH Comprehensive sites, and 54% of boys in AWH Comprehensive+ sites were enrolled. Because of these interesting differences in programme enrolment rates across treatment arms, we provide results from a treatment on the treated (TOT) analysis in the appendix to this paper.

[17] Community meetings and systems-strengthening activities were impacted by the onset of the pandemic in early 2020, but did continue on to the extent that was possible.

smoothly as in South Gondar.[18] Two communities in East Hararghe were dropped prior to programme launch – one due to internal conflict that led to security issues and the other due to religious backlash within the community.[19] Six communities in East Hararghe were also discontinued approximately two-thirds of the way through the 40 weeks of adolescent group meetings – three due to religious backlash and three because mentors left and were not replaced.[20] Furthermore, community-level interventions in the AWH Comprehensive communities in East Hararghe were suspended shortly before the pandemic was declared, to be re-organised and started from the beginning after services reopened in late 2020. And, as noted earlier, enrolment rates among the research sample were substantially lower in East Hararghe than in South Gondar.

In both study zones, delivery of the supply packages for girls in the AWH Comprehensive+ treatment arm happened later than originally intended. The original design was to provide the transfers at 3 timepoints spread across the 10-month group meetings. However, due to procurement and supply delays, the first delivery was provided approximately 4–6 months into the 10-month period, and the second and third transfers were provided later, at the same time, towards the end of the scheduled adolescent group meetings.

The first round of follow-up data collection was conducted by the research team from November 2019 to March 2020, just as adolescent group meetings in the treatment sites were ending. This data collection round provides evidence on the 10-month impacts of layered programming.[21] All sampled adolescents and their caregivers were sought for re-interview, and attempts were made to track adolescents no longer living at their baseline residence. Follow-up survey data was collected for 89% of the adolescent sample; refusal rates were low (2.5%), and most of those who were not interviewed were simply unable to be found (7%, most likely due to migration). We find scant evidence of differential attrition by treatment arm (either alone or interacted with key baseline characteristics) (Appendix Table A1).

A second round of follow-up data collection was conducted in two waves, from March to May 2021 and from October 2021 to May 2022. The research sample was randomly divided into these two waves in expectation of work stoppages around a national election that was scheduled for mid-2021. Furthermore, a two-stage tracking methodology was implemented in this data collection round in order to limit bias due to survey attrition.[22] This second follow-up provides evidence on the 24-to-36-month impacts of layered programming.[23] As before, all sampled adolescents were

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[18] One issue that did arise in South Gondar is that in two communities, the treatment arms were switched during implementation (one was an AWH Essential community, and the other was an AWH Comprehensive community). We use assigned treatment status for these communities in the analysis presented in this paper.

[19] One of these groups was from the Her Spaces treatment arm, and the other was from the AWH Comprehensive+ treatment arm. Note that neither the Her Spaces nor AWH curricula covered religion.

[20] These communities were spread across treatment arms – 2 Her Spaces, 1 AWH Essential, 2 AWH Comprehensive, and 1 AWH Comprehensive+.

[21] The pre-analysis plan for this study specifies that near-term impacts will be measured at 8 months post-programme launch; data collection was actually conducted over a 2-month period, so 8–10 months post-programme launch. We refer to the 10-month end point of the follow-up data collection here for brevity.

[22] See Baird et al. (2016) for further details on this methodology.

[23] This second follow-up data collection was later than specified in the pre-analysis plan, due to delays resulting from the Covid-19 pandemic, the 2021 national election in Ethiopia, and armed conflict that erupted within the country around this time.

sought for re-interview, and attempts were made to track adolescents no longer living at their baseline residence. Follow-up survey data was collected for 88% of the adolescent sample; refusal rates were low (3.3%), and most of those who were not interviewed were simply unable to be found (8.5%, again, most likely due to migration). Once again, we find scant evidence of differential attrition by treatment arm (either alone or interacted with key baseline characteristics) (Appendix Table A1).

4.4 Ethics

The GAGE research design and tools were approved by the George Washington University Committee on Human Research Institutional Review Board (071721), the Overseas Development Institute Research Ethics Committee (02438), the Ethiopian Policy Studies Institute (EDRI/DP/00689/10), the Addis Ababa University College of Health Sciences Institutional Review Board (113/17/Ext), and the Afar, Amhara, and Oromia regional Bureaus of Health ethics committees. Consent (written or verbal as appropriate) was obtained from caregivers and married adolescents; written or verbal assent was obtained for all unmarried adolescents under the age of 18. There was also a robust protocol for referral to services, tailored to the different realities of the diverse research sites.

4.5 Outcome measures

Following the GAGE conceptual framework (Figure 3), which is explained in more detail in Jones et al. (2020), baseline and follow-up survey data includes rich information on outcomes across six adolescent capability domains: education; bodily integrity; physical health, nutrition, and sexual and reproductive health; psychosocial well-being; voice and agency; and economic empowerment. The data also includes information on cross-cutting attitudes and knowledge. In the pre-analysis plan registered before the launch of follow-up data collection (Jones et al., 2020), we defined 14 primary outcomes for adolescent girls to study at the time of the first follow-up, and 19 primary outcomes for adolescent girls to study at the time of the second follow-up (see Appendix B).[24] These primary outcomes include 1–2 measures per capability domain and an additional set of cross-cutting measures of attitudes and knowledge. Several of the measures are indices, intended to capture a key construct of the domain.[25] We discuss the measures in detail in Section 5, 'Analysis'.

4.6 Quantitative empirical specification

We use regression analysis to estimate the impacts of the layered programme treatment arms described above on our pre-specified set of adolescent outcomes by follow-up data collection

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[24] We also defined a set of 6 primary outcomes for boys and 5 primary outcomes for female caregivers of girls; however, we do not discuss those results in this paper. Furthermore, we defined a set of secondary outcomes for each group, largely composed of primary outcome index components; see Jones et al. (2020) for more details on these.

[25] Note that to construct indices, we employed the following procedure: (1) for each index component, create a normalised measure by subtracting the control group mean and then dividing by the control group standard deviation; (2) construct the index by calculating the raw mean across all normalised component variables; and (3) create the normalised index value by subtracting the control group mean of the index and then dividing by the control group standard deviation of the index.

round. Our main analysis focuses on the intention-to-treat (ITT) programme impacts in East Hararghe and in South Gondar (separately by round), using the following reduced form linear model:

$$y_{ic} = \alpha_1 + \beta_1 \text{HerSpaces}_c + \beta_2 \text{AWHEssential}_c + \beta_3 \text{AWHComprehensive}_c + \beta_4 \text{AWHComprehensivePlus}_c + X'_{ic}\gamma_1 + \varepsilon_{ic} \qquad (1)$$

where y_{ic} is the outcome of interest for individual i in community c, HerSpaces_c is a binary indicator for living in a Her Spaces community, AWHEssential_c is a binary indicator for living in an Act With Her Essential community, $\text{AWHComprehensive}_c$ is a binary indicator for living in an AWH Comprehensive community and $\text{AWHComprehensivePlus}_c$ is a binary indicator for living in an AWH Comprehensive+ community (where community residence is assigned everywhere at study baseline). Regressions include all adolescent girls surveyed during the follow-up data collection round.[26] The standard errors ε_{ic} are clustered at the *kebele* level, which accounts for both the design effect of the *kebele*-level treatment and the heteroskedasticity inherent in the linear probability model (for binary outcomes). X_{ic} includes both a basic and rich set of controls. The basic controls consist of block indicators used in the randomisation (where blocks combine *woreda* and marginalisation status), adolescent age (in years) and an indicator for whether there were multiple eligible adolescents in the household. The additional richer set of controls include: household size; an indicator for household head literate; an indicator for female-headed household; a household asset index; an indicator for household receives PSNP benefits; and survey month indicators.[27] Gender- and community-specific sampling weights are used to make the results representative of the target population in the study area. We present results for the entire sample, as well as separately by baseline region of residence. We utilise linear probability models in the case of binary outcomes.

Our study aims to evaluate the short- and medium-term impacts of a set of layered adolescent-centric interventions, in isolation and in comparison to each other. For the first goal, we examine the size and statistical significance of the estimated β's from equation (1). For the second goal, we examine p-values from testing the hypotheses that the estimated β's from increasing layers of adolescent-centric programming are not equal to each other (i.e., we test $\beta_1 \neq \beta_2$, $\beta_2 \neq \beta_3$, and $\beta_3 \neq \beta_4$).[28]

4.7 Qualitative methods and analysis

The quantitative survey data was complemented by in-depth longitudinal qualitative research with a subsample of participants in order to better understand some of the emerging patterns and mixed

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[26] We are unable to use ANCOVA analysis, due to lack of baseline data on several components of the primary outcome indices.

[27] For the second follow-up, we additionally include an indicator for survey wave assignment and year of survey as controls.

[28] As secondary analysis, we conduct treatment on the treated (TOT) analysis for the primary outcomes, using detailed individual-level information on programme enrolment. This analysis is performed by running separate regressions for each treatment group (where the sample included in the regression is that treatment group as well as the control group), using treatment group assignment to instrument for an adolescent-level measure of recruitment into that programme. Results of this analysis are provided in Appendix A.

pictures painted by the survey findings. Participants across the treatment and control communities took part in the qualitative research. For each region, we selected one *kebele* for each programme intervention arm, and one *kebele* per control site—for a total of 5 qualitative data collection *kebeles* per zone. We label each *kebele* in accordance with the labels assigned to the respective programme names in Appendix Table 2. Broader narratives–from adolescent programme participants (163) and non-participants (85), parents (208), mentors and supervisors (30), service providers and government officials (77)–help explain what is and is not working well.

Qualitative tools, which are also available online (Jones et al., 2018; Jones et al., 2019), consisted of an array of interactive activities, including object-based interviews, worries exercises, vignette-based discussions, social norm and body mappings, and timelines. Tools were used in individual and group interviews conducted by researchers (of the same sex and from the same region as the respondent) who had been trained to communicate effectively and sensitively with adolescents. Preliminary data analysis took place during daily and site-wide debriefings with the research team, and findings were used to develop a thematic codebook that was informed by the GAGE multi-capability conceptual framework (GAGE consortium, 2019). All interviews were transcribed and translated by native speakers of either Afaan Oromo or Amharic, then coded using a qualitative software package, MAXQDA, according to the codebook, but with flexibility to incorporate local specificities. This deductive coding process was quality assured through weekly debriefing sessions with the coding team and double-coding of a subsample of transcripts. The use of quotes in the results section is illustrative.

5. Analysis

In this section, we describe results from the analysis detailed in Section 4.6 on a set of pre-specified outcomes for adolescent girls. Figure 5 shows the results for the full sample of girls; Figure 6 and Figure 7 summarise results for the subsamples with baseline residence in South Gondar and East Hararghe respectively; and Figure 8 and Figure 9 summarise results for the subsamples living in marginalised and less marginalised communities at baseline. For each figure, Panel A describes results at the time of the first follow-up data collection round (approximately 10 months after programme launch, when the adolescent and parent groups were ending), and Panel B describes results at the time of the second follow-up data collection round (approximately 24-to-36 months post survey launch, when the community-level and broader systems-strengthening work was ending). Outcome measures of interest (standardised within the control group) are listed along the left side of each panel, and for each outcome and programme variation (treatment group), the coefficient estimate (circle) and 90% confidence interval (line) is displayed.[29]

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[29] Results for the treatment on the treated (TOT) analysis, which incorporates actual programme participation among adolescent girls in treatment sites, are included in Appendix Figures A1–A5.

5.1   Girls' knowledge

Figure 5, Panel A displays findings from first follow-up round of data collection.[30] We find large, positive impacts (on the order of a 0.3 standard deviation improvement) of all programming variations on an index of knowledge that includes topics covered in the Act With Her girls' group curriculum, related to sexual and reproductive health, nutrition, bodily integrity, economic empowerment, and gender roles.[31] Knowledge gains appear across multiple topics, including menstruation frequency, legal age of marriage, risks of FGM/C, and places to seek help if experiencing violence (Appendix Table A9).[32] Findings for the knowledge index outcome are similar across region (Figure 6 and Figure 7), and marginalisation status (Figure 8 and Figure 9), though we note that impacts at the first follow-up are substantially larger for girls living in marginalised communities (on the order of 0.5 standard deviations).

Short-term gains in knowledge were also echoed in the qualitative findings. The most powerful set of messages was around menstrual health – both in terms of dispelling stigma and in how to manage the menstrual cycle so that girls' daily activities, especially schooling, did not need to be disrupted. In terms of stigma, knowledge gained from the Act With Her clubs was evident in the interviews with boys and parents. For example, an adolescent boy participating in the programme in a site in South Gondar noted that: *We used to perceive menstruation as something wrong and we used to laugh at girls when they had their period. But I am no longer laughing at girls as I understood it is a normal process.'* Similarly, a mentor from an AWH site in South Gondar explained that some girl participants were also passing on to their mothers the knowledge they had gained about the need to shift social norms around menstruation: '*A young girl said that one day I saw my mother prohibit my older sister from preparing coffee for the family, since my older sister was on her time of menstruation… The young girl then explained to her mother that menstruation is not a demonic event.'* It is important to note, however, that while girls spoke in some detail about menstrual hygiene management and feeling empowered by this knowledge, because of the programme's focus on very young adolescents, the knowledge was still theoretical for many girls, at least at the time of the first qualitative follow-up data collection. The extent to which this would be reflected in girls' actual school-going will require subsequent visits, as this reflection from a girl in an AWH site in East Hararghe attests:

> *The mentors told us that we have to change the menstrual pads every hour and that we do not have to miss school because of that… But now since there are very few female students, no one misses school. For example, there are only two girls in grade 4. But in the past,*

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[30] We omit results for four outcome measures that were pre-specified for the analysis of the first follow-up round due to high control prevalence or small sample size. First, we exclude an indicator for the girl aspiring to attain secondary school degree; aspirations across the entire sample of girls were high (96% within the control group). Likewise, we omit a measure of ideal age at marriage, which was also consistently high across the sample (22.4 in the control group). Similarly, we omit an index of economic aspirations; aspirations to hold employment and/or self-employment later in life were high (95% in the control group). Finally, we exclude an index of menstrual hygiene practices, due to small sample size – only about 10% of girls in our sample had reached menarche by the time of the first follow-up data collection round.

[31] Note that a subset of these topics was also covered in the Her Spaces curriculum. Appendix B lists the components of this index, which are covered in the Act With Her versus Her Spaces curricula.

[32] The knowledge gains relating to menstrual health literacy are explored more deeply in Baird et al. (2022).

they used to feel afraid and miss classes... Though we know a lot about menstruation, none of us has experienced it yet… They instructed us how we should manage the cycle… and then when it got soaked that we change another one and wash this one… There is nothing we are afraid of now...

The qualitative findings also indicate improved knowledge in terms of awareness of the risks of sexual and gender-based violence, how to mitigate those risks, and how to report violence, although it was more frequently reported in South Gondar, possibly because of the widely perceived (among study communities) risk of sexual assault by strangers en route to school or the market. A girl participant from an AWH site in South Gondar explained that they had learned about how best to protect themselves from possible attacks: '*We take different paths if we sense any danger and we also go to school in groups… If we get into trouble, screaming out loud.*' Another girl in another AWH site in South Gondar said:

> *First they try to smoothly talk to you… They hold our hands and say they like us… Then we try to respond positively and smoothly also. But if they don't listen to our 'No' we threaten them that we are going to tell the police or we have an older brother. Then they will leave us alone.*

Other respondents commented on the medical and judicial recourse options available to survivors: '*They told us that they'll give her a pill right away and they'll make sure the offender gets proper punishment too. If a girl is raped, they told us that she has to take examinations at the clinic*' (girl, Her Spaces site in South Gondar). By contrast, in East Hararghe, the knowledge that girls reported having gained tended to be linked to the risks of participating in the adolescent-only cultural dance, *shegoye*, where girls may be at risk of sexual harassment, assault and abduction for the purpose of early marriage. A key informant from an AWH site explained how knowledge from the sessions had led to community and parental action against these spaces:

> *Girls were getting pregnant while they were going to the dance… We stopped the dance. Religious leaders stopped the dance… After Act With Her, the dance stopped, rape was stopped. Parents advised and stopped their children from going to the dance.*

The qualitative interviews suggest that knowledge gains related to sexual and reproductive health beyond menstrual health appeared to be much more uneven. Some girls – almost exclusively in South Gondar, where attitudes towards contraception were already more accepting prior to programme launch[33] – spoke openly and accurately about pregnancy prevention options:

> *If a girl who starts to see monthly period has sexual intercourse with a man, she might get pregnant… To prevent this, she can use contraceptive methods like injections… There is also a natural method that involves counting the date of the monthly period as well… after her period comes, the next 14 days it is safe to have sexual intercourse, but after that it's risky.* (Participant in focus group discussion with girls, AWH site)

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[33] GAGE formative and baseline research found a strong contrast in attitudes towards and accessibility of contraception for unmarried girls between South Gondar and East Hararghe.

In East Hararghe, by contrast, where attitudes towards contraceptives are much less accepting (including among some programme mentors), the messaging that existed seemed to be around abstinence only. A girl participating in the Act With Her sessions noted that the mentors '*educated us not to have sexual intercourse during the age of puberty'*. In other cases, there was considerable misinformation. A girl in one AWH site, for instance, noted that: '*If a girl wears pants of a male person and if there is sperm on the pants of that person, that girl can become pregnant*'. Another girl from a Her Spaces site reported that they had learned in the sessions '*Not to hang out with males on the days one has a period... They told us that the bleeding increases if we don't stop doing that. We haven't asked them more explanation on this.*'

Similarly, given that FGM/C in Ethiopia is prohibited by law, some participants knew that circumcisers could be fined and imprisoned for carrying out the practice. A girl in one AWH site in East Hararghe noted that:

> *People may report to 'hadaa garee' or women's group leader about the circumciser and also the circumcised girl. And the circumciser may be put in prison for a maximum of 3–5 months... There is also a fine but we don't know how much. Since then we have not seen any girl undergoing circumcision.*

However, others admitted that while they had learned about the risk of bleeding at the time of circumcision, this did not align with what they knew about girls needing to be circumcised in order to be deemed marriageable, as one girl in an AWH site in East Hararghe explained:

> *Yes, they [Act With Her mentors] have told us not to undergo circumcision... We learned that it has impacts... that it causes too much bleeding... But in the community, the boys will not marry you if you are uncircumcised. You cannot get married if you are not circumcised... We have not seen a girl who married without undergoing circumcision in our community.*

In other words, the programme curriculum did not appear to tailor the discussions so that participants were able to think through the implications of the legal ban on FGM/C and be supported – along with parents and community members – to negotiate and challenge entrenched norms that perpetuate the harmful practice.

Interestingly, knowledge gains in the quantitative findings disappear almost uniformly across all programme variations by the second follow-up round of data collection (Figures 5-9, Panel B). Yet this may be explained by ageing of the study sample, and even possibly diffusion of knowledge. For instance, at the first follow-up, 47% of girls in control sites could correctly identify menstruation frequency, while 83% could identify this by the second follow-up; findings were similar for identifying the legal age of marriage for girls (14% at first follow-up, and 38% at second). In fact, knowledge improved among the control group across every single item we study between the first and second rounds of data collection.

In addition to increasing levels of knowledge among adolescents as they age – through more years of schooling, exposure to media and role models, among others – the qualitative interviews also revealed varied programme implementation, which might also explain why knowledge gains were

not consistently sustained over time. In some cases, the club dynamic was very conducive to learning. For example, a female mentor from an AWH site in South Gondar noted that:

> *What makes me happier is children laughing and getting happier due to the training. They never want to go home even after we complete… our sessions. Always I remember children's happiness during the training.*

However, these sentiments were not universal. Some adolescents noted that not all participants found the content engaging. An adolescent girl from a Her Spaces site in South Gondar explained that '*They [some participants] quit the class because they don't think the lessons are relevan*t.' Others (especially girls) had patchy attendance at the sessions due to competing demands on their time, as a girl from an AWH site in East Hararghe observed: '*They may miss one class for looking after livestock. They may repeat such absence over time and quit it permanently ultimately.*' Also, a sizeable number of adolescents were expecting material benefits from participating, which (except in the AWH Comprehensive+ arm) were not part of the programme design: '*It has no benefit, they are giving us false promises to give us solar lamp and 300 birr and school bag… We wait for a long time then we stop attending the session, they are cheating us*' (participant in focus group discussion with girls, AWH site in East Hararghe).

5.2   Girls' education

In terms of educational outcomes, the quantitative survey findings revealed minimal impacts, likely due to the high baseline level of attendance and aspirations in both zones (see footnote #30). Yet the qualitative interviews pointed to important shifts in attitudes about the value of girls' education in some communities. A participant in a focus group discussion with parents in East Hararghe explained that their children were more motivated to attend school, and to study after school, since joining the AWH programme:

> *Our children give more attention to their education, they study well after school. Those that did not attend AWH are not like them, they may think of going to honeymoon, playing shegoye… Before AWH they were not focusing on education, they did not understand well what the teacher advises them. Now their focus is on their education, they do not want to attend honeymoon celebrations, they stay at home. They stay at home and study. Those who did not attend AWH… are learning from AWH participants. Since AWH students have good rank in school, the other girls are following them.*

Some adolescents also reported that parents had shifted their attitudes towards girls' chores and, in some cases, were actively supporting girls to fit in study time. For example, a girl from an AWH site in South Gondar noted:

> *We discuss that all parents should send their children to school. They should not give their children too much work and allow them to study. If they have chores to do, then they cannot do their homework or study. They say parents should advise their children to use their time wisely and have a timetable to do chores and some studying… Now we only do a few chores and go back to studying.*

Changes were also reflected in some girls' educational aspirations, which were often linked to achieving economic independence, as one girl in a focus group discussion in that same site reflected:

> *I want to finish school first… I will never get married until I see the end of my education… Some parents say they will send us to school even if we get married. They promise to do that. But it does not happen. You cannot go to school while you are married... You have a lot of responsibilities… There is a lot of work to do in the house that you do not get the time to study or go to school… I want to finish 12th grade... I want to support my family first and repay my debt to them for raising me. I want to have money before I get married. If you get divorced and you do not have money, people talk behind your back and disgrace you. If I have money, I can support myself and do not have to wait for my ex. If you do not have money, you have to rely on your ex-husband and you live a pathetic and sad life.*

Adolescents noted that changes in girls' and parents' attitudes towards the value of education and delaying girls' marriage was reinforced by follow-up by teachers:

> *In the past, there were very few girls in the school as they got married early. Now… some girls are even attending in grade 9. Even the teachers are making good follow-ups on the girls who discontinue their education… Some younger girls still get married with interest. They marry at 13, 14 and 15 years of age… In the past, some friends were involved as brokers and take your money. They will take you to their parents' place. But now the community has boosted its knowledge about the importance of education.* (Participant in FGD, girl, AWH site in South Gondar)

However, even in cases where there was active buy-in from the school community and local government officials, both girls and key informants recognised that there were limits to the extent to which norms around girls' education and age at marriage could shift. In another AWH site in South Gondar, an adolescent girl pointed out that club participants were encouraged to intervene and report cases of child marriage, but only when the girl in question wanted support to resist pressures to marry, as some girls saw early marriage as a preferable option for future advancement:

> *If a girl is about to get married, we report that to our school principal. The teachers and the school principal will talk to the parents and stop the marriage. If you learn about child marriage and you hear about a girl that is going to get married, first you need to talk to the girl and report it. If she does not want it to be reported and is ok with the marriage, we do not report it. If she wants us to tell the school principal and for the school to intercept the wedding, we do so… If she wants it, the parents come together and arrange the marriage… There are girls who want to get married... Maybe it is because they think they will get some property when they get married… or the husband is from the town and they want to live there… If we report on them without their consent, they deny everything.*

Similarly, a key informant from an AWH site in South Gondar explained that even with close cooperation between the community and district-level women's bureau officials, it is often not possible to cancel an impending child marriage, – even those of very young adolescents, aged 12–

15 years –on account of parental and community resistance, and uneven buy in across sectors to tackling the problem:

> *But the community is still practicing early marriage even though we are working in cooperation with police and the women's affairs office. For example, three students are getting married already after we work hard in convincing the parents to cancel the marriage. And there is one student who hid from her parents on her wedding day and came to us, and after talking to her we communicated with the police, and finally she was transferred to the woreda women's affairs office. But her parents were mad at her when she returned home and they told her to stop learning or if she wants to learn she must get out of their house, which was really hard. This year, three students' weddings were cancelled but three students got married. It was not easy, but comparing to past years, currently things are getting better… We get the information from the students. We consider the students might be afraid to tell it directly to us, so we prepared a comment box and the students write down the problem and place the paper in the comment box. Three of them were grade 6 students and we can't save those students from marriage, and one student was grade 4, the rest were grade 7 students. They were on average 12–15 years… We reported the cases to higher offices, including women affairs, but there is nothing done. We told everything by phone and face-to-face at an annual discussion session, but nothing is done. Currently the students are dropouts from school.*

5.3   Girls' voice and agency

In the quantitative data, we find large, positive impacts of all programming variations on an index of voice and agency (a 0.18 to 0.28 standard deviation improvement) across all research sites at the 10-month follow-up (Figure 5). This index encompasses girls' participation in decision-making at home and at school, comfort having discussions with friends, caregivers and elders, and mobility outside of the household. We find that these impacts are driven by increased participation in decision-making at home and school, increased comfort discussing various issues with girls' caregivers (female and male), and increased sense of voice at home, among their peers, and in the community – although there are no detected changes to girls' mobility (Appendix Table A9). These improvements in voice and agency are somewhat larger for girls in South Gondar (ranging from 0.21 to 0.37 standard deviations), particularly for aspects of voice and comfort speaking with a female caregiver (Figure 6). In contrast, for girls living in East Hararghe, we only detect statistically significant improvements in voice and agency among those who received the AWH Comprehensive treatment (Figure 7). As with the knowledge index, impacts are much larger for girls living in marginalised communities than those living in less marginalised communities (Figure 8 and Figure 9).

These positive effects on adolescent voice and agency were echoed in the qualitative findings, although there was not the same level of differentiation across sites as indicated by the quantitative survey data. Adolescent girls, parents and key informants alike noted that girls participating in the programme often developed greater self-confidence and were more willing to ask questions and to engage in conversation with adults. A key informant from an AWH site in South Gondar

emphasised that this was a key gain, and that the effects endured even after the adolescent sessions had been phased out:

> *Students developed a self-confident personality and don't get ashamed to forward their question as well as to have a discussion with others… We are receiving good feedback from parents. Students are interested to continue the discussion habit once the project is phased out.*

Girls in some communities also noted that they were encouraged to identify and learn from positive role models outside their families. In a different AWH site in South Gondar, for instance, a participant in a girls' focus group discussion explained that:

> *We have discussed inspiring role model women in the community… When we say inspiring women, for example, a single woman who doesn't see herself as inferior to others just because she doesn't have a husband. She is empowered and she provides for herself.*

Girls in the Her Spaces communities also underscored that the community visits to key services had helped them feel more empowered about seeking support if they were to need it in future. A girl from a site in South Gondar emphasised that as a result of her group's visit to the community health centre, she would now feel more confident to visit the centre and seek out services:

> *If we're in some kind of trouble or want to check up on our health, we can visit the centre. In the previous times I used to be shy to talk to them, but now that they give us a grand tour and give us so much advice, I'm not afraid of them anymore.*

By the second follow-up round of quantitative data collection, these impacts on voice and agency had largely persisted for all programming variations (although more so in East Hararghe than in South Gondar), with the exception of the AWH Comprehensive+ arm. In fact, point estimates for that programming arm became negative (and in East Hararghe, substantially negative) by two or more years post programme launch. Results from qualitative interviews suggest that boys in these research sites felt some anger that they were not given some type of transfer packages as well. As a boy from an AWH Comprehensive+ site in South Gondar noted: '*Why did they make a gap between the females and the males? We were feeling very angry. Everybody felt angry when they gave solar lamps to the females.*' One hypothesis could be that this discontent resulted in a decreased sense of voice and agency among girls in these sites, across both zones. This explanation seems plausible, particularly for East Hararghe, as there, the estimated treatment impact for the transfers arm even at first follow-up was close to zero (and significantly lower than the AWH Comprehensive arm, p-value<0.01). However, the qualitative findings suggest that especially in South Gondar, this is not necessarily the case. A key informant in an AWH Comprehensive+ site there (for instance) noted that there had been important gains in girls' voice and agency in the community over time:

> *Most of the time outside meetings used to be held only with men, but after taking the discussion with Act With Her project, a lot of girls and women are in the front chairs attending and giving directions. Currently, girls can talk with boys freely since they are their brothers and friends, but previously this was unacceptable.*

Another key informant, also from that site, explained that:

> *The girls participating in the Act With Her activities have now developed open discussion with others – for instance, they don't hesitate to raise any personal matters. At school level, they are the ones who report to the school about any early marriage arrangement.*

5.4   Girls' psychosocial well-being and social connectedness

We next explore impacts on two measures of psychosocial well-being: resilience and depression.[34] We note that adolescent girls in our study sites display low levels of depression on average; at the first follow-up, girls in control sites had an average score of 26.4 (out of 27) on the depression scale (where higher values indicate less depression). Girls demonstrate moderate-high levels of resilience, with a score of 31.3 in the control group, on a scale from 12–36, where higher levels indicate more resilience.

At the 10-month follow-up, we see positive point estimates for both psychosocial outcomes across all treatment arms in the full sample of girls (Figure 5). For South Gondar, there are statistically significant improvements in resilience (on the order of half a point) among girls in the AWH Essential and AWH Comprehensive communities (and these are larger than those in Her Spaces communities, p=0.01); and the impacts on depression are close to standard levels of statistical significance (Figure 6). Yet there is a negative, but not statistically significant, impact on depression among girls in AWH Comprehensive+ sites, which again may be a result of the negative feelings reported by boys in those communities. For East Hararghe (Figure 7), point estimates are positive for both outcomes across all treatment arms, though we only detect statistically significant impacts on depression (across all AWH programme variations). Figures 8 and 9 show that these impacts are wholly driven by girls living in marginalised communities – with improvements estimated at 1.5–2 points on the resilience scale, and up to 0.4 points on the depression scale.

By the second follow-up, point estimates in the full sample have all fallen and none are statistically different from zero at standard levels of confidence (Figure 5). Yet the overall view of the second follow-up findings masks important heterogeneity in the study sites. In South Gondar, the estimated coefficients on resilience for the AWH treatment arms (all variations) remained fairly consistent (and positive), though they are no longer statistically significant (Figure 6, Panel B). The estimated coefficients on depression in South Gondar have all become negative, and for the girls living in Her Spaces sites, depression is actually worse than among girls in control communities. In East Hararghe, we see nearly the opposite – resilience has worsened everywhere (although is not statistically significantly negative), while depression among girls in Her Spaces and AWH Essential sites was lower than among girls in control sites. Thus, in sum, we do see some suggestive evidence of lasting improvements in resilience for girls living in AWH Essential and AWH Comprehensive sites in South Gondar, and some suggestive evidence of lasting

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[34] For details on the resilience and depression scales used, see Appendix B. Note that we have signed both of these scales so that higher values indicate improvements (i.e., higher resilience, less mental distress).

improvements in depression for girls living in Her Spaces and AWH Essential sites in East Hararghe.[35]

The qualitative findings suggest that there are several change pathways through which the programme shaped some aspects of adolescent resilience. The curriculum content around short- and long-term goal setting was widely recalled and appreciated by adolescents as it helped them to think about their future (and future goals) in a more systematic way, and to make plans, especially for their education. A mentor from an AWH site in South Gondar provided an example from participants in her group:

> *The girls told me their short- and long-term goals. For example, their short-term goal is focusing on schooling and learning properly and scoring high in the grade they are attending this year because short-term goal is prepared for less than a year… Studying hard, doing what they can do only, not to do things over their capacity, focusing on their schooling until they complete 12th grade, and succeeding in their future aspiration. They also explained their long-term goal as they want to be famous, knowledgeable, to be trustworthy by others, to be self-reliant and to be supportive.*

Some participants noted that a focus on goal-setting and on communication and negotiation skills in the curriculum helped them to have greater self-confidence and control over their lives. A girl from an AWH site in South Gondar, for instance, explained: '*Ever since I started this class I've seen visible changes in myself. Now I'm able to have a conversation with my parents and convince them about things.*'

However, for some adolescent girls, it was evident that the changes in girls' opportunities they were learning about were not realistic in their current environment and that in practice, much more would be needed to overcome structural barriers. A girl from that same site explained the situation as follows:

> *There is not really any change in the environment… The boys don't help in the house equally with us… Even though they took the training [these actions] aren't really appreciated by the community… There needs to be education given to the older people at the church by priests, and also more training to the boys in the school would also help a lot.*

Another girl from a site in East Hararghe similarly emphasised that while they are learning about equality for girls and boys in the Act With Her sessions, community perceptions are still lagging, which is discouraging:

> *They told us that a boy and a girl are equal… They have also said there is no need for division of labour… But if you give a work of a girl to a boy, he may say 'no' thinking that he is not a girl…*

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[35] It should be noted that although Ethiopia was affected by both the Covid-19 pandemic and a months-long internal armed conflict between the first and second follow-up data collections, we do not see worsening of depression or resilience among control communities between these two time periods for our sample overall, or by region. Thus, we do not think that these findings reflect pandemic or conflict impacts, but we will attempt to explore this more rigorously in future work.

Although mostly the boys look after the livestock, many of the girls also engage in it, usually after school. I also do that work… People say that a girl cannot reach a higher level after education… 'we have not seen a successful girl because of education, rather a girl who marries after being educated'… This perception of the community highly demoralises a girl who wants to pursue her education.

These findings suggest that the disconnect between the content of the Act With Her sessions and girls' daily lived realities might, at least in part, explain why the programme has had limited impacts on resilience and mental wellbeing. It is also the case that the programme was not designed to provide young people facing mental health challenges with referrals or linkages to service providers, and thus it is not surprising that the findings reveal limited change in terms of improvements in adolescents' psychosocial well-being.

We next turn to an index of supportive networks, which includes measures of having trusted female peers, male peers, and adults. At the first quantitative follow-up survey, nearly two-thirds of girls in control communities reported having a trusted female friend, 4% reported having a trusted male friend, and 58% reported having a trusted adult in their life. Figure 5 suggests little statistically significant impact to this index for any variation of programming, other than the AWH Comprehensive+ group, when considering the full sample, and this impact had disappeared by the second follow-up survey. Yet these results once again mask substantial heterogeneity by region. Figure 6 shows that although only girls in AWH Comprehensive+ communities in South Gondar displayed evidence of a more supportive network at the first follow-up (just after the end of the adolescent and parent group meetings), all AWH programme variations in that region indicated an improved support network by the time of the second round of follow-up data collection.

The qualitative research found limited evidence that the programme had helped young people improve relationships with trusted adults. A few girls noted that their parents appeared to appreciate them more, as indicated by increased spend on material support; for example, a girl from a Her Spaces site in South Gondar noted that '*They didn't used to buy me clothes before.*' Others also said that they had learned better communication skills, and this had decreased tensions with parents. A girl from an AWH site in South Gondar explained: '*Our teacher on Sunday taught us how to live peacefully with our parents. She advised us to avoid conflict.*'

There was more evidence of shifts in relationships with peers, with girls commonly reporting that they had learned about how to strengthen friendships through trust and respect for confidentiality, as a girl from a Her Spaces site in East Hararghe highlighted:

> *They [mentors] taught us that good friendship involves keeping secret, respecting, motivating and loving each other. We didn't have such awareness previously… We didn't have the understanding of friendship… Previously, I would share the secret of a friend of mine with others. Now, I don't do so… I may quarrel with a friend if I share her secret with others. I have become able to prevent such potential conflicts.*

Several key informants also noted that in some communities, Act With Her participants were encouraging peers to persevere with their education. An official from the Bureau of Women's Affairs in East Hararghe noted how:

The change is visible within the students and the community. If girls are absent from school, they – the students participating in the Act With Her activities – will go and bring the girls to school… I have seen with my [own] eyes when such girls tried to bring their peers who did not come to school on one school day. So, sustaining this good experience has to be the responsibility of every person…

5.5   Girls' risk of age- and gender-based violence

Next, we turn to an index of violence, which measures exposure to physical and emotional violence from peers and household members as well as sexual violence; we sign this index such that higher values represent less violence. We note that rates of self-reported peer violence and sexual violence were not high at the time of our first quantitative follow-up survey – 12% of girls living in control sites reported experiencing violence from their peers in the previous 12 months, and just 2% reported having experienced sexual violence. Moreover, exposure to peer violence actually lessened over the whole sample by the second follow-up; at that point, only 8% of girls living in control sites reported having experienced peer violence in the previous 12 months. However, it should be noted that adolescents likely had less exposure to peers during that period, as the second follow-up data collection took place soon after schools reopened having been closed for some months during pandemic-related lockdowns. Interestingly, reported rates of experience of violence within the household (either own experience of or witnessing a female caregiver experience violence) also decreased among the control group between the two follow-up surveys, with 43% of girls reporting such violence in the 12 months preceding the first follow-up survey, and 36% reporting in the 12 months preceding the second follow-up.

The results in Figure 5 suggest an improvement in the violence index among girls living in AWH Essential sites (p-value very close to 0.1), and AWH Comprehensive+ sites (p-value<0.1), at the time of the first follow-up. These improvements are strongest in East Hararghe (Figure 7), yet do not appear to be substantially different across marginalised and less marginalised sites. They are driven by reductions in peer violence, rather than household or sexual violence (Appendix Table A11). By the time of the second follow-up, we detect a statistically significant improvement in violence among girls in the AWH Comprehensive sites in South Gondar (driven by reductions in household violence), while girls in the Her Spaces, AWH Essential and AWH Comprehensive+ arms appear to experience less violence than their control group counterparts in East Hararghe (driven by reductions in peer violence, as before).

Improvements in awareness about violence were also reported in the qualitative interviews, but while boys discussed changes in the risk of peer violence, for adolescent girls the focus was predominantly on the risk of sexual and gender-based violence and how best to report it. This difference may be partly because in some communities, largely in East Hararghe, the risk of such violence towards girls is more frequently from male peers in the context of the *shegoye* cultural dance (as noted earlier). As a girl from an AWH site in East Hararghe emphasised: '*Boys [participating together in the shegoye] may try to stop a girl and influence her to begin a sexual relationship with a boy, whereas the interest of the girl is going further in her education*'.

By contrast, in South Gondar, girls perceived the risk of sexual assault by strangers as much more likely. A participant from a focus group discussion with girls in an AWH site explained that:

> *Boys are threatening us, try to rape or sexually assault us… Anywhere outside the house, usually girls above 15 years old are exposed to these actions. Mostly older boys are doing that to the girls… For example, last October, there was a girl who was about to be raped while she was heading home from school.*

Across communities, many girls had gained awareness about the importance of reporting harassment and assault, and the different options for reporting. A girl from a Her Spaces site in East Hararghe explained:

> *If boys harass us while we are moving in the locality, the mentors advised us not to fuel the dispute and to report them [to the authorities] instead so that they will face justice. They told us that the boys will be held responsible for their misbehaviour… They advised us that the case will be dealt with by the legal system. We are told to report to school teachers if we face harassment while going to school. We will report to our parents if we face harassment in the neighbourhood… If it is beyond the capacity of teachers and parents, we should tell our parents and our parents will report to the legal bodies such as kebele administrator, police militia. And to sheiks.*

Another girl from that site, however, emphasised that although the Her Spaces sessions had helped raises their awareness about how to mitigate the risk of sexual assault, and advised girls to report any incidents to the formal justice system, reliance on informal or traditional justice routes largely persists:

> *We don't go out alone. We usually go out in groups… The mentor of the … group told us how to take care of ourselves… But girls don't talk freely to families and friends when someone tried to rape us… because it brings conflict between families… [Girls] don't go to the police station… The families prefer to handle this by themselves.*

Nonetheless, there were reports from several communities that in addition to the awareness sessions provided to girls (as well as to boys and parents), the Social Analysis and Action groups had taken collective community action to minimise risky environments for girls and women. A key informant from an AWH site in South Gondar noted that the community had come together and hired guards to police the main roads to the market and school so as to deter predatory male behaviour:

> *We want a high school to be built here… Our girls have to walk long distances to get to school. There are many young men who give them a hard time on the road… they get raped. So, they are always afraid to go to school. If they had school close to their home, they can easily commute… But we have now hired a guard to protect us on the road… It is not just the girls. We could not also go to the market without having trouble… and on market days now the guards work in shifts to make sure everyone is safe.*

In the case of an AWH site in East Hararghe, community stakeholders and religious leaders elected to intervene and discourage participation of both girls and boys in the *shegoye* dance so as to protect girls from rape and abduction:

Gender-based violence stopped after AWH… Girls were getting pregnant while they were going to the shegoye dance, we stopped the dance. Religious leaders stopped the dance. After AWH and the dance stopped, rape stopped… Abduction and rape stopped after the religious leaders set punishment for parents that send children to dance… Parents in turn advised and stopped children from going to the dance… The religious leader and kebele leaders… supervise the area and identify those who are not working to stop the practices… When girls and boys are found outside home at night, their parents are punished, they pay 1,000 birr and more than that, the dance stopped by those measures… There was also a broker that was facilitating marriage, he was found and punished. The religious leader refused to approve the marriage, and then the community stopped the practices… (Community key informant).

5.6   Girls' economic empowerment

Next, we turn to an index of economic empowerment, which includes measures of control over money, savings and time use. At the first quantitative follow-up, 16% of girls in the control group reported having money they control, 53% reported having some savings of their own, and they reported having (on average) 28% of their time devoted to school, studying and leisure. Although all treatment coefficients on the economic empowerment index were positive at the time of the first follow-up for the sample as a whole, only the girls in the AWH Comprehensive+ group (who received packages containing educational and/or menstrual health supplies) were better off than the control group at traditional levels of confidence (Figure 5). However, there is a great deal of regional heterogeneity in these findings. In South Gondar, girls living in AWH Comprehensive and AWH Comprehensive+ communities were substantially better off than the control group, on the order of 0.4 standard deviations (Figure 6). These findings are driven by an increase in the likelihood of having money they control as well as savings for the future. In East Hararghe sites (Figure 7), girls living in AWH Comprehensive communities were actually worse off than the control group (by close to 0.3 standard deviations), driven by a lower likelihood of having money they control (Appendix Table A11).

By the time of the second follow-up in East Hararghe, girls living in AWH Comprehensive communities were substantially better off than the control group (the opposite of their earlier position), while girls in communities receiving other programming variations were not statistically different from the control group in terms of economic empowerment. By contrast, girls participating in all three variations of AWH programming at sites in South Gondar had significantly higher economic empowerment than girls living in control communities, on the order of 0.3 to 0.4 standard deviations. This was driven by higher likelihood of having money they control as well as savings for the future (Appendix Table A10).

The qualitative findings indicate that the curriculum module on savings encouraged girls, both individually and collectively, to save small amounts of money (primarily given to them by their parents) in order to invest in income-generating activities such as buying chickens and selling eggs, or rope-making. A girl from East Hararghe explained the Her Spaces curriculum messaging as follows:

We should save and use money wisely for the purposes of pen, exercise book, shoes and clothes… We could buy macaroni and other food… They gave us awareness that we shouldn't waste it arbitrarily… They advised us that we shouldn't spend all the money we get on consumption… They advised us that we should use 0.50 cents for food and 0.50 cents for some other beneficial stuff if our father gives us 1 birr, for example.

Another girl explained that the curriculum had encouraged her to develop entrepreneurial thinking:

I bought a chicken… My mother and father gave me 20 and 10 birr. I bought some snacks with 5 birr and saved the remaining 25 birr. I saved even more by making and selling ropes and by saving little money that my father gave me at different times. I bought chicken with the savings ultimately… It was after I learned from the programme of Her Space.

Girls noted that they used the money to help cover the costs of school materials or to address urgent challenges. A girl from an AWH site in South Gondar explained that '*It is good for emergency and urgent problems. For instance, if our parents lack money to buy exercise books at the beginning of the year. In this case, I will use the money I deposited.*' In some communities, girls also reported that they pooled the savings and then purchased school supplies, basic sanitary supplies and clothing so that they could support their friends and peers from poorer households to stay in school:

We contribute 5 birr every week we meet. And we buy soap, sanitary pads, and shiti [traditional cloth] with the money. So, there is no one missing school now… This also helps you not to miss exams if you are menstruating on that day… The teacher told us if we can, [to] contribute 1 birr only but we insisted we can contribute 5 birr… We also support poor children who cannot buy exercise books and pens… You know many students do not come to school just for lacking a pen… We are 52 and we contribute 260 birr… You know, we have been in school because of this and now this contribution has benefited us a lot. We also thought that it is good to contribute at least 1 birr for those poor children so that they can get exercise books and pens. (Participant in focus group discussion with girls, South Gondar AWH site)

However, in terms of economic aspirations, the qualitative interviews suggest that the impacts appear to be mixed. Some adolescent girls spoke about wanting to follow in the footsteps of powerful role models from the same ethnic heritage. For example, girls in a focus group discussion in East Hararghe identified male politicians from Oromia as a source of inspiration:

When the educators asked us what we want to achieve in our education, we told them that we want to be like Dr Abiy Ahmed [Ethiopian Prime Minister], to be a doctor, to be like Lemma Megersa [former President of Oromia region], to be an engineer, and others… They advised us to set a goal and continue to study hard and complete our homework at home after carrying out some domestic activities.

For others, however, the curriculum content on savings had a limited impact on their economic aspirations, as they were unable to overcome the larger challenges facing rural adolescents, in securing higher education and eventually gainful employment. A girl in an AWH site summed up the problem in South Gondar as follows:

The boys want to go to Sudan or Metema [lowlands where there are agricultural plantations] and the girls want to go to the town to work as a home maid or something. Because the families can't afford their education anymore and since they have to focus on basic daily needs…some Act With Her students think that way and there is a member who got married too and gave up on education.

5.7   Girls' physical health and nutrition

Our index of physical health and nutrition includes self-reported measures of health, protein intake, and hunger due to lack of food. Across our study sites, 90% of adolescent girls in the control sites reported 'good' health, though just 4% of their meals contained protein, while 14% reported hunger due to lack of food in the month preceding the survey. We did not find quantitative evidence of any improvements in adolescent girls' physical health and nutrition outcomes for any of the programming variations in South Gondar at the time of the first follow-up survey, and it appears that girls in the AWH Comprehensive communities were actually worse off than their control group counterparts by the time of the second follow-up survey (Figure 6). The situation in East Hararghe seems quite different, however, with positive impacts detected for girls in AWH Essential communities at the 10-month follow-up at standard levels of statistical significance, and near standard levels of significance for the second follow-up.

The qualitative findings provide further evidence of these very limited changes. Adolescent girls were able to report on different food groups and why they are important to good health and nutrition, but also acknowledged that what they learned in Act With Her sessions largely reinforced what they learned in human biology classes at school, but often provided less detail.

5.8   Girls' gender attitudes

Because the AWH curriculum included substantial discussion of attitudes and norms related to gender, we explore an index of attitudes toward gender equality. This index combines the Global Early Adolescent Study (GEAS) Index of Gender Stereotypical Traits (for example, 'girls are expected to be humble') and the GEAS Index of Gender Stereotypical Roles (for example, 'girls and boys should share household tasks equally').[36] The index is constructed such that attitudes in favour of gender equality receive higher values. We discussed the stark contrast in attitudes toward gender roles in the two different contexts of our study in Section 2 'Study setting', but here we highlight a few of the measures included in our index. East Hararghe performs somewhat worse on the Index of Gender Stereotypical Traits. For instance, 71% of girls in control communities in East Hararghe agreed that 'girls should avoid raising their voice' at the first follow-up, compared to only 58% of comparable girls in South Gondar. Similarly, 82% of girls in control communities in East Hararghe agreed that 'it is important for boys to show they are tough', compared to 73% of comparable girls in South Gondar. East Hararghe also performs somewhat worse on the Index of Gender Stereotypical Roles. For instance, 65% of girls in control communities in East Hararghe agreed that 'girls and boys should share household tasks equally' at the first follow-up, compared to 80% of comparable girls in South Gondar. Similarly, 85% of girls in control communities in

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[36] For more information on the GEAS, see geastudy.org.

East Hararghe agreed that 'a man should have the final word on decisions in his home', compared to 58% of comparable girls in South Gondar.

Because there were stark differences in attitudes toward gender across the two regions, we proceed directly to the regional heterogeneity. For South Gondar sites, there is a large positive impact of the AWH Comprehensive programme on attitudes toward gender equality, and this difference is significantly larger than the impact of the Her Spaces programming ($p<0.1$); yet this difference had somewhat dissipated by the time of the second follow-up survey, when girls in the AWH Essential communities displayed somewhat more positive attitudes toward gender equality compared to girls in the control group (Figure 6). By contrast, there is little evidence of any differences in gender-equitable attitudes between treatment and control communities in East Hararghe at the first or second follow-up (though if anything, girls in the AWH Comprehensive and AWH Comprehensive+ sites had worse attitudes toward gender equality at the first follow-up).

The final outcome we explore through regression analysis is an index of gender consciousness, that measures concepts like 'I think about how boys' and girls' roles differ from each other', and 'I think it is possible to change how people react to my being a girl'. For this index, we find positive impacts of different programming variations at each of the survey rounds in both South Gondar and East Hararghe, in particular for the AWH Comprehensive package (Figures 6 and 7).

The qualitative findings are perhaps more positive in that many girls in both zones – and also parents and key informants – talked about their awareness of the gender division of labour in the household and the importance of changing this so that men and boys would be more supportive of women and girls, and take on a fairer share of domestic chores. For example, one girl participating in a focus group discussion in a Her Spaces site in East Hararghe explained that:

> *They taught us that there shouldn't be division of labour between male and female in household activities… In previous times, women have been confined to some activities and some other roles are left for men. The educators taught us that such division of labour is wrong. Men and women should carry out all activities by helping each other. A husband should pound pepper if the wife is cleaning the homestead. In previous times, boys used to go to school earlier. Girls, however, would go to school after undertaking some indoor activities. The educators denounced such practice. They educated us that we should handle the activities by helping each other with our brothers and go to school together… They educated us that our right should be equal with boys in carrying out household activities and going to school.*

Similarly, a girl from an AWH site in South Gondar explained that '*We learned how females and males have equal role and responsibility in managing household jobs… Girls are equal with boys such that boys have to take similar responsibilities with their female counterparts.*'

However, some girls acknowledged that shifting attitudes did not necessarily translate to changes in practice. As one girl participating in a focus group discussion in an AWH site in East Haraghe noted:

They taught us that males and females can play all roles equally. But males refrain from going to the mill house, collecting firewood, washing clothes and others by explaining that these aren't roles for males… They haven't changed… It is we, females, who beg them to support us when we are much overloaded… We have been educated that males should support us in domestic chores but they haven't begun to do so.

Furthermore, the qualitive interviews also underscored that gender equality was predominantly narrowly equated with the equal distribution of domestic tasks and was not expanded to other domains of life, especially outside the family. A girl from an AWH site in South Gondar explained that there was a need to shift attitudes about girls' roles beyond marriage and family life:

All girls need to get education and train them on the importance of school… They need to be advised on how they should envision their life… There are also parents who want us to be like them and get married… They need to be advised not to marry off their children… But they don't talk about this in the community discussions [Community Score Card meetings].

6. Discussion and conclusion

One way to summarise the broad range of quantitative impacts (across 10 different outcomes) that we explore in this study is to count – by residential zone, treatment group assignment, and survey round – the number of positive impacts and the number of statistically significant impacts that we detect in our analysis for adolescent girls. We display results of this calculation in Table 2. Across the 10 outcomes we explore in South Gondar, a larger absolute number – and a larger proportion of the positive results – are statistically significant in the AWH Comprehensive and AWH Comprehensive+ treatment arms, in both the first and second follow-up rounds. Furthermore, although impacts shifted across different outcome measures over time, we still see a similar number of positive and significant results for these two treatment arms between the first and second follow-up rounds. This may suggest that a more comprehensive set of programming had more lasting impacts over time.

Yet for East Hararghe, the results are somewhat different. Here, a larger absolute number and a larger proportion of the positive results are statistically significant in the AWH Essential and AWH Comprehensive communities in the first follow-up round, but in the Her Spaces and AWH Essential communities by the second follow-up. According to reports from the two implementing partners, as well as our own qualitative data collection, programme implementation in East Hararghe was more uneven than in South Gondar, partly due to the higher levels of marginalisation in kebeles in the former, partly due to less enthusiastic reception of programming in these communities, and partly due to less consistent monitoring and supervision. Indeed, the community-level engagement meetings that were a key component of the AWH Comprehensive and AWH Comprehensive+ sites were reset and restarted from the beginning in East Hararghe following the pause due to the pandemic. In this context, a multi-level programme that engaged communities in addition to adolescents and their caregivers was not necessarily overall more successful than the more basic model.

The qualitative findings also underscore that while there have been important shifts in some girls' knowledge and increased opportunity for voice and agency, adolescents' trajectories are still significantly shaped by broader structural constraints. These include limited shifts in gender attitudes and behaviours among parents and the wider community, as well as enduring poverty, a dearth of income-generating opportunities in rural and conflict-affected settings, and inadequate investment in adolescent-friendly and gender-sensitive education, health, psychosocial and justice/policing services. In other words, programming that aims to shift gender attitudes and norms can support change at the level of the individual and, to a lesser degree, the family and community, but without complementary efforts to scale up and improve investments in services and support for young people, changes are likely to be limited and seldom transformative.

7. References

ACAPS (2023) *Ethiopia: impact of drought: Oromia and Somali regions.* ACAPS thematic report (www.acaps.org/sites/acaps/files/products/files/20230207_acaps_thematic_report_horn_of_africa_analysis_ethiopia_impact_of_drought_oromia_and_somali_regions.pdf)

Anderson, M.L. (2008) 'Multiple inference and gender differences in the effects of early intervention: a reevaluation of the Abecedarian, Perry Preschool, and Early Training Projects' *Journal of the American Statistical Association* 103(484): 1481-1495

Baird, S., Hamory Hicks, J., Kremer, M. and Miguel, E. (2016) 'Worms at work: long-run impacts of a child health investment' *The Quarterly Journal of Economics* 131(4): 1637-1680

Baird, S., Mcintosh, C. and Özler, B. (2011) 'Cash or condition: evidence from a cash transfer experiment' *Quarterly Journal of Economics* 126: 1709–1753

Baird, S., Hamory, J., Gezahegne, K., Pincock, K., Woldehanna, T., Yadete, W. and Jones, N. (2022) 'Improving menstrual health literacy through life-skills programming in rural Ethiopia' *Frontiers in Global Women's Health* 3

Bandiera, O., Buehren, N., Burgess, R., Goldstein, M., Gulesci, S., Rasul, I. and Sulaiman, M. (2020) 'Women's empowerment in action: evidence from a randomized control trial in Africa' *American Journal: Applied Economics* 12(1): 210–259

Beaman, L., Chattopadhyay, R., Duflo, E., Pande, R. and Topalova, P. (2009) 'Powerful women: does exposure reduce bias?' *Quarterly Journal of Economics* 124(4): 1497–1540

Beyene, B.M., Finn, A.J., Wieser, C. and Yonis, M.B. (2020) *Ethiopia regional poverty report: promoting equitable growth for all regions.* Washington DC: World Bank Group (http://documents.worldbank.org/curated/en/627681605631546436/Ethiopia-Regional-Poverty-Report-Promoting-Equitable-Growth-for-All-Regions)

Blattman, C. and Ralston, L. (2015) *Generating employment in poor and fragile states: evidence from labor market and entrepreneurship programs.* (https://dx.doi.org/10.2139/ssrn.2622220)

Buchmann, N., Field, E., Glennerster, R., Nazneen, S., Pimkina, S. and Sen, I. (2018) Power vs money: alternative approaches to reducing child marriage in Bangladesh, a randomized control trial. Unpublished manuscript, Abdul Latif Jameel Poverty Action Lab

Bundy, D., de Silva, N., Horton, S., Patton, G., Schultz, L. and Jamison, D.T. (2017) 'Child and adolescent health and development: realizing neglected potential' in D. Bundy, N. de Silva,

S. Horton, D.T. Jamison and G. Patton (eds) *Disease control priorities* (third edition). Volume 8, *Child and adolescent health and development*. Washington DC: World Bank

Cafiero, C., Viviani, S. and Nord, M. (2018) 'Food security measurement in a global context: the food insecurity experience scale' *Measurement* 116: 146-152

Center for Preventive Action (2023) 'War in Ethiopia'. Global Conflict Tracker, 31 March (www.cfr.org/global-conflict-tracker/conflict/conflict-ethiopia)

CSA – Central Statistical Agency of Ethiopia (2019) *Regional-level gender disaggregated data mining and analysis report*. Addis Ababa: Central Statistical Agency (www.statsethiopia.gov.et/ wp-content/uploads/2021/07/Regional-Level-Gender-Dis-aggregated-Data-Final.pdf)

CSA and ICF (2017) *Ethiopia Demographic and Health Survey 2016: key indicators report*. Addis Ababa, Ethiopia, and Rockville, Maryland, USA

Chakravarty, S., Haddock, S. and Botea, I. (2015) 'Providing out-of-school girls with skills: a review of the global evidence'. World Bank country policy brief (https://openknowledge.worldbank.org/handle/10986/22799)

Chung, A. and Rimal, R.N. (2016) 'Social norms: a review' *Review of Communication Research*, 4: 1–28

Corbin, C. and Heckman, J. (2016) 'Capabilities and skills' *Journal of Human Development and Capabilities* 17(3)

Dahl, R., Allen, N.B., Wilbrecht, L. and Suleiman, A.B. (2018) 'Importance of investing in adolescence from a developmental science perspective' *Nature* 544: 441–450

Dhar, D., Jain, T. and Jayachandran, S. (2022) 'Reshaping adolescents' gender attitudes: evidence from a school-based experiment in India' *American Economic Review* 112(3): 899-927

Duflo, E. (2012) 'Women's empowerment and economic development' *Journal of Economic Literature* 50: 1051–1079

Edmeades, J., Hayes, R. and Gaynair, G. (2014) *Improving the lives of married adolescent girls in Amhara, Ethiopia. A summary of the evidence.* Washington DC: International Center for Research on Women

GAGE consortium (2019). *Gender and adolescence: why understanding adolescent capabilities, change strategies and contexts matters*. Second edition. London: Gender and Adolescence: Global Evidence

Harter, F. (2023) 'As violence subsides in Tigray, Ethiopia's Oromia conflict flares. "We will not keep quiet until peace comes and the suffering of our people ends".' *The New Humanitarian*, 12 January (www.thenewhumanitarian.org/news-feature/2023/01/12/Ethiopia-Oromia-conflict-OLA)

Human Rights Watch (HRW) (2022) "*We will erase you from this land". Crimes against humanity and ethnic cleansing in Ethiopia's Western Tigray zone*. New York: Human Rights Watch (www.hrw.org/sites/default/files/media_2022/06/ethiopia0422_web_0.pdf)

International Center for Research on Women (ICRW) (2016) 'Child marriage facts and figures'. (www.icrw.org/child-marriage-facts-and-figures)

Jayachandran, S. (2015) 'The roots of gender inequality in developing countries' *Annual Review of Economics* 7: 63–88

Jensen, R. and Oster, E. (2009) 'The power of TV: cable television and women's status in India' *The Quarterly Journal of Economics* 124(3): 1057–1094

Jones, N., Camfield, L., Coast, E., Samuels, F., Hamad, B. A., Yadete, W., Amayreh, W., Odeh, K. B., Sajdi, J., Rashid, S., Sultan, M., Małachowska, A. and Presler-Marshall, E. (2018) *GAGE baseline qualitative research tools*. London: Gender and Adolescence: Global Evidence

Jones, N., Presler-Marshall, E., Małachowska, A., Jones, E., Sajdi, J., Banioweda, K., Yadete, W., Gezahegne, K. and Tilahun, K. (2019) *Qualitative research toolkit: GAGE's approach to researching with adolescents*. London: Gender and Adolescence: Global Evidence (www.gage.odi.org/publication/qualitative-research-toolkit-gages-approach-to-researching-with-adolescents)

Jones, N., Baird, S., Hamory, J. and Woldehanna, T. (2020) *Multi-level programming aimed at gender norms transformation to improve capabilities of young adolescents in Ethiopia: a cluster randomized control trial. Pre-analysis plan.* Published on the AEA RCT Registry, 9 October 2020

Jones, N., Devonald, M., Dutton, R., Baird, S., Yadete, W. and Gezahegne, K. (2022) 'Disrupted education trajectories: exploring the effects of Covid-19 on adolescent learning and priorities for "building back better" education systems in Ethiopia' *Development Policy Review* 40(S2): e12607

La Ferrara, E., Chong, A. and Duryea, S. (2012) 'Soap operas and fertility: evidence from Brazil' *American Economic Journal: Applied Economics* 4(4): 1–31

Mekuria, F., Sprinkel, A, and Cowan, E. (2018) Social Analysis and Action global implementation manual. Cooperative for Assistance and Relief Everywhere, Inc. (CARE)

Ministry of Education, Federal Democratic Republic of Ethiopia (2023) *Education Statistics Annual Abstract (ESAA): 2014 E.C/2021/22.* Addis Ababa, Ethiopia: Education Management Information System and ICT Directorate

Özler, B. (2016) 'Keeping girls in school: a review of the global evidence'. Country policy brief. Washington DC: World Bank Group. (http://documents.worldbank.org/curated/en/944241468188366610/Keeping-girls-in-school-a-review-of-the-global-evidence)

Presler-Marshall, E., Dutton, R., Jones, N., Baird, S., Woldehanna, T., Yadete, W. with Amdeselassie, T., Emirie, G., Gebreyehu, Y., Gezahegne, K., Iyasu A. and Workneh, F. (2020a) *'My husband can go to work and I will go to my school': exploring changing patterns in adolescents' access to education and learning in Ethiopia*. London: Gender and Adolescence: Global Evidence

Presler-Marshall, E., Jones, N., Dutton, R., Baird, S., Yadete, W., Woldehanna, T., Workneh, F. and Iyasu, A. (2020b) *'They did not take me to a clinic': Ethiopian adolescents' access to health and nutrition information and services*. London: Gender and Adolescence: Global Evidence

Presler-Marshall, E., Jones, N., Dutton, R., Baird, S., Yadete, W. and Woldehanna, T. (2020c) *'Girls don't shout if they are raped… that is taboo': exploring barriers to Ethiopian adolescents' freedom from age- and gender-based violence*. London: Gender and Adolescence: Global Evidence

Presler-Marshall, E., Dutton, R., Jones, N., Baird, S., Woldehanna, T., Yadete, W. with Amdeselassie, T., Emirie, G., Gebreyehu, Y., Gezahegne, K., Iyasu A. and Workneh, F. (2021) '*We suffer to survive': exploring adolescent opportunities and challenges in securing decent work and the foundations for economic empowerment in Ethiopia*. London: Gender and Adolescence: Global Evidence
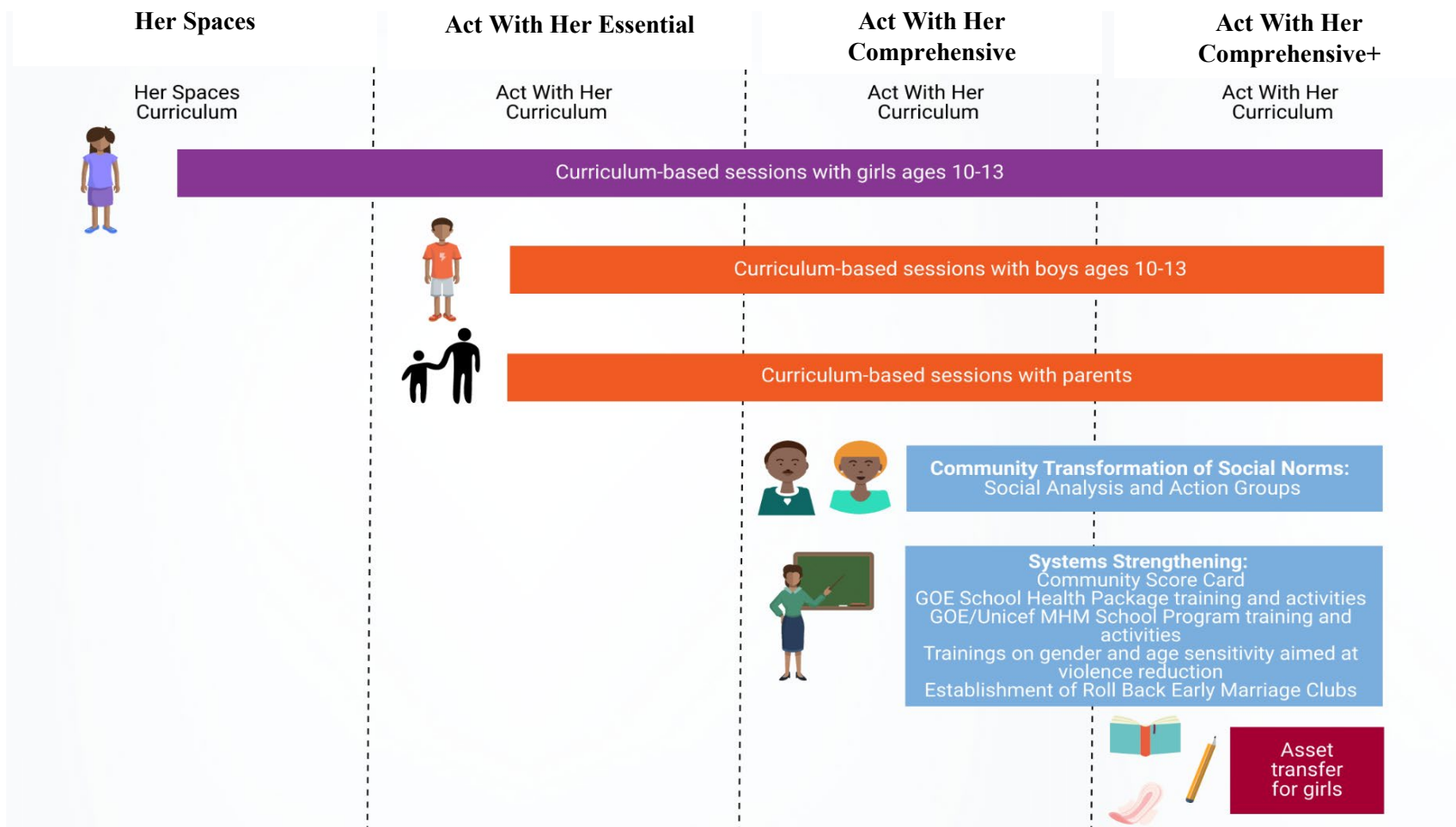
Presler-Marshall, E., Oakley, E., Abu Hamad, Sh., Diab, R., Jones, N., Abu Hammad, B., Alheiwidi, S., Yadete, W., Seager, J. and Baird, S. (2022a) 'Adolescent girls' and boys' experiences of violence: evidence from Gender and Adolescence: Global Evidence (GAGE)'. Policy brief. London: Gender and Adolescence: Global Evidence

Presler-Marshall, E., Jones, N., Oakley, E., Dutton, R., Baird, S., Yadete, W. and Gebeyehu, Y. (2022b) *Exploring the diversity of FGM/ C practices in Ethiopia. Drivers, experiences and opportunities for social norm change*. London: Gender and Adolescence: Global Evidence

Presler-Marshall, E., Yadete, W., Jones, N. and Gebreyehu, Y. (2022c) 'Making the "unthinkable" thinkable: fostering sustainable development for youth in Ethiopia's Lowlands' *Sustainability* 14: 4239 (https://doi.org/10.3390/su14074239)

Rahman, M., Kabir, M. and Shahidullah, M. (2007) 'Participation of adolescents in household decision making processes in Bangladesh' *Indian Journal of Community Medicine* 32(2): 123–127

Sheehan, P., Sweeny, K., Rasmussen, B., Wils, A., Friedman, H., Mahon, J., Patton, G., Sawyer, S., Howard, E., Symons, J., Stenberg, K., Chalasani, S., Maharaj, N., Reavley, N., Shi, H., Fridman, M., Welsh, A., Nsofor, E. and Laski, L. (2017) 'Building the foundations for sustainable development: a case for global investment in the capabilities of adolescents' *The Lancet* 390(10104): 1792–1806

Steinberg, L. (2015) *Age of opportunity: lessons from the new science of adolescence*. New York: Eamon Dolan/Mariner Books

UNFPA – United Nations Population Fund (2014) *Annual report*. New York: United Nations Population Fund

UNICEF (2016) 'Adolescent data portal', Ethiopia country profile. UNICEF (https://data.unicef.org/adp/country/eth)

UNICEF (2022a) 'Amhara regional brief'. UNICEF Ethiopia (www.unicef.org/ethiopia/media/6496/file/Amhara%20regional%20brief.pdf)

UNICEF (2022b) 'Oromia regional brief'. UNICEF Ethiopia (www.unicef.org/ethiopia/media/6511/file/Oromia%20regional%20brief.pdf)

United Nations (2017) *World Population Prospects 2017*. New York: UN Department for Economic and Social Affairs (UN DESA), Population Division

WHO – World Health Organization (2014) *Health for the world's adolescents: a second chance in the second decade*. Geneva: WHO

Woldehanna, T., Endale, K., Das, S., Jones, N., Yadete, W., Vintges, J., Baird, S. and Hamory, J. (2023) 'Armed Conflict and Adolescent Social Capital in Ethiopia' *Working Paper*

World Bank (2016) 'Indicators' (http://data.worldbank.org/indicator)

Figure 1. GAGE Impact Evaluation Research Sites
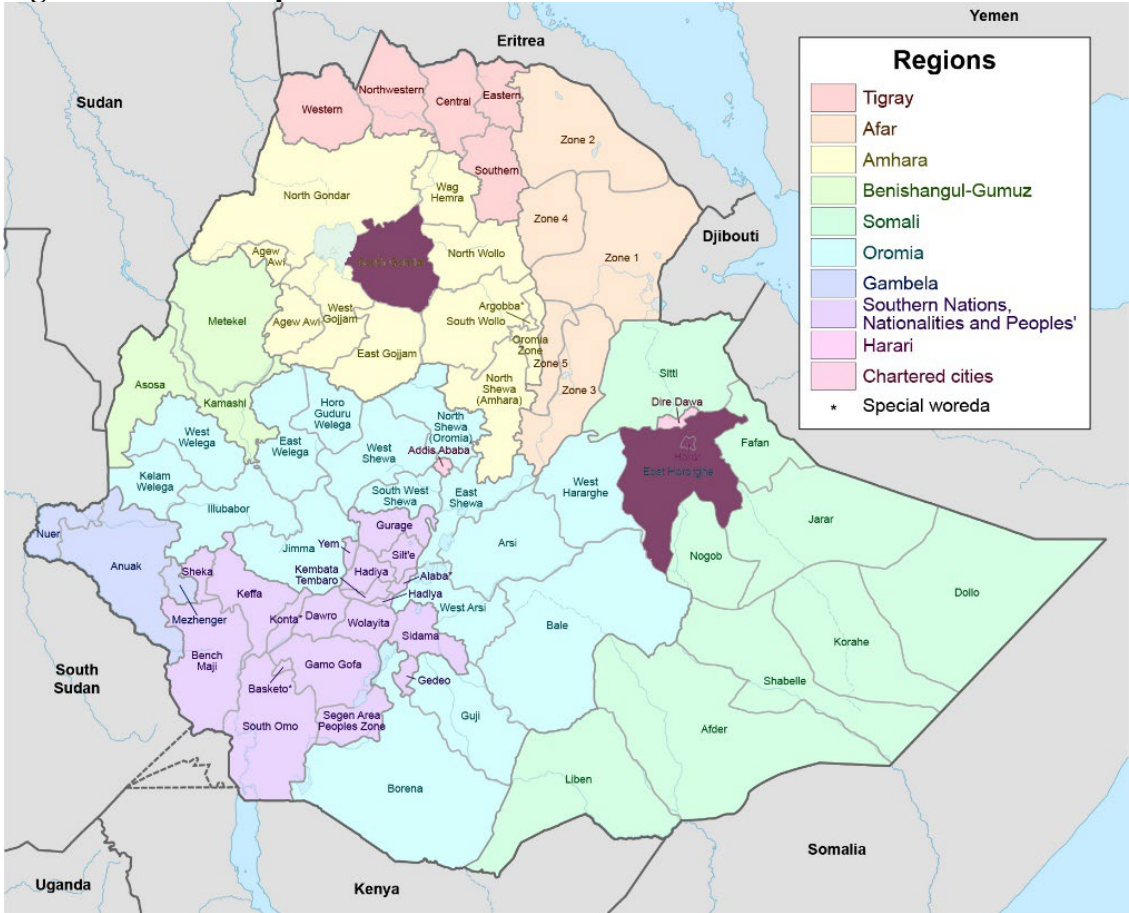
Notes: Locations (administrative zones) where the GAGE impact evaluation summarized in this paper was conducted are shown in dark purple, including South Gondar Zone (Amahara Region) and East Hararghe Zone (Oromia Region).

Figure 2. Intervention arms

Her Spaces	Act With Her Essential	Act With Her Comprehensive	Act With Her Comprehensive+
Her Spaces Curriculum	Act With Her Curriculum	Act With Her Curriculum	Act With Her Curriculum

Curriculum-based sessions with girls ages 10-13

Curriculum-based sessions with boys ages 10-13

Curriculum-based sessions with parents

Community Transformation of Social Norms:
Social Analysis and Action Groups

Systems Strengthening:
Community Score Card
GOE School Health Package training and activities
GOE/Unicef MHM School Program training and activities
Trainings on gender and age sensitivity aimed at violence reduction
Establishment of Roll Back Early Marriage Clubs

Asset transfer for girls

Note: This figure was provided by Pathfinder International. Note that although curriculum-based programming for adolescents was provided by Pathfinder and CARE for all adolescents living in a study site who were aged 10-13 and wanted to participate in the program, our analysis focuses only on the subset of adolescents who were randomly selected from a project-specific census style household listing, and who were aged 11-13 at the time the adolescent groups were launched.
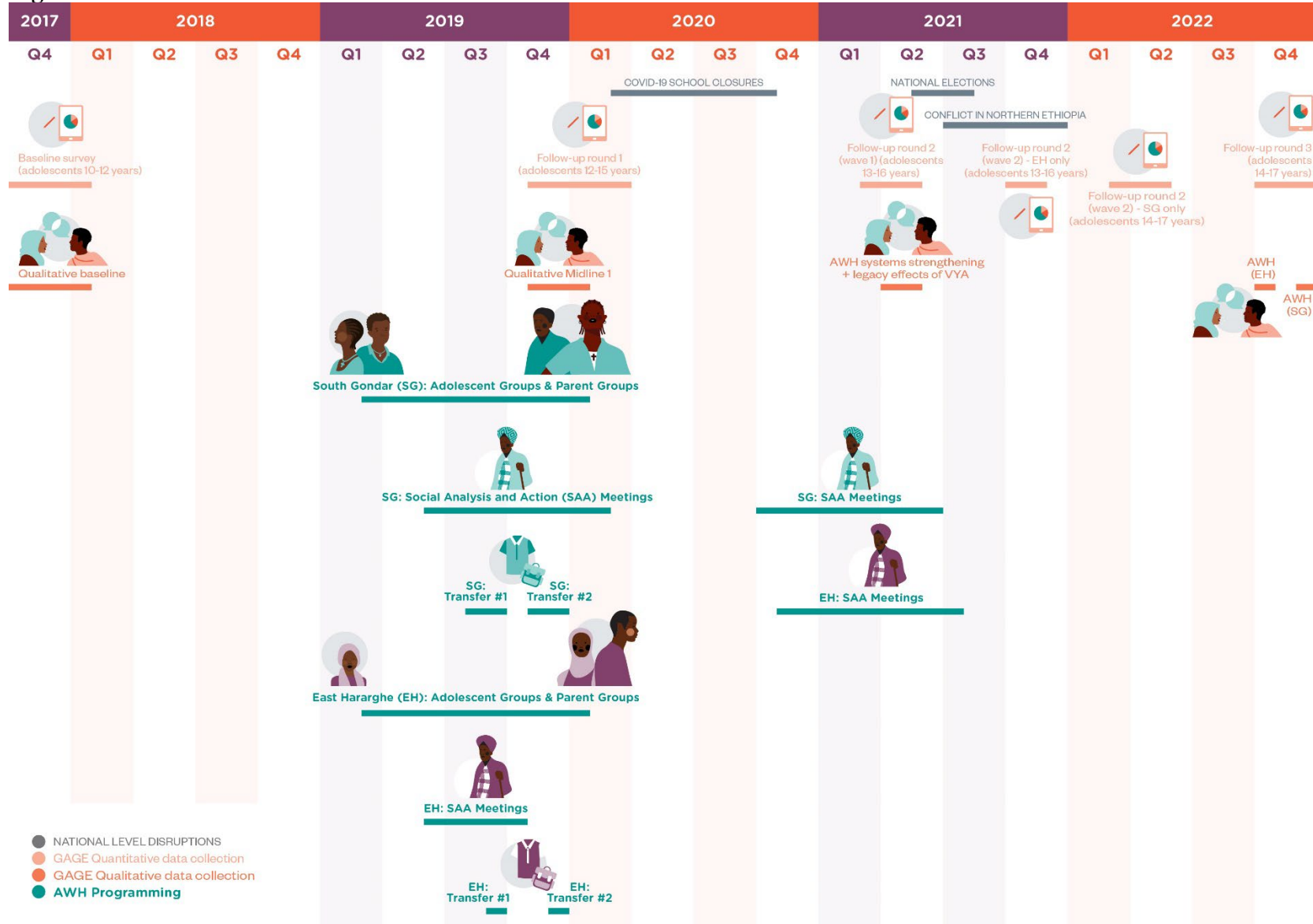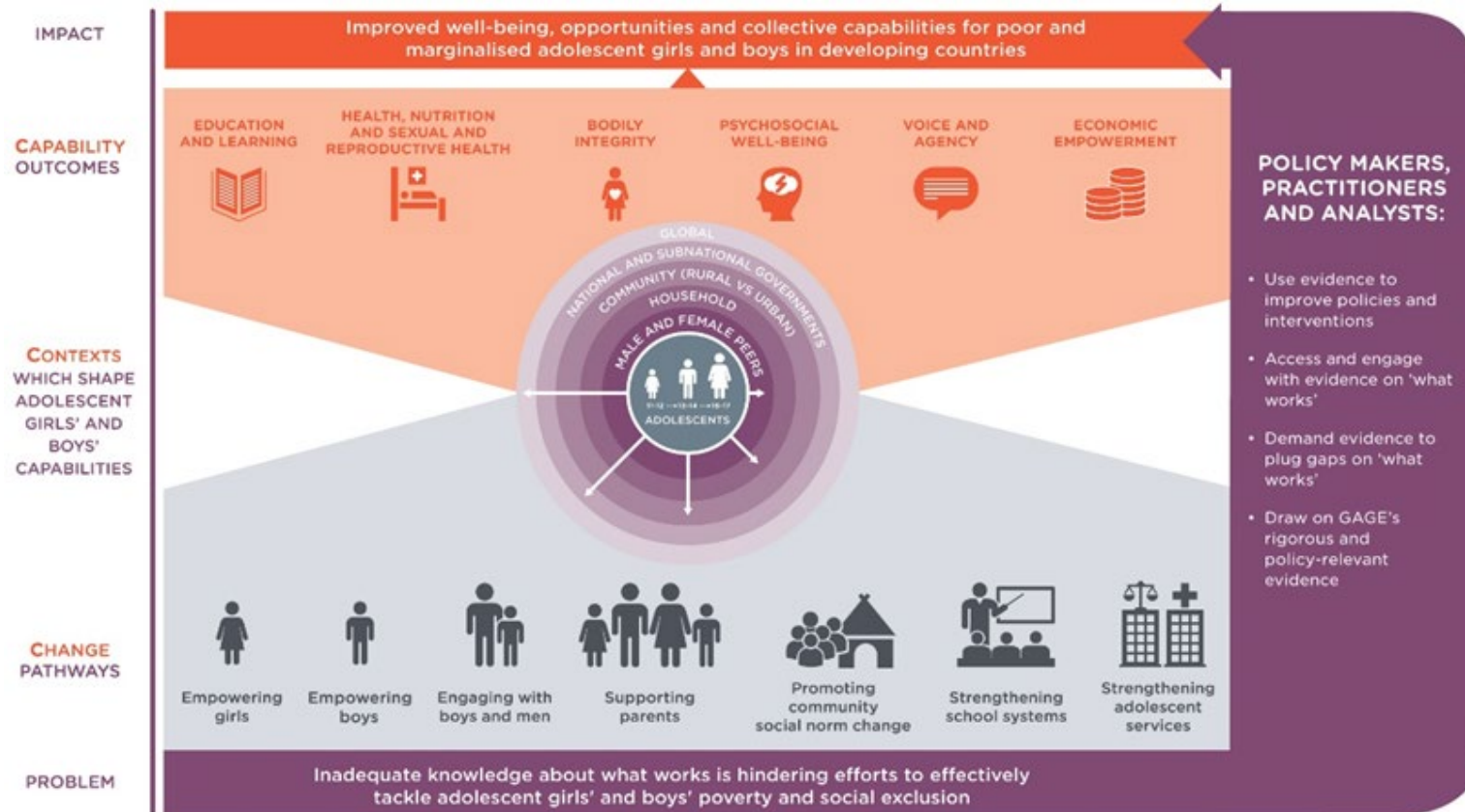
Figure 3. Timeline for Evaluation

2017	2018				2019				2020				2021				2022			
Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

COVID-19 SCHOOL CLOSURES

NATIONAL ELECTIONS

CONFLICT IN NORTHERN ETHIOPIA

Baseline survey (adolescents 10-12 years)

Follow-up round 1 (adolescents 12-15 years)

Follow-up round 2 (wave 1) (adolescents 13-16 years)

Follow-up round 2 (wave 2) - EH only (adolescents 13-16 years)

Follow-up round 3 (adolescents 14-17 years)

Follow-up round 2 (wave 2) - SG only (adolescents 14-17 years)

Qualitative baseline

Qualitative Midline 1

AWH systems strengthening + legacy effects of VYA

AWH (EH)

AWH (SG)

South Gondar (SG): Adolescent Groups & Parent Groups

SG: Social Analysis and Action (SAA) Meetings

SG: SAA Meetings

SG: Transfer #1

SG: Transfer #2

EH: SAA Meetings

East Hararghe (EH): Adolescent Groups & Parent Groups

EH: SAA Meetings

EH: Transfer #1

EH: Transfer #2

- ● NATIONAL LEVEL DISRUPTIONS
- ● GAGE Quantitative data collection
- ● GAGE Qualitative data collection
- ● **AWH Programming**

**Figure 4. GAGE conceptual framework**

Note: This figure illustrates the conceptual framework around which the AWH program and GAGE evaluation methodology were designed.

Figure 5. Program Impacts on Adolescent Girls, All Research Sites
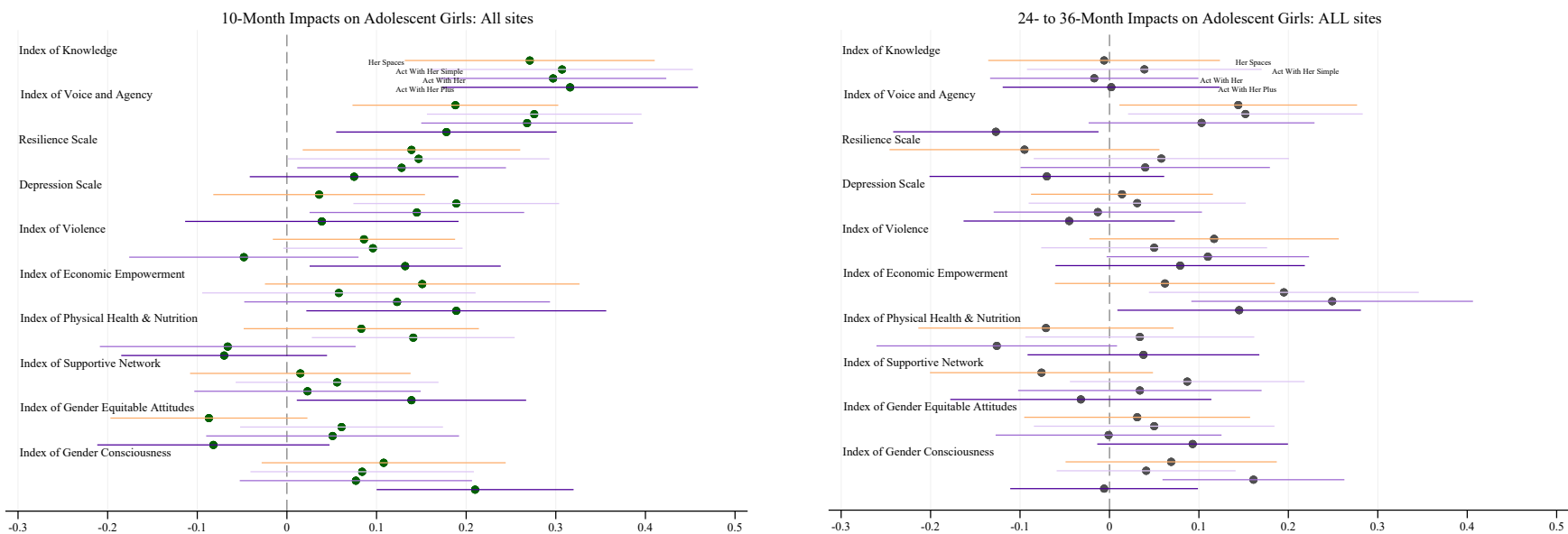
10-Month Impacts on Adolescent Girls: All sites

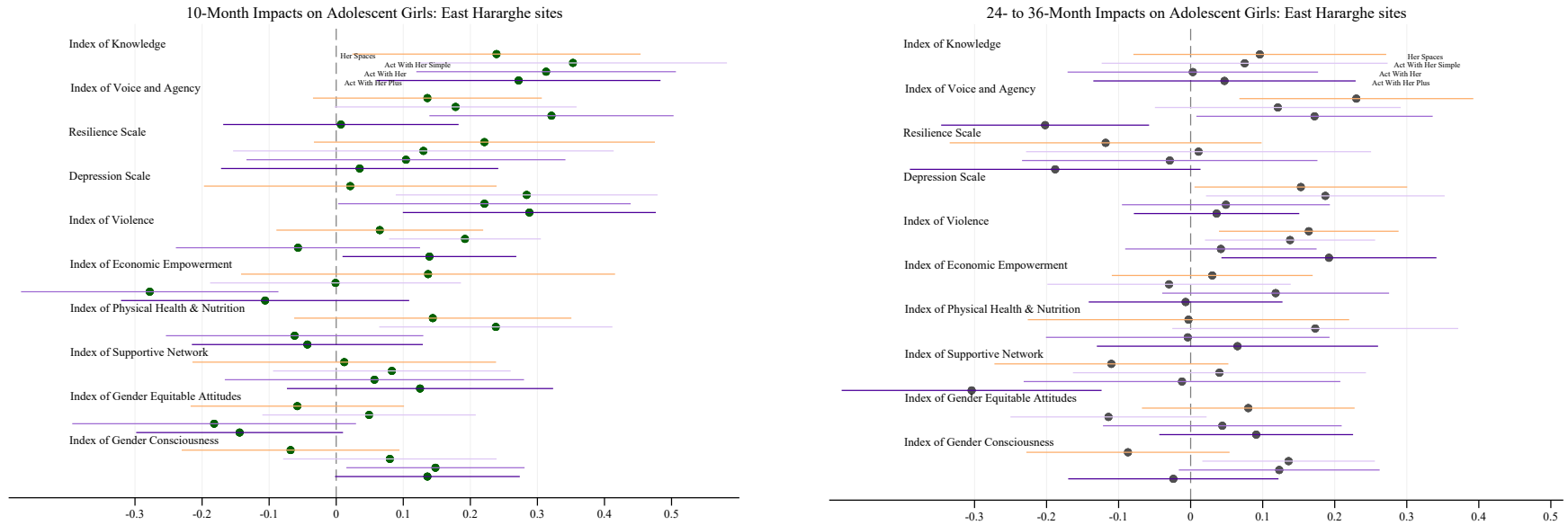24- to 36-Month Impacts on Adolescent Girls: ALL sites

Notes: This figure displays intention to treat (ITT) results from regressions as specified in equation (1), on the full sample of adolescent girls surveyed in the first follow-up survey round (Panel A) and the second follow-up survey round (Panel B). For each outcome measure listed along the left side of the panel, the coefficients (dots) and 90% confidence intervals (lines) for each of the four treatment group indicators are displayed. Outcomes are described in more detail in Appendix B, and each one is standardized within the control group. Regressions are OLS, and include basic and rich controls sets. The basic controls include adolescent age at the time of study recruitment as well as indicators for households with multiple eligible adolescents, sampling block, and survey month. The rich set of controls include household size, a household asset index, and indicators for the household head being literate, the household head being female, and the household ever receiving PSNP benefits (by baseline survey). Missing values for controls are set to the mean value for the sample. Regressions are weighted to maintain initial population proportions, and standard errors are clustered by community (kebele).

Figure 6. Program Impacts on Adolescent Girls, South Gondar Sites
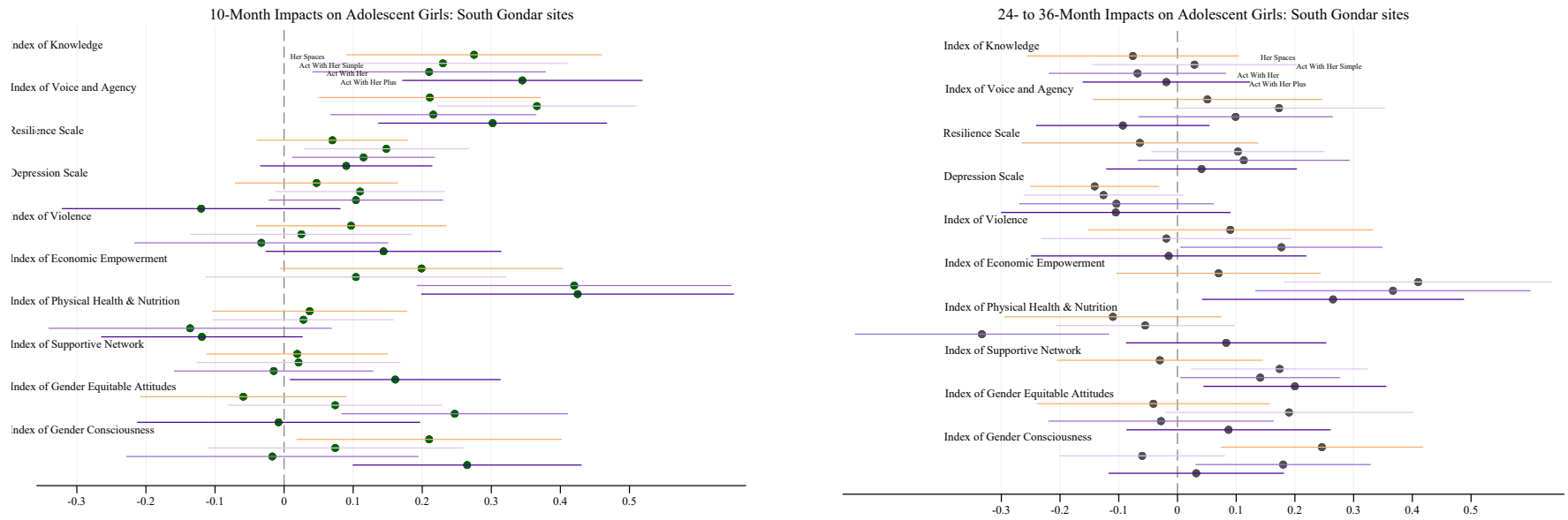
10-Month Impacts on Adolescent Girls: South Gondar sites

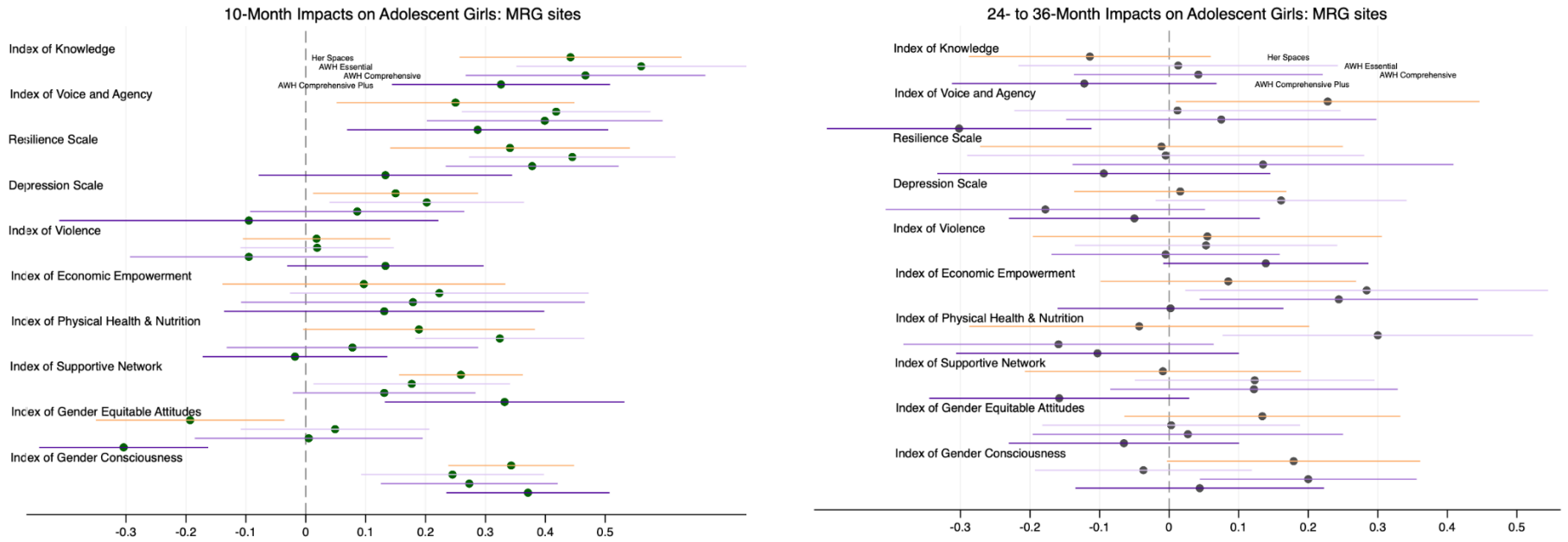24- to 36-Month Impacts on Adolescent Girls: South Gondar sites

Notes: This figure displays intention to treat (ITT) results from regressions as specified in equation (1), on the sample of adolescent girls living in South Gondar at baseline, who were surveyed in the first follow-up survey round (Panel A) and the second follow-up survey round (Panel B). For the remaining details on this figure, see the notes for Figure 5.

Figure 7. Program Impacts on Adolescent Girls, East Hararghe Sites

10-Month Impacts on Adolescent Girls: East Hararghe sites

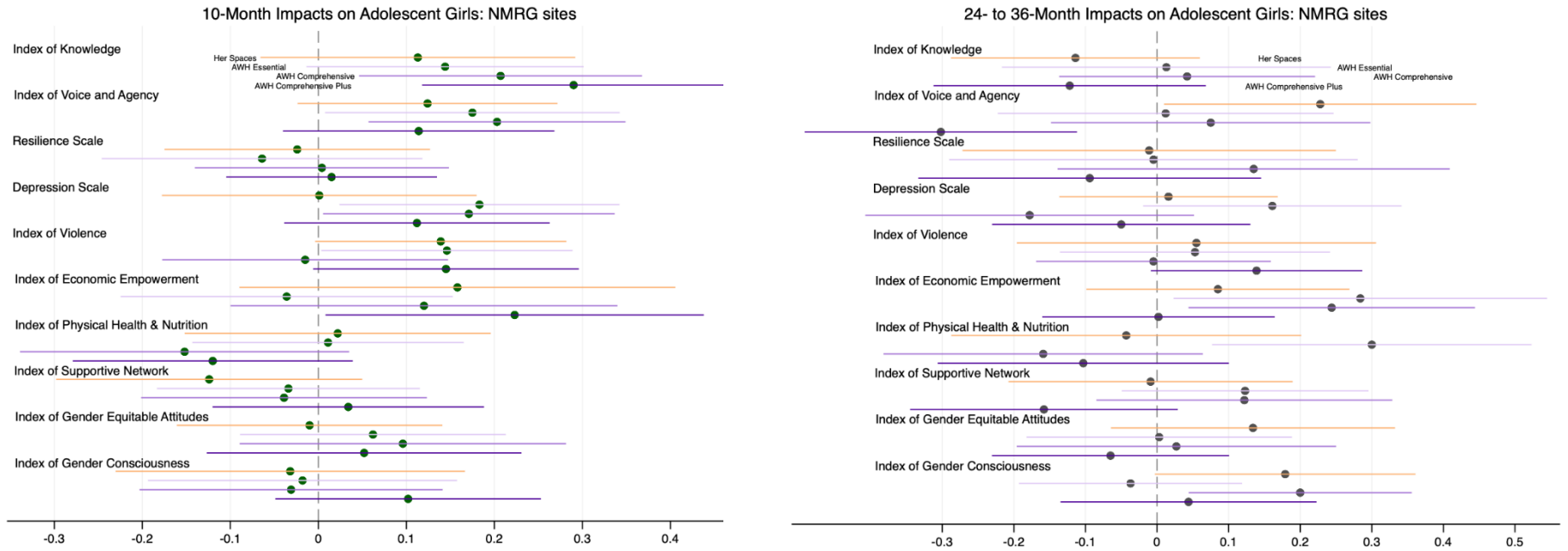24- to 36-Month Impacts on Adolescent Girls: East Hararghe sites

Notes: This figure displays intention to treat (ITT) results from regressions as specified in equation (1), on the sample of adolescent girls living in East Hararghe at baseline, who were surveyed in the first follow-up survey round (Panel A) and the second follow-up survey round (Panel B). For the remaining details on this figure, see the notes for Figure 5.

Figure 8. Program Impacts on Adolescent Girls, Marginalized Sites

Notes: This figure displays intention to treat (ITT) results from regressions as specified in equation (1), on the sample of adolescent girls living in marginalized communities at baseline (across both South Gondar and East Hararghe), who were surveyed in the first follow-up survey round (Panel A) and the second follow-up survey round (Panel B). For the remaining details on this figure, see the notes for Figure 5.

Figure 9. Program Impacts on Adolescent Girls, Non-marginalized Sites

Notes: This figure displays intention to treat (ITT) results from regressions as specified in equation (1), on the sample of adolescent girls living in non-marginalized communities at baseline (across both South Gondar and East Hararghe), who were surveyed in the first follow-up survey round (Panel A) and the second follow-up survey round (Panel B). For the remaining details on this figure, see the notes for Figure 5.

Table 1. Characteristics of Adolescent Girls and Their Households

	South Gondar	East Hararghe
	(1)	(2)
Panel A: Household Characteristics		
Household size	5.795	6.972
	(1.594)	(1.82)
=1 if Household is pastoralist	0.843	0.871
	(0.364)	(0.335)
=1 if Household head is female	0.154	0.117
	(0.352)	(0.295)
=1 if Household head is literate	0.384	0.282
	(0.486)	(0.446)
=1 if Household has improved floors	0.001	0.049
	(0.031)	(0.217)
=1 if Household ever received PSNP	0.296	0.307
	(0.456)	(0.458)
Household Food Insecurity Experience Scale (0-8)	2.988	4.702
	(2.176)	(2.673)
Panel B: Adolescent Characteristics		
=1 if Enrolled in school	0.931	0.789
	(0.254)	(0.408)
Highest Grade Attended (No KG)	3.592	3.887
	(1.643)	(1.91)
=1 if Ever married	0.003	0.001
	(0.053)	(0.031)
=1 if Experienced FGM/C	0.251	0.336
	(0.434)	(0.473)
Panel C: Attitudes of Female Primary Caregiver		
=1 if Agrees "Women should have the same chance to work outside of the home as men."	0.908	0.808
	(0.289)	(0.394)
=1 if Agrees "A man should have the final word on decisions in his home."	0.851	0.901
	(0.356)	(0.298)
=1 if Agrees "Girls and boys should share household tasks equally."	0.890	0.654
	(0.313)	(0.476)
=1 if Agrees "If a family can afford for one child to go to secondary school it should be the boy only."	0.366	0.591
	(0.482)	(0.492)
=1 if Agrees "Girls should be sent to school only if they are not needed to help at home."	0.303	0.413
	(0.46)	(0.493)
=1 if Agrees "A girl's marriage can wait until she has completed secondary schooling."	0.975	0.847
	(0.157)	(0.360)

Notes: This table displays means of household and adolescent characteristics among the full sample of adolescent girls recruited to participate in the GAGE study at the time of the baseline data collection, prior to the launch of any programming, in late 2017 or early 2018.

Table 2. Summary of Estimated Impacts on Adolescent Girl Outcomes

	South Gondar				East Hararghe			
	10-Month Follow-up		24- to 36-Month Follow-up		10-Month Follow-up		24- to 36-Month Follow-up	
	# positive	% significant	# positive	# significant	# positive	# significant	# positive	# significant
Her Spaces	9	3	4	1	8	1	6	3
AWH Essential	10	3	6	1	9	4	8	3
AWH Comprehensive	6	5	6	4	6	4	7	1
AWH Comprehensive+	7	5	7	5	7	3	5	1

Notes: This table displays counts, by residential zone, treatment group assignment, and survey round, the number of positive impacts and the number of statistically significant impacts that we estimate in our primary intention-to-treat analysis (presented in Figures 6-7).