

# Empowering Adolescent Girls through Safe Spaces and Accompanying Measures in Côte d'Ivoire

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## Abstract

This study uses a cluster-randomized controlled trial to investigate the effects of a large-scale women and girls empowerment program on sexual and reproductive health and empowerment outcomes in Côte d'Ivoire. The study assesses and compares the impact of diverse strategies aimed at equipping girls with life skills and sexual and reproductive health knowledge, provided through well-established safe spaces, in isolation or in combination with livelihood support interventions, or with initiatives designed to engage boys and men and community and religious leaders. The

findings show that one year after the end of the interventions, safe spaces alone have a moderate impact on girls' empowerment, while safe spaces combined with husbands' and future husbands' clubs are the most impactful. Combining safe spaces with livelihood support interventions leads to improvements in adolescent girls' employment outcomes, as expected. Finally, the findings show that engaging leaders in the context of safe spaces interventions yields mixed results on girls' empowerment.

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# Empowering Adolescent Girls through Safe Spaces and Accompanying Measures in Côte d'Ivoire\*

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# 1 Introduction

Gender disparities persist globally, with women facing lower levels of human development compared to men across all geographical regions. Developing countries, including many Sub-Saharan African countries, experience an exacerbation of these gender gaps. Côte d’Ivoire, a West African nation, ranks among the countries with the highest gender inequality globally. Ranked 155 out of 170 countries on the Gender Inequality Index in 2021, the country faces challenges such as high fertility rates, early marriage and childbearing, and limited access to quality educational and employment opportunities for women (Institut National de la Statistique and ICF, 2012, 2021; Institut National de la Statistique, 2022; United Nations Development Programme, 2022). These gender inequalities raise significant concerns for poverty reduction and economic development (World Bank, 2011; Dufflo, 2012).

Recognizing adolescence as a critical period to positively impact girls’ and women’s empowerment, and economic development as a whole, various programs have been initiated in low- and middle-income countries. These programs target both married and unmarried adolescent girls, with the objective of improving educational achievements, economic opportunities, sexual and reproductive health (SRH), as well as outcomes related to marriage and pregnancy. However, these approaches have yielded varying levels of effectiveness, leaving a gap in understanding what approaches work to empower adolescent girls and young women in low- and middle-income countries (see Bergstrom and Ozler, 2021; Temin and Heck, 2020; Haberland et al., 2021; Malhotra and Elnakib, 2021; Cohen et al., 2023, for reviews.).

This paper evaluates the impact of interventions implemented under the Sahel Women’s Empowerment and Demographic Dividend (SWEDD) project, a large-scale initiative implemented by the Government of Côte d’Ivoire in collaboration with local and international nongovernmental organizations (NGOs). The project aims to enhance women’s and girls’ empowerment while also improving access to high-quality reproductive, child, and maternal health services. Specifically, the interventions we evaluate target vulnerable out-of-school girls and young women, with the goal of equipping them with life skills, SRH knowledge, as well as knowledge on gender norms and girls’ and women’s rights, provided through *safe spaces* or *girls’ clubs*.<sup>1</sup> A subset of these girls, of legal working age, receives entrepreneurship training and grants to improve their economic prospects. Additionally, another set of interventions targets the broader communities with the goal of creating an enabling environment for girls’ empowerment. These wider community-level interventions involve boys and men through husbands’ and future husbands’ clubs, where boys and men receive a curriculum similar to that offered in safe spaces, as well as community and religious leaders.

The study uses a randomized controlled trial, including 280 rural and urban localities, in

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<sup>1</sup>Safe spaces or girls’ clubs are multi-components interventions or platforms used to provide girls mostly with a space where they can feel safe to interact with their peers and a trusted mentor, and where they often receive various training contents, including life skills and sexual and reproductive health knowledge, financial education, micro loans or grants, etc. Under such programs, additional services such as access to health services and community-level engagement interventions often complement the components targeted to girls only.

the northern part of Côte d’Ivoire.<sup>2</sup> The experimental design allows for the unbundling of the impact of life skills training and SRH knowledge provided through safe spaces from the impact of the other accompanying measures. This is achieved by randomly assigning localities to one of four groups: (i) a safe spaces only group; (ii) a safe spaces combined with interventions to improve girls’ economic opportunities group; (iii) a safe spaces combined with husbands’ and future husbands’ schools group; and (iv) a spillover control group. These groups were further cross-randomized with an intervention to engage community and religious leaders, while 56 localities in the catchment areas of control schools serve as a pure control group.

To measure the impacts of the various combinations of interventions, we collected data from more than 3,000 out-of-school girls and their households both before and after the implementation of the interventions. Following a pre-analysis plan, we explore a comprehensive set of outcomes, including marriage and pregnancy, SRH behavior, income-generating activity and empowerment outcomes such as gender attitudes and decision-making power. Moreover, we investigate the mechanisms that can explain our preliminary findings.

One year after the end of the interventions, we find that providing girls with life skills and SRH knowledge through safe spaces alone has modest impacts on girls’ empowerment outcomes, primarily improving girls’ SRH behavior (significant at the 10% level), girls’ SRH knowledge (significant at the 1% level), gender attitudes (significant at the 5% level), and mental health (significant at the 1% level). However, the intervention alone did not have any significant impact on girls’ employment outcomes, socio-emotional skills, or decision-making and other empowerment outcomes. The comparison with safe spaces combined with additional measures provides additional insights on what works to empower adolescent girls.

When combined with interventions to improve girls’ economic opportunities, safe spaces not only lead to improvement in girls’ SRH knowledge and gender attitudes, but also, as expected, increase girls’ income-generating activities prospects by 0.18 standard deviations. Notably, we find that safe spaces are the most impactful when combined with husbands’ and future husbands’ clubs. This approach yielded positive impacts across multiple indices, including significant improvements in SRH behavior by 0.30 standard deviations, in income-generating activities by 0.29 standard deviations, decision-making on individual matters by 0.20 standard deviations, and decision-making within the household sphere by 0.30 standard deviations.

Our results, however, reveal that engaging community leaders has a mixed impact on girls’ empowerment. When leaders are engaged, the impacts of safe spaces on SRH knowledge is no longer significant, whether the safe spaces are alone or combined with husbands’ clubs or with interventions to improve girls’ economic opportunities. Leaders’ engagement, however, boosts the effects of safe spaces alone and safe spaces combined with husbands’ clubs on girls’ socio-emotional skills, as well as the impact of safe spaces alone on girls’ decision-making in the household sphere. We also note that in localities where both the men and

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<sup>2</sup>These localities are in the catchment areas of 60 schools, selected by the project implementation team to be part of the evaluation of *in-school* safe spaces. The results of this evaluation are not reported in this paper.

the leaders are engaged, adolescent girls are 36% less likely to be pregnant at the time of the survey compared to the control group. These divergent, mixed results may be explained by conflicting messages between the messages promoted by leaders, and the religious leaders more specifically, and the key messages from the core safe spaces curriculum.

This paper enhances the existing body of evidence on initiatives aimed at empowering adolescent girls through three main contributions. Firstly, our study expands the understanding of the impact of safe space interventions on girls' empowerment outcomes. Our findings echo some of the findings of Bandiera et al. (2020), who identified significant improvement in girls' economic and social empowerment (e.g., increase in girls' probability to be engaged in income-generating activity, improvement in girls' control over their body — including in girls' health-related knowledge and having sex against their will) following the implementation of community-based girls' safe spaces in Uganda under the Empowerment and Livelihood for Adolescent Girls (ELA) project.<sup>3</sup> While the multifaceted nature of the ELA project, which delivered both life skills training and vocational skills training simultaneously, made it impossible for the authors to distinguish which component matters the most for girls' economic and social empowerment outcomes, our findings suggest that the life skills training component is less likely to explain the improvement in girls' engagement in income-generating activity and other economic achievements.

Secondly, our research contributes to the growing body of evidence exploring the engagement of men and communities in empowering girls. Recognizing that empowering girls and women and addressing gender inequalities requires the cooperation of men and boys, who often hold more control over household and community resources, many girls' empowerment programs include interventions targeting girls' environment. These interventions are based on the assumption that promoting progressive social norms and attitudes toward early marriage, childbearing, and broader girls' empowerment will reinforce the impact of interventions directly targeted to girls. However, rigorous evaluations of these interventions remain rare, with emerging evidence pointing towards promising results. For instance, Shah et al. (2022) found that engaging boys and young men as partners can effectively shift gender attitudes and mitigate intimate partner violence. Similarly, Andrew et al. (2022) highlight the importance of community engagement alongside girls' groups interventions to reduce school dropout and early marriage in India. Our study corroborates these findings by demonstrating that involving male counterparts and community leaders can indeed influence adolescent girls' empowerment outcomes. However, our results also suggest that the design and implementation of these community-wide interventions are critical, as there is a potential for adverse effects.

Lastly, this paper provides valuable insights into the intricate process of scaling up promising interventions. Bergstrom and Ozler (2021) emphasize the importance of understanding

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<sup>3</sup>A similar ELA program implemented in Sierra Leone was also found to be effective at improving various domains of girls' empowerment (Bandiera et al., 2019). However, results from an evaluation of the program in Tanzania show that the program was not successful at improving girls' empowerment outcomes in this context and suggest that low implementation quality likely led to these results (Buehren et al., 2017).

implementation details and contextual factors when assessing the effectiveness of empowerment programs. Our analysis extends this perspective by offering a nuanced discussion of our results in light of other studies evaluating similar interventions and taking into account differences in implementation details.

The remainder of this paper is organized as follows: section 2 presents the context and the interventions. Section 3 presents the research design and section 4 presents the empirical results. Section 5 discusses the results and concludes.

## 2 Context and Interventions

### 2.1 Background

The SWEDD is a regional project aiming to accelerate the demographic transition by addressing both supply- and demand-side constraints to family planning and reproductive and sexual health. To achieve its objective, the project targets adolescent girls and young women mainly between the ages of 8 and 24, who are vulnerable to early marriage, teenage pregnancy, and early school drop-out. The project is currently implemented in nine countries (Benin, Burkina Faso, Cameroon, Chad, Côte d’Ivoire, Guinea, Mali, Mauritania, and Niger) and expanding in other African countries. The SWEDD is structured into three main components: component 1 seeks to generate demand for reproductive, maternal, neonatal, child health and nutrition products and services; component 2 seeks to improve supply of these products and qualified personnel; and component 3 seeks to strengthen national capacity and policy dialogue. The interventions evaluated in the scope of this study are part of component 1.

To achieve the objective of the project, a set of activities targeting adolescent girls and their communities were designed in collaboration with the government of Côte d’Ivoire. These were (i) safe spaces to empower girls through the provision of life skills and SRH education; (ii) support to income-generating activities (IGA) with the provision of grants and entrepreneurship training; (iii) husbands’ and future husbands’ clubs, providing boys of the community with life skills and SRH education; and finally (iv) community sensitization by religious and village leaders. The latter two have the objective to change restrictive social norms and create an enabling environment for girls’ empowerment. We describe below the four different activities evaluated in this study.

### 2.2 Interventions

#### 2.2.1 Safe Spaces

As part of the safe spaces intervention, out-of-school girls aged 8 to 24 met under the leadership of a trusted female mentor in a safe space where they received various contents. The curriculum included topics related to life skills (self-awareness, self-esteem, stress manage-

ment, peer pressure, decision-making and leadership), sexual and reproductive health (contraceptives, human immunodeficiency virus or HIV, sexually transmitted diseases or STDs, menstrual hygiene), gender norms, gender stereotype, nutrition, gender-based violence, and women and children's rights. The content of the curriculum was adapted to two distinct age groups, younger girls aged 9–12 years, and girls 13 and above. The safe space sessions lasted approximately 2 hours and occurred twice a week for 6 months in a given locality. The implementation of safe spaces across eligible localities spanned over a total of 12 months instead of 18 months because of the COVID-19 restrictions in 2020. Eligible girls participated in the identification of venues for community-based safe spaces, allowing them to ensure a level of security, confidentiality, and privacy. The mentors in charge of facilitating the sessions were women living in the community, selected and trained for 21 days by the implementing NGO, The International Rescue Committee or IRC. All selected mentors were validated by the beneficiaries to ensure that they identify the woman as a role model and to promote a trusting relationship. To the extent possible, the mentors respected the following two criteria : being between 25 and 45 years old and having completed 9th grade. However, since it was challenging to identify women who met the minimum education requirement and were willing to undertake a volunteer job (stipends provided but no salary), the NGO had to select a few mentors who were not literate. This most likely caused quality issues in the delivery of the curriculum in a few safe spaces.

### **2.2.2 Support for Income-Generating Activities (IGA) Intervention**

The goal of the IGA intervention is to strengthen vocational and income-generating capacities to contribute to the socio-economic empowerment of girls. The intervention targeted beneficiaries of safe spaces who were 16 years old or older at the time of the start of the intervention (i.e., 15 years old or older at baseline). It comprised three different components: (i) an entrepreneurship training of 13 hours running over 3 days; (ii) a one-on-one coaching service that gave personalized advice on the creation of a business; and (iii) a lump-sum cash grant provided to individual girls or groups of girls on the basis of a business plan. The curriculum of the entrepreneurship training was composed of a financial and business skills section (entry cost, business plan, management, costs registry) as well as a socio-emotional skills section (self-esteem, listening and empathy, stress management, and problem solving). According to the program monitoring data, the amount of the grant ranged between 25,000 and 1,500,000 CFA francs, with an average amount per girl of 55,900 CFA francs (228 USD purchasing power parity 2019).<sup>4</sup> The high variation in the size of the grant is due to the varying number of business associates (i.e., beneficiaries who associate to work on a business plan) and to the predicted volume of sales of the IGA. The majority of the created IGA were small-scale activities in the food processing sector or in the food and nonfood retail sectors. The IGA intervention, also implemented by the IRC, was delayed due to institutional constraints and the COVID-19 pandemic, which reduced the duration from 12 months initially

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<sup>4</sup>Conversion factor = 245.51. Source: <https://data.worldbank.org/indicator/PA.NUS.PPP?locations=CI>.



planned to only 6 months.

### **2.2.3 Husbands' and Future Husbands' Clubs**

In addition to safe spaces, husbands' and future husbands' clubs, sometimes referred to as husbands' clubs for fluidity, were implemented to involve men and boys as partners in family health and family planning. The objectives of these clubs were to include men in the discussion on gender and sexual and reproductive health, and to accelerate changes in gender norms and attitudes, with expected spillovers to other men in the community. The target audience for the clubs was out-of-school boys and young men of 12–25 years old with a priority given to the men in the close circle of the target adolescent girls, such as husbands, boyfriends, brothers or other family members. These clubs, implemented by the IRC, were holding sessions once a week during approximately 6 months, from August 2019 to February 2020, on topics related to sexual, maternal, neonatal and child health, decision power in the household, gender-based violence (including early marriage and female genital mutilation), communication skills, parentality skills, and anger management. To select the mentors of the clubs, local NGOs recommended men, and consultations followed with community members and leaders. The identified men participated in a 5-day training on the curriculum before being deployed in the clubs.

### **2.2.4 Community and Religious Leaders Intervention**

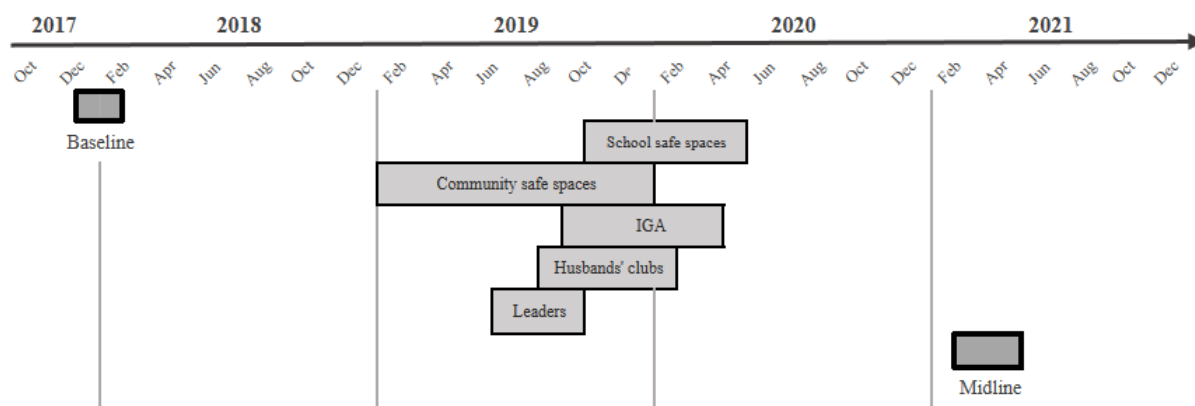
In addition, in half of the villages that received safe spaces, an intervention mobilizing community and religious leaders as well as other influential figures around the topics of gender and family planning was implemented. Leaders were trained on topics related to girls' empowerment (including girls' schooling), gender roles, gender-based violence, birth spacing, and the disadvantages of early pregnancy and early marriage. The influential figures spread the messages via a variety of communication channels: religious leaders conducted sermons during regular services, village chiefs addressed the community through community-wide conversations, and female presidents of women's associations conducted educational talks with parents. Hence, this intervention not only sensitized the leaders but also the entire community through the leaders' communication, with the idea of creating an enabling environment and countering restrictive gender norms. The activities were deployed in the field for a period of 6 months with a frequency of about one session per month for each (sermons, community conversations, and educational talks). The leaders were trained by the local NGO ARSIP.<sup>5</sup> We call this intervention the *Leaders* intervention.

Figure 1 reports the timing of each of these interventions, with regards to the timing of the baseline and midline data collection. Figure 3 in the appendix reports details of each of the intervention.

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<sup>5</sup>Alliance des Religieux pour la Santé Intégrale et la Promotion de la personne humaine.

Figure 1: Timeline of interventions and data collection



Note: IGA = Income-generating activity

## 3 Research Design and Data

### 3.1 Research Design

We conducted a cluster randomized controlled trial, for which there is strong government support, to test different approaches to girls’ empowerment in northern Côte d’Ivoire. Our research design allows one to study both the effects of school-based interventions targeting girls in schools, and the effects of community-based interventions targeted mainly to girls out of schools. This paper focuses on the effects of the community-based interventions.<sup>6</sup>

The study was conducted in 280 localities in the catchment area of 60 middle schools (or *collèges*) eligible for the program in the regions of Poro, Tchologo, Bagoué, Folon, and Kabadougou. These 60 eligible schools were identified, in collaboration with the Ministry of Education and the Program Implementation Unit, out of a total of 83 schools in the five regions of program implementation, and correspond to the schools with the largest populations of girls at the time, to reach the project’s targeted number of beneficiaries. We then selected 280 localities (villages or neighborhoods of urban localities) in the catchment areas of the schools.<sup>7</sup> The random assignment into treatment and control groups was conducted in two stages.

First, the 60 secondary schools were randomized into three groups of equal size: a control group, a group to receive in-school safe spaces, and a group to receive in-school safe spaces and support classes in mathematics and French.<sup>8</sup> The randomization was stratified by the

<sup>6</sup>Results from the analysis of the effects of school safe spaces show no significant impacts of the program on marriage and childbearing, on socio-emotional skills, education attainment, or other key program impacts. Consultations with the program implementation team and monitoring data reveal important issues in the program implementation, including a reduction of the duration of the intervention, and miscommunication between the school administration and the implementing NGO leading to conflicts in scheduling sessions and resulting in low participation in the safe spaces. The results are available upon request.

<sup>7</sup>Using data from the 2014 General Population Census (Recensement Général de la Population et de l’Habitat), we first selected localities with an estimate of at least 50 eligible girls, i.e., out-of-school girls aged 8 to 24. We then restricted the candidates to localities that were close enough to secondary schools that girls residing in these localities could reasonably commute to one of the 60 schools.

<sup>8</sup>Due to delays and other implementation issues, the support classes were not implemented. Both treat-

number of localities around the schools and the number of girls eligible to attend the selected schools.

Second, we randomly assigned the 280 localities selected around the schools into treatment and control groups. The 56 localities around the 20 control group schools (figure 2) were automatically considered as a pure control, i.e., with no intervention taking place either in selected schools or in the localities. The remaining 224 localities mapped to treated schools were randomly assigned to one of the three community-based treatment groups: (i) a group of 56 localities receiving community safe spaces; (ii) a group of 56 localities receiving community safe spaces and support to income-generating activities (IGA) for eligible girls; (iii) a group of 56 localities receiving community safe spaces and husbands' and future husbands' clubs; and (iv) a group of 56 control localities, i.e. without any community-based activities, but in the catchment areas of treated schools to measure potential spillovers from the school-based interventions.<sup>9</sup> This second randomization was stratified by the number of girls sampled from the census and the share of girls married before the age of 18.

Lastly, we cross-randomized the three treatment arms with safe spaces with an intervention engaging community and religious leaders (see figure 2). Thus, our study covers a total of 280 localities randomly assigned as follows:

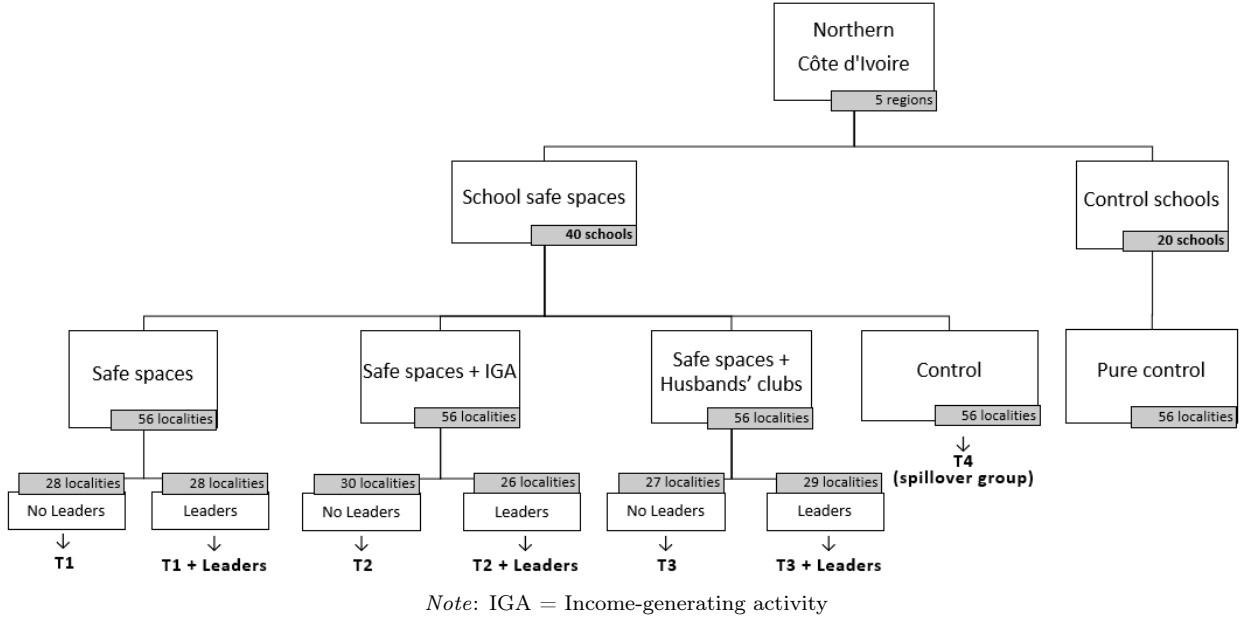
- T1 (safe spaces): 28 localities with community safe spaces, near a secondary school with safe spaces
- T1 + Leaders or T1Leaders: 28 localities with community safe spaces + Leaders intervention, near a secondary school with safe spaces
- T2 (safe spaces + IGA): 26 localities with community safe spaces + IGA, near a secondary school with safe spaces
- T2 + Leaders or T2Leaders: 30 localities with community-based safe spaces + IGA + Leaders intervention, near a secondary school with safe spaces
- T3 (safe spaces + husbands' clubs): 29 localities with community safe spaces + husbands' clubs, near a secondary school with safe spaces
- T3 + Leaders or T3Leaders: 27 localities with community safe spaces + husbands' clubs + Leaders intervention, near a secondary school with safe spaces
- T4 (control—spillover group): 56 localities without community safe spaces, near a secondary school with safe spaces
- Pure control: 56 localities without community safe spaces, without safe spaces in nearby secondary schools

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ment arms were therefore merged into one group of 40 schools receiving in-school safe spaces.

<sup>9</sup>In this paper, we use the pure control group, which did not receive any interventions, as our comparison group. While we do not report the impacts of being in the catchment areas of school safe spaces, i.e., in the control-spillover group (T4), overall, we found no evidence of significant spillover impacts of in-school safe spaces on out-of-school girls. However, we also conducted our analysis using the control-spillover group (T4) instead of the pure control group as the comparison group. We found that a few significant impacts of the interventions observed when using the pure control group as the comparison group tend to fade out, suggesting the possible presence of spillover effects that cannot be robustly detected. This supports our decision to use the pure control group as the comparison group in our estimations. Detailed results are available upon request.

Figure 2: Impact evaluation design



Toward the end of 2017, to select the adolescent girls eligible for the program, we conducted a census with 45,883 households in 280 localities, in collaboration with the Project Implementation Unit. Girls were considered eligible for community safe spaces if they were 8–24 years old and had never been to school or did not go to school during the academic year 2017/2018. Priority criteria were defined to prioritize girls who were orphans, single mothers, or single but currently pregnant. In addition, a vulnerability index was constructed with the census data to select in priority girls who were considered the most at-risk of early marriage and early pregnancies, due to the vulnerability of the household.<sup>10</sup> Following these criteria, we listed all girls eligible for the project, with the aim of reaching the total target of beneficiaries, and of having a number of girls per locality proportional to the population size of the localities. Among this list, we sampled a fourth of the total eligible girls who were aged 12–24 to be part of the impact evaluation sample and be surveyed at baseline.<sup>11</sup> This step-by-step sampling procedure provides a representative sample of eligible girls aged 12 and above in the regions since the sample covers the majority of the schools and villages located in the regions, providing further informative power to the results.

### 3.2 Data

We use two rounds of data collection: first, a baseline survey conducted before the implementation of the interventions between December 2017 and January 2018; and second, a midline

<sup>10</sup>In households with more than one eligible girl, only one beneficiary was selected by lottery, unless the number of eligible girls was less than ten in the locality.

<sup>11</sup>We excluded from the sample adolescent girls aged 8 to 11 following recommendation from the ethics committee, and due to the difficulty of completing some sections of the survey questionnaire at this young age.

survey conducted approximately one year after the end of the interventions, between January and March 2021. The midline survey was done in-person despite the disruption caused by the COVID-19 pandemic, and followed national health guidelines. Two main questionnaires were used: the household questionnaire and the adolescent girl questionnaire. The household questionnaire, completed by the household’s head or their representative, collected data on the household’s living conditions (e.g., nutrition, assets, and shocks) as well as demographics from every household member (e.g., education, marriage, and pregnancy).

The adolescent girl questionnaire collected information on various domains, including marriage and fertility behaviors, aspirations, socio-emotional skills (collected only at midline), mental health (collected only at midline), gender attitudes, gender-based violence (collected only at midline), decision-making in the household, income-generating activities, and access to finance. Gender-based violence (experience of emotional, physical, and sexual violence) is measured using questions adapted from the DHS survey. Girls’ mental health is measured using the GHQ-12 (General Health Questionnaire, 12 items), a tool used to detect common mental disorders.<sup>12</sup> The measures of socio-emotional skills used were developed as part of the Socio-emotional Skills measurement initiative at the Africa Gender Innovation Lab.<sup>13</sup>

At baseline, the total sample size was 3,792 adolescent girls and their respective households. At midline, despite an intensive tracking exercise, only a total of 3,007 adolescents girls were successfully interviewed along with 3,680 of their baseline households. This resulted in an average attrition rate of 20% of the total baseline sample of adolescent girls. Tests for differential attrition are presented in table A1 in the appendix. The attrition rate in the control group is 24%, which is significantly higher than in the T1 + Leaders group (safe spaces only with Leaders engagement), the T2 + Leaders group (safe spaces with support to IGA, with Leaders engagement), and the T3 group (safes spaces with husbands’ clubs), for which the attrition rates are 16%, 15% and 15%, respectively. To examine the robustness of our results to attrition, we use three different bounding approaches, and we also use the inverse probability weighting (IPW) approach to adjust our estimates—results are shown in tables A27 to A33 in the appendix.

### 3.3 Summary Statistics

#### 3.3.1 Baseline Characteristics

Table 1 presents descriptive statistics and balance tests of key socio-demographic characteristics of adolescent girls and main outcome variables at baseline. Looking at the control group averages, girls’ average age is 19 years old, 62% have ever been married, and 63% have ever been pregnant. Consistent with a sample of out-of-school girls, the schooling level is low, with only 23% of girls having attended school. While 66% of control group girls are engaged

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<sup>12</sup>Statements used to construct the gender equality, violence, socio-emotional skills and mental health indices are listed in tables A5 and A6.

<sup>13</sup>For more details, see Delavallade et al. (2020).

in an income-generating activity (IGA), only 18% receive an income from an IGA. Across experimental groups, 58% to 77% of girls already knew about one modern contraceptive at baseline, and 63% to 76% had heard of HIV.

Table 2 presents descriptive statistics and balance tests of key socio-demographic indicators and main outcome variables at the household level. Across treatment groups, 44% to 77% of households live in rural areas. In the control group, around 90% of households are headed by men, and there are approximately 8 individuals per household. Around one-third of household heads are in polygamous unions, and more than two-thirds of them do not have secondary education.

The tables also present the F-test for joint significance of differences between treatment arms. There are some significant imbalances in the likelihood that the adolescent girl has been involved in an IGA at baseline, and in the likelihood that she knows any contraceptive (table 1). At the household level (table 2), there is also an imbalance in the proportion of rural households across treatment groups, with a larger proportion in T2 and T3 + Leaders groups. The estimation strategy outlined in section 3.4 accounts for these imbalances by controlling for the value of these variables at baseline.

### 3.3.2 Compliance

In the appendix, table A2 displays the self-reported participation rate of girls in safe spaces, collected during the midline survey. We find that participation in the program was high, with 47% to 65% of the girls participating in at least one session across treatment groups, thus indicating high demand for the program.<sup>14</sup> We also find very limited contamination of the control group—only 2% of the girls stated that they participated in at least one safe space session. In addition, table A3 displays the main correlates of program participation. Girls living in rural localities are 8.6 percentage points more likely to participate into the program, while having a polygamous household head is associated with a 3.3 percentage point lower participation rate.

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<sup>14</sup>A similar program in Uganda had a substantially lower participation rate of 21% (Bandiera et al., 2020).

Table 1: Adolescent girls' variables at baseline

	Control	T1	T1 + Leaders	T2	T2 + Leaders	T3	T3 + Leaders	T4	F-test
Adolescent's age	18.980 [0.154]	18.808 [0.268]	19.072 [0.176]	19.204 [0.179]	18.730 [0.205]	18.847 [0.211]	18.456 [0.255]	18.934 [0.128]	0.940
Above 18 years old	0.666 [0.020]	0.670 [0.029]	0.705 [0.024]	0.715 [0.020]	0.658 [0.027]	0.646 [0.023]	0.621 [0.033]	0.658 [0.018]	1.481
Above 15 years old	0.866 [0.014]	0.841 [0.032]	0.881 [0.015]	0.890 [0.020]	0.842 [0.023]	0.859 [0.017]	0.829 [0.013]	0.860 [0.012]	1.254
Level of education [0-4]	0.339 [0.039]	0.266 [0.080]	0.317 [0.076]	0.378 [0.124]	0.316 [0.069]	0.359 [0.073]	0.275 [0.064]	0.335 [0.058]	0.273
Ever schooled	0.225 [0.021]	0.157 [0.031]	0.217 [0.031]	0.233 [0.055]	0.195 [0.032]	0.239 [0.040]	0.199 [0.039]	0.217 [0.031]	0.740
Ever pregnant	0.630 [0.019]	0.648 [0.030]	0.621 [0.034]	0.674 [0.034]	0.596 [0.032]	0.615 [0.024]	0.584 [0.037]	0.611 [0.022]	0.827
Ever married	0.618 [0.019]	0.566 [0.040]	0.585 [0.039]	0.629 [0.035]	0.617 [0.030]	0.573 [0.030]	0.544 [0.049]	0.569 [0.035]	1.018
Has IGA	0.659 [0.029]	0.665 [0.044]	0.651 [0.052]	0.707 [0.047]	0.773 [0.057]	0.774 [0.045]	0.809 [0.043]	0.681 [0.038]	2.365**
Remunerated IGA	0.175 [0.022]	0.154 [0.029]	0.140 [0.031]	0.215 [0.034]	0.197 [0.037]	0.176 [0.040]	0.174 [0.030]	0.179 [0.029]	0.491
Made profits	0.298 [0.024]	0.283 [0.061]	0.284 [0.047]	0.331 [0.045]	0.382 [0.051]	0.362 [0.047]	0.383 [0.064]	0.312 [0.025]	0.970
Amount benefits (FCFA)	5514.192 [569.512]	5130.082 [1106.440]	4961.360 [826.857]	5634.141 [870.782]	7614.849 [1142.354]	6646.754 [1053.189]	6139.997 [840.232]	5556.680 [538.890]	1.009

Table 1 continued

	Control	T1	T1+Leaders	T2	T2+Leaders	T3	T3+Leaders	T4	F-test
Knows 1 modern contraception	0.744 [0.034]	0.654 [0.037]	0.767 [0.034]	0.683 [0.072]	0.589 [0.065]	0.632 [0.048]	0.584 [0.066]	0.636 [0.050]	2.307**
Heard of HIV	0.761 [0.038]	0.679 [0.041]	0.748 [0.038]	0.683 [0.057]	0.627 [0.061]	0.651 [0.046]	0.627 [0.069]	0.693 [0.041]	1.366
Decision-making index	14.274 [0.535]	14.297 [0.672]	15.491 [0.574]	14.105 [0.908]	13.706 [0.533]	13.608 [0.596]	13.458 [1.043]	14.486 [0.506]	0.986
Domestic violence attitude index	0.722 [0.031]	0.629 [0.034]	0.601 [0.043]	0.669 [0.053]	0.622 [0.063]	0.651 [0.056]	0.681 [0.058]	0.650 [0.030]	1.457
Self-esteem index	32.266 [0.292]	31.511 [0.254]	32.338 [0.277]	32.086 [0.275]	31.401 [0.293]	32.327 [0.512]	31.799 [0.444]	31.984 [0.263]	1.512
Gender equality index	1.121 [0.080]	0.788 [0.094]	0.873 [0.087]	0.864 [0.111]	0.967 [0.141]	0.829 [0.116]	0.866 [0.138]	0.904 [0.083]	1.133
N	967	364	279	362	306	399	299	816	

*Note:* Standard errors are in brackets. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

This table presents the balance test for key adolescents variables at baseline. F-test is the joint significance of differences of the mean between treatment arms. Level of education [0–4] goes from no education (0) to finishing high school (4), IGA indicates income-generating activities, and HIV human immunodeficiency virus.



Table 2: Household-level variables at baseline

	Control	T1	T1 + Leaders	T2	T2 + Leaders	T3	T3 + Leaders	T4	F-test
Rural	0.476 [0.089]	0.665 [0.118]	0.442 [0.114]	0.680 [0.119]	0.599 [0.111]	0.538 [0.135]	0.772 [0.098]	0.458 [0.089]	2.116**
Household size	8.119 [0.269]	7.547 [0.288]	7.878 [0.406]	8.072 [0.354]	7.688 [0.426]	8.148 [0.457]	8.591 [0.346]	7.713 [0.234]	1.235
Asset Index [0–8]	4.215 [0.069]	4.044 [0.095]	4.050 [0.160]	4.108 [0.095]	4.158 [0.110]	4.191 [0.123]	4.346 [0.151]	4.160 [0.058]	0.675
Head is female	0.102 [0.013]	0.170 [0.034]	0.169 [0.035]	0.075 [0.023]	0.092 [0.018]	0.088 [0.019]	0.097 [0.026]	0.104 [0.016]	1.658
Head is polygamous	0.348 [0.028]	0.363 [0.033]	0.410 [0.038]	0.329 [0.035]	0.405 [0.040]	0.344 [0.039]	0.379 [0.033]	0.346 [0.023]	0.529
Head has no education	0.738 [0.023]	0.797 [0.050]	0.737 [0.036]	0.738 [0.041]	0.740 [0.029]	0.716 [0.033]	0.745 [0.049]	0.707 [0.030]	0.646
At least 1 member in agricultural labor	0.695 [0.070]	0.769 [0.084]	0.763 [0.070]	0.818 [0.058]	0.763 [0.075]	0.681 [0.086]	0.826 [0.057]	0.741 [0.048]	1.606
At least 1 member in nonagricultural labor	0.683 [0.050]	0.560 [0.079]	0.608 [0.064]	0.503 [0.072]	0.615 [0.060]	0.633 [0.072]	0.577 [0.060]	0.675 [0.043]	1.466
N	967	364	279	362	306	399	299	816	

*Note:* Standard errors are in brackets. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

This table presents the balance test for key households variables at baseline. F-test is the joint significance of differences of the mean between treatment arms.

### 3.4 Empirical Strategy

To assess the impacts of the safe spaces intervention and the combination of safe spaces with other accompanying interventions, we estimate intention-to-treat (ITT) effects, considering the original assignment of adolescent girls to offered interventions, regardless of whether they participated or not. We use an ANCOVA specification for our main analysis whenever the baseline value of the outcome variable is available. Our estimated model is as follows:

$$Y_{ij1} = \alpha + \beta_1 T1_{ij} + \beta_2 T1Leaders_{ij} + \beta_3 T2_{ij} + \beta_4 T2Leaders_{ij} + \beta_5 T3_{ij} + \beta_6 T3Leaders_{ij} + \beta_7 T4_{ij} + \delta X_{ij0} + \beta_0 Y_{ij0} + \omega S + \epsilon_{ij} \quad (1)$$

where  $Y_{ijt}$  is the outcome for individual  $i$  in the locality  $j$  at time  $t$ , with  $t = 0$  being the baseline and  $t = 1$  being the midline.  $T1_{ij}$ ,  $T1Leaders_{ij}$ ,  $T2_{ij}$ ,  $T2Leaders_{ij}$ ,  $T3_{ij}$ ,  $T3Leaders_{ij}$ , and  $T4_{ij}$  are binary indicators of the assignment status for each individual, following indicator descriptions in section 3.1.  $X_{ij0}$  is a vector of control variables measured at baseline. These control variables are those that are unbalanced between the control group and the treatment groups, in addition to the age and the education of the adolescent girl. We also include individual dummies  $S$  for randomization strata. The standard errors  $\epsilon_{ij}$  are clustered at the locality level.<sup>15</sup>

We test whether our results are robust to using an alternative specification, where we select control variables included in the above model using a double LASSO procedure following Belloni et al. (2014)—results are shown in tables A15 to A17 in the appendix.

We look at the results of Equation (1) on thirteen pre-specified outcomes classified into three categories: primary, secondary, and mechanisms outcomes.<sup>16</sup> To address the issue of multiple hypothesis testing, and to maximize the power of our statistical tests, we combined multiple variables from the same domains into the thirteen indices, following Anderson (2008). The indices described in table A4 are the following: SRH behavior, IGA, SRH knowledge and attitudes, gender attitudes, aspirations, socio-emotional skills (SES), marriage and pregnancy, violence, decision-making on individual matters, decision-making within the couple, finance, nutrition, and mental health. Each index is weighted following a generalized least squares (GLS) weighting procedure that accounts for the correlation between items included in the index. Each index is also normalized according to the control group mean and standard deviation. We revert the sign of individual items where necessary so that higher scores indicate better outcomes. We also report false discovery rate-adjusted q-values

<sup>15</sup>We do not report results on T4 (school safe spaces spillover group) in this paper for the sake of conciseness and focus on the impacts of the six treatment groups (T1, T2, and T3, with or without the Leaders intervention). Overall, we found no evidence of spillover impacts of in-school safe spaces on out-of-school girls. Results are available upon request.

<sup>16</sup>This study follows to the extent possible the pre-analysis plan for the multi-country random control trial or RCT evaluating the impacts of safe spaces across five countries in the Sahel, with necessary adaptations due to the specificity of the sample in Côte d'Ivoire (e.g., older adolescents than in other countries of the regional study). The pre-analysis plan is available on the 3ie RIDIE registry page : <https://ridie.3ieimpact.org/index.php?r=search/detailView&id=981>.

in tables A18, A19 and A20 in the appendix.

From a policy and programmatic perspective, it is important to investigate whether interventions aiming at changing behaviors and attitudes on childbearing, marriage, SRH, and empowerment impact differently girls that are married compared to girls that are unmarried. We use the following specification to estimate that:

$$Y_{ij1} = \alpha + \beta_0 M_i + \sum_{n=1}^3 (\beta_n Tn_{ij} + \delta_n Tn_{ij} \times M_i + \gamma_n TnLeaders_{ij} + \theta_n TnLeaders_{ij} \times M_i) \quad (2)$$

$$+ \beta_4 T4_{ij} + \beta_5 T4_{ij} \times M_i + \beta_6 X_{ij0} + \beta_7 Y_{ij0} + \omega S + \epsilon_{ij}$$

where  $M_i$  is a dummy variable indicating if the individual  $i$  has ever been married at the baseline.

Arguments could be made in favor of targeting unmarried girls since they could be more likely to be more receptive to such a program as their decisions might not be influenced by their partner or other life choices already made. Another key dimension of heterogeneity is age. Programs including life skills and in general education components, are often considered more effective with young audiences, with the hypothesis that shaping attitudes and behavior is easier at a younger age and learning abilities are more developed. Although both marital status and age were pre-specified dimensions for the heterogeneity analysis, we only focused on examining the heterogeneous impacts by marital status due to the sample composition. This decision was influenced by the fact that only 13% of girls in our sample were under the age of 15 at baseline.

## 4 Results

### 4.1 Impacts on Primary Outcomes

In this section, we analyze the impacts of safe spaces and accompanying interventions on our primary outcomes of interest. Specifically, table 3 reports the treatments effects on the SRH behavior index and the IGA index.<sup>17</sup>

First, our findings indicate that one year after the end of the interventions, safe spaces had significant positive impacts on SRH behavior, regardless of whether they are implemented alone (T1) or combined with IGA support interventions (T2) or with husbands' and future husbands' clubs (T3). As shown in table 3, column (2), girls in T1, T2, and T3 localities respectively have a 0.18 ( $p < 0.1$ ), 0.2 ( $p < 0.05$ ), and 0.3 ( $p < 0.01$ ) standard deviation (sd) increase in the SRH behavior index compared to those in control localities.

The effect of the program on the SRH behavior index in T1, T2 and, T3 remains consistent when using a double LASSO procedure to select the control variable, as shown in appendix

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<sup>17</sup>In addition, tables 4 and 5 show results on the underlying individual outcomes used to build these indices.

table A15. It is worth noting that safe spaces combined with Leaders' engagement (T1 + Leaders) and safe spaces combined with husbands' clubs and Leaders' engagement have also a positive and statistically significant impact.

When we analyze the specific outcomes composing the SRH behavior index, as shown in table 4, we find that safe spaces alone (T1) significantly reduce the probability of having transactional sex (with a 90% reduction compared to the control mean). Moreover, safe spaces combined with IGA support (T2) have a strong positive impact on the use of menstrual hygiene products (with a 47% increase compared to the control mean), while safe spaces combined with IGA support and leaders (T2 + Leaders) or with husbands' clubs (T3) significantly increase the probability of using contraception to reduce pregnancy (respectively with a 34% and 41% increase compared to the control mean). This increase in the use of contraceptives in T3 is also associated with a 3.2 percentage point increase ( $p < 0.05$ ) in the probability of having had sex in the past 12 months.

Our second primary outcome of interest is the IGA index. We find that while safe spaces alone have no impact, they do have significant and substantial impacts on girls' economic opportunities when they are combined with IGA support (T2) or husbands' clubs (T3), regardless of community and religious leader engagement. As shown in table 3, column (3), girls in T2 and T3 localities have a 0.18 to 0.3 sd ( $p < 0.01$  to  $p < 0.05$ ) higher IGA index than girls in control localities. Notably, engaging boys and young men in husbands' clubs is at least as effective as providing direct IGA support for girls to improve their economic prospects (the difference between T2 and T3 is not significant). Furthermore, when examining the effects on the variables composing the IGA index in table 5, it is encouraging to see positive impacts ( $p < 0.05$ ) of safe spaces combined with IGA support on profits, with or without Leaders' engagement (T2 and T2 + Leaders). These impacts are large in magnitude, with a 40% profit increase compared to the control mean. We also observe a significant increase of 15.1 percentage points in the likelihood that girls engage in a non-agricultural IGA in the localities where safe spaces and husbands' clubs were held (T3).

Overall, our findings indicate that the program achieved significant improvements in two key primary outcomes, i.e., SRH behavior and economic participation. We assess the robustness of these findings to two main aspects: multiple hypothesis testing and differential attrition. First, regarding multiple hypothesis testing, in addition to using the indices as described in our empirical strategy, we also report false discovery rate (FDR)-adjusted q-values in tables A18, A19, and A20. While most of our results remain robust to this correction, some coefficients that were significant at the 10% level are no longer significant. These results are also moderately robust to our tests for differential attrition reported in tables A21 to A33 in the appendix. Specifically, our results demonstrate resilience when employing inverse probability weighting (IPW) and when considering various assumptions in the bounding exercise.

Table 3: Impact on primary outcomes

	(1) SRH behavior (15yo+)	(2) IGA
T1 (safe spaces)	0.178* (0.092)	0.051 (0.092)
T1 + Leaders	0.187** (0.094)	0.022 (0.113)
T2 (safe spaces + IGA)	0.200** (0.093)	0.179** (0.090)
T2 + Leaders	0.102 (0.107)	0.240*** (0.089)
T3 (safe spaces + husbands' clubs)	0.303*** (0.108)	0.293*** (0.081)
T3 + Leaders	0.165* (0.095)	0.271** (0.118)
T1 = T1 + L	.926	.819
T2 = T2 + L	.398	.55
T3 = T3 + L	.246	.862
T1 = T2	.829	.235
T2 = T3	.38	.255
T1 = T3	.304	.0189
T1 + L = T2 + L	.479	.0844
T2 + L = T3 + L	.597	.814
T1 + L = T3 + L	.84	.102
N	2,935	3,003
Control mean	0	0

*Note:* \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , standard errors in parentheses clustered at the locality level. IGA = income-generating activity; SRH = sexual and reproductive health; yo = years old. The table presents estimated impacts of our 6 interventions' combinations relative to the pure control group. The p-values of the difference tests between the treatments are in the second part of the table. All regressions control for the baseline value of the outcome variable, stratification fixed effects, and the following baseline variables: adolescent girl's age, education level, an indicator for being engaged in an IGA, knowledge of modern contraception, household is rural, household head is female, and at least one household member has an agricultural activity. When the baseline value of the outcome variable is missing, it is imputed and a dummy indicating whether the variable is imputed or not is added as control.

Table 4: Impact on SRH behavior (15+)

	Had transactional sex	Had sex last 12m	Used condom last intercourse	Uses contraception to delay pregnancy	Uses modern MH products
T1 (safe spaces)	-0.026** (0.011)	0.018 (0.016)	-0.004 (0.029)	0.041 (0.037)	0.059 (0.058)
T1 + Leaders	-0.010 (0.015)	0.007 (0.026)	-0.013 (0.029)	0.039 (0.037)	0.094 (0.058)
T2 (safe spaces + IGA)	0.010 (0.017)	-0.015 (0.019)	0.028 (0.025)	-0.016 (0.029)	0.202*** (0.053)
T2 + Leaders	0.036 (0.027)	-0.029 (0.021)	0.044 (0.037)	0.053** (0.026)	0.134*** (0.047)
T3 (safe spaces + husbands' clubs)	-0.006 (0.015)	0.032** (0.016)	0.040 (0.036)	0.064* (0.037)	0.159*** (0.055)
T3 + Leaders	-0.005 (0.014)	0.002 (0.022)	0.043* (0.025)	0.036 (0.034)	0.050 (0.064)
T1 = T1 + L	.13	.69	.797	.954	.611
T2 = T2 + L	.34	.569	.688	.0293	.226
T3 = T3 + L	.938	.203	.955	.536	.134
T1 = T2	.0153	.133	.305	.166	.0316
T2 = T3	.393	.0212	.741	.0461	.49
T1 = T3	.122	.449	.26	.636	.139
T1 + L = T2 + L	.073	.225	.185	.71	.522
T2 + L = T3 + L	.105	.249	.975	.643	.207
T1 + L = T3 + L	.728	.866	.0821	.946	.561
N	2,200	2,327	2,138	2,706	2,871
Control mean	.03	.923	.093	.155	.43

19

*Note:* \*\*\* p<0.01, \*\* p<0.05, \* p<0.1, standard errors in parentheses clustered at the locality level. IGA = income-generating activity; MH = menstrual hygiene; SRH = sexual and reproductive health; yo = years old. The table presents estimated impacts of our 6 interventions' combinations relative to the pure control group. The p-values of the difference tests between the treatments are in the second part of the table. All regressions control for the baseline value of the outcome variable, stratification fixed effects, and the following baseline variables: adolescent girl's age, education level, an indicator for being engaged in an IGA, knowledge of modern contraception, household is rural, household head is female, and at least one household member has an agricultural activity. When the baseline value of the outcome variable is missing, it is imputed and a dummy indicating whether the variable is imputed or not is added as control.

Table 5: Impact on IGA

	Worked at IGA (6 months)	Made any Profits	Profits (IHS)	Worked in Non-Ag IGA (6 months)	Number of IGAs	Number of Own Initiative IGAs
T1 (safe spaces)	0.093* (0.053)	0.014 (0.056)	0.126 (0.546)	-0.036 (0.038)	0.137* (0.079)	0.013 (0.055)
T1 + Leaders	0.044 (0.064)	0.041 (0.048)	0.347 (0.459)	-0.017 (0.047)	0.105 (0.100)	-0.016 (0.059)
T2 (safe spaces + IGA)	0.096* (0.056)	0.109** (0.053)	1.086** (0.527)	0.013 (0.039)	0.230** (0.098)	0.144** (0.057)
T2 + Leaders	0.105* (0.053)	0.113*** (0.042)	1.038** (0.418)	0.034 (0.044)	0.229** (0.094)	0.156*** (0.055)
T3 (safe spaces + husbands' clubs)	0.139*** (0.049)	0.041 (0.043)	0.406 (0.443)	0.151*** (0.049)	0.210** (0.084)	0.198*** (0.065)
T3 + Leaders	0.189*** (0.061)	0.085 (0.057)	0.858 (0.570)	0.050 (0.050)	0.257*** (0.081)	0.178** (0.070)
T1 = T1 + L	.468	.69	.739	.718	.758	.654
T2 = T2 + L	.881	.951	.938	.684	.996	.846
T3 = T3 + L	.421	.51	.509	.124	.623	.811
T1 = T2	.964	.19	.178	.308	.38	.0562
T2 = T3	.444	.285	.289	.0178	.856	.447
T1 = T3	.419	.674	.661	.00129	.448	.0177
T1 + L = T2 + L	.393	.225	.222	.387	.296	.0101
T2 + L = T3 + L	.203	.681	.785	.797	.785	.781
T1 + L = T3 + L	.0575	.541	.465	.308	.175	.0164
N	3,003	3,003	3,003	3,003	3,003	3,003
Control mean	.529	.235	2.38	.266	.652	.371

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1, standard errors in parentheses clustered at the locality level. IGA = income-generating activity; IHS = inverse hyperbolic sine; nonag = nonagricultural. The table presents estimated impacts of our 6 interventions' combinations relative to the pure control group. The p-values of the difference tests between the treatments are in the second part of the table. All regressions control for the baseline value of the outcome variable, stratification fixed effects, and the following baseline variables: adolescent girl's age, education level, an indicator for being engaged in an IGA, knowledge of modern contraception, household is rural, household head is female, and at least one household member has an agricultural activity. When the baseline value of the outcome variable is missing, it is imputed and a dummy indicating whether the variable is imputed or not is added as control.

## 4.2 Impacts on Mechanism Outcomes

To better understand the mechanisms leading to the observed impacts on SRH behavior and IGA indices, we study the impact of all treatments on a set of pre-specified mechanism outcomes, or intermediate outcomes. These outcomes include the SRH knowledge index, the gender attitudes index, the aspirations index, and the SES index.

Table 6 presents the estimation results of the impact of all treatments on summary indices for the mechanism outcomes.<sup>18</sup> We find that safe spaces have positive impacts on the SRH knowledge index in all treatment groups, except when community and religious leaders are engaged (i.e., T1, T2, and T3, but not T1 + Leaders, T2 + Leaders, or T3 + Leaders). In these treatment groups, girls have a 0.31 to 0.43 sd ( $p < 0.01$ ) higher SRH knowledge index compared to those in control localities, as reported in table 6, column (1), and girls in T2 have a significantly higher SRH knowledge than girls in T2 + Leaders. Furthermore, girls in these localities (T1, T2 and T3) have a 0.16 to 0.21 sd ( $p < 0.01$  to  $p < 0.05$ ) higher gender attitudes index, as shown in column (2). In communities with safe spaces and husbands' clubs only, a significant positive impact ( $p < 0.01$ ) on gender attitudes remains when engaging leaders (T3 + Leaders). In other treatment arms, T1 and T2, the impact on gender attitudes is no longer significant with leader engagement.

Our findings suggest that the mobilization of community and religious leaders on gender and family planning issues may not have a significant positive impact on SRH knowledge and gender attitudes among safe spaces beneficiaries.

Turning to the aspirations index, we do not find any significant impacts one year after the end of the interventions. If anything, coefficients are negative, but not statistically significant, except from localities that received safe spaces and IGA support (T2) and safe spaces and husbands' clubs with leader engagement (T3 + Leaders). In these localities, we see in table A9 that girls aspire to have 0.3 fewer children than the control group ( $p < 0.05$  and  $p < 0.1$ ).

Additionally, in table 6, column (4), we examine the SES index, which is a key mechanism outcome given the content of the safe spaces curriculum. We find a significant increase in the SES index in all treatment groups except for safe spaces alone (T1). The highest impact is observed in communities with safe spaces and husbands' clubs with leader engagement (T3 + Leaders) with a 0.46 sd increase ( $p < 0.01$ ). This impact is significantly higher than in all other treatment arms, except for T2 + Leaders (safe spaces with IGA support and leader engagement). Community and religious leaders also have a significant marginal impact on SES in localities with safe spaces only, since the SES index is 0.25 sd higher in T1 + Leaders compared to the control group, and significantly different from T1.

## 4.3 Impacts on Secondary Outcomes

In addition to our primary outcomes, we prespecified a range of secondary outcomes: marriage and pregnancy, experience of violence, decision-making, financial inclusion, nutrition, and mental health. Table 7 presents the effects of the different treatment on the summary indices.<sup>19</sup>

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<sup>18</sup>In addition, tables A7 to A10 in the Appendix show results on the underlying individual outcomes used to build these indices.

<sup>19</sup>In addition, Tables A11 to A14 in the Appendix show results on the underlying individual outcomes used to build these indices.



Table 6: Impact on mechanism outcomes

	(1) SRH knowledge (15 yo+)	(2) Gender attitudes	(3) Aspirations	(4) SES
T1 (safe spaces)	0.306*** (0.114)	0.208** (0.092)	-0.159 (0.101)	-0.022 (0.113)
T1 + Leaders	0.147 (0.109)	0.082 (0.105)	-0.198 (0.127)	0.247** (0.113)
T2 (safe spaces + IGA)	0.308*** (0.110)	0.160** (0.076)	0.098 (0.111)	0.248*** (0.090)
T2 + Leaders	0.064 (0.118)	0.071 (0.102)	-0.071 (0.100)	0.301*** (0.099)
T3 (safe spaces + husbands' clubs)	0.427*** (0.098)	0.220*** (0.076)	-0.023 (0.111)	0.191** (0.092)
T3 + Leaders	0.250 (0.155)	0.204*** (0.069)	0.020 (0.126)	0.459*** (0.105)
T1 = T1 + L	.18	.273	.789	.0465
T2 = T2 + L	.0543	.397	.188	.62
T3 = T3 + L	.235	.838	.777	.0199
T1 = T2	.984	.627	.0514	.0273
T2 = T3	.275	.464	.382	.569
T1 = T3	.273	.906	.295	.0838
T1 + L = T2 + L	.5	.933	.376	.667
T2 + L = T3 + L	.255	.192	.519	.188
T1 + L = T3 + L	.524	.254	.168	.0998
N	3,002	3,003	2,991	3,003
Control mean	0	0	0	0

*Note:* \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , standard errors in parentheses clustered at the locality level. IGA = income-generating activity; SES = socio-emotional skills; SRH = sexual and reproductive health; yo = years old. The table presents estimated impacts of our 6 interventions' combinations relative to the pure control group. The p-values of the difference tests between the treatments are in the second part of the table. All regressions control for the baseline value of the outcome variable, stratification fixed effects, and the following baseline variables: adolescent girl's age, education level, an indicator for being engaged in an IGA, knowledge of modern contraception, household is rural, household head is female, and at least one household member has an agricultural activity. When the baseline value of the outcome variable is missing, it is imputed and a dummy indicating whether the variable is imputed or not is added as control.

First, our findings indicate that one year after the end of the interventions, safe spaces alone or combined with accompanying interventions had no significant impact on the marriage and pregnancy index across all treatments as reported in table 7, column (1). However, when examining the effects on the three variables composing the marriage and pregnancy index in table A11, we observe a 4.6 percentage points decrease ( $p < 0.1$ ) in the probability of ever being married and a 3.9 percentage points decrease ( $p < 0.1$ ) in the probability of being pregnant at midline in localities combining safe spaces and husbands' clubs with leaders engagement (T3 + Leaders). This represents a decrease of 36% in the probability of being pregnant at the time of the survey compared to the control group mean.

We also observe a significant 5.5% increase in the probability that the girl was ever pregnant in localities with safe spaces and IGA support combined with the Leaders intervention (T2 + Leaders). This increase in fertility could be driven by an income effect, by which engaging in IGA and making additional income would affect the decision to have a child.

When it comes to the violence index, one year after the end of the intervention, we do not observe any impact of safe spaces (table 7, column (2)). Regarding the finance index, we see a positive impact only in the T2 + Leaders dimensions (localities where with safe spaces and IGA with Leaders interventions), these localities have a 0.15 sd ( $p < 0.1$ ) higher finance index compared to those in the control group.

Regarding decision-making, we computed two indices. The first index relates to decisions on individual matters such as girls' studies, work, use of own earnings, health care, daily activities, and movements in and out of the house. The second index, conditional on being married at both baseline and midline, focuses on decisions related to couples matters, including household expenditures, family planning, as well as decisions related to the woman's mobility and pregnancies. Results on the indices are reported in table 7, columns (3) and (4) respectively. We find that girls in localities with safe spaces combined with the Leaders engagement (T1 + Leaders) and in localities with safe spaces and husbands' clubs, with or without the Leaders engagement (T3 and T3 + Leaders), have a 0.20 to 0.40 sd ( $p < 0.01$  to  $p < 0.05$ ) higher individual decision-making index compared to girls in control localities. These results are similar to those on the decision-making index on couples matters in column (4), with significant and positive increases for girls in T1 + Leaders, T3 and T3 + Leaders localities. It is important to note, however, that while the effect of T3 + Leaders on decision-making concerning couples matters is still substantial and positive (0.41 sd), in the LASSO specification it loses statistical significance, as reported in appendix table A17.

Additionally, it is worth noting that despite the positive impact of safe spaces combined with IGA support (T2) on beneficiaries' income-generating activities, we do not observe an improvement in the decision-making index of girls in T2 localities.

Turning to the effect of the interventions on nutrition, as measured by the adolescent's dietary diversity score, we find some unexpected results. Contrary to our expectations, all combinations of interventions led to a large reduction in girls' nutrition outcomes (column (5)). Notably, the effects are statistically significant for T1, T2, and T3 localities, i.e., in treatment groups without Leaders engagement. This could be explained by an inadvertent disruption of the existing dietary habits and practices by the interventions. Indeed, with the association of a specific group of food for specific needs (e.g., carbs for strength and protein for growth), the safe spaces curriculum may have inadvertently discouraged the consumption of foods traditionally consumed by girls. Furthermore, it is possible that the nutrition information from the curriculum was not adequately communicated. Further research is needed to understand what explains these surprising results.

In terms of mental health, we observe a significant increase in the mental health index for girls in localities with safe spaces alone (T1), safe spaces with IGA support (T2), and safe spaces with husbands' clubs and Leaders engagement (T3 + Leaders). The effect sizes range from 0.27 to 0.28 sd ( $p < 0.01$  to  $p < 0.05$ ), indicating a meaningful impact of the interventions. However, it is important to note that when leaders are engaged but husbands are not, i.e., in T1 + Leaders and T2 + Leaders localities, we do not observe any significant impact on mental health, and impacts are significantly different from those we observe in localities without Leaders engagement.

Taken together, our findings provide strong evidence that the program achieved significant improvements in our two primary outcomes, SRH behavior and economic participation, through changes in SRH knowledge, gender attitudes, and SES. Our secondary outcomes mental health and decision-making (in the individual or couple sphere) also significantly improve across various treatment groups. Notably, when examining different combinations of interventions, we consistently find that safe spaces combined with husbands' clubs (T3) led to the most substantial impact. This conclusion holds true in most cases, regardless of whether leaders are also engaged. However, it is worth noting that the effect of T3 + Leaders on SRH knowledge is an exception as it does not see any significant effect, while T3 led to significant improvements on this outcome. Importantly, these conclusions remain mostly robust and are not invalidated by the results of tests for differential attrition, multiple hypothesis testing, or alternative specifications. Nonetheless, it is worth noting that some significant impacts revealed using our main specifications lose their statistical significance when subjected to more tests.

Table 7: Impact on secondary outcomes

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Marriage and pregnancy	Violence (15 yo+)	Decision-making (individual)	Decision-making (couples)	Finance	Nutrition	Mental health
T1 (safe spaces)	0.004 (0.059)	0.051 (0.090)	0.069 (0.117)	0.111 (0.144)	0.024 (0.117)	-0.403** (0.161)	0.278*** (0.096)
T1 + Leaders	-0.022 (0.071)	-0.029 (0.113)	0.251* (0.135)	0.405*** (0.145)	0.036 (0.096)	-0.239* (0.144)	-0.002 (0.107)
T2 (safe spaces + IGA)	-0.060 (0.058)	-0.015 (0.082)	0.159 (0.128)	0.170 (0.142)	0.090 (0.093)	-0.357** (0.155)	0.268** (0.104)
T2 + Leaders	-0.019 (0.071)	0.085 (0.074)	0.002 (0.115)	0.204 (0.150)	0.147* (0.090)	-0.152 (0.154)	-0.003 (0.112)
T3 (safe spaces + husbands' clubs)	-0.040 (0.055)	0.142 (0.090)	0.199* (0.102)	0.297** (0.126)	-0.039 (0.112)	-0.679*** (0.203)	0.108 (0.134)
T3 + Leaders	0.072 (0.059)	0.019 (0.091)	0.395*** (0.127)	0.407** (0.168)	0.164 (0.111)	-0.048 (0.137)	0.268** (0.114)
T1 = T1 + L	.742	.516	.184	.0626	.929	.389	.0132
T2 = T2 + L	.625	.206	.279	.848	.584	.27	.0309
T3 = T3 + L	.115	.247	.154	.551	.147	.003	.293
T1 = T2	.379	.486	.538	.737	.611	.809	.927
T2 = T3	.782	.105	.771	.431	.306	.154	.256
T1 = T3	.547	.369	.297	.251	.658	.22	.227
T1 + L = T2 + L	.968	.297	.0928	.245	.309	.633	.998
T2 + L = T3 + L	.273	.479	.00697	.292	.894	.551	.0409
T1 + L = T3 + L	.261	.703	.359	.99	.315	.259	.042
N	2,995	2,931	2,919	1,734	3,003	3,003	3,003
Control mean	0	0	0	0	0	0	0

25

*Note:* \*\*\* p<0.01, \*\* p<0.05, \* p<0.1, standard errors in parentheses clustered at the locality level. The table presents estimated impacts of our 6 interventions' combinations relative to the pure control group. IGA = income-generating activity; yo = years old. The p-values of the difference tests between the treatments are in the second part of the table. All regressions control for the baseline value of the outcome variable, stratification fixed effects, and the following baseline variables: adolescent girl's age, education level, an indicator for being engaged in an IGA, knowledge of modern contraception, household is rural, household head is female, and at least one household member has an agricultural activity. When the baseline value of the outcome variable is missing, it is imputed and a dummy indicating whether the variable is imputed or not is added as control.

## 4.4 Heterogeneity with Respect to the Marital Status at Baseline

We examine heterogeneous treatment effects with respect to the marital status of girls at baseline as presented in tables 8, 9 and 10. We define "married" as any girl who reported being in a civil union or unofficial union at the time of the baseline.<sup>20</sup>

In table 8, we find positive impacts on both primary outcomes, SRH behavior and IGA indices, for unmarried girls in localities with safe spaces only (T1), with a significant interaction coefficient for the IGA index only. In all other packages of interventions than safe spaces only, we find no significant difference across the marital dimension for the IGA index. On the contrary, the positive impacts found on the SRH behavior index among girls in the safe spaces and income-generating activities localities (T2) and in the safe spaces and husbands' clubs localities (T3) are driven by the sample of married girls at baseline, with a 0.24 sd increase in T2 (significantly different from the increase for unmarried girls) and 0.30 sd increase in T3 (not significantly different from the increase for unmarried girls).

Turning to table 9, we find that impacts are significantly higher among married girls for the SRH knowledge index both in localities that received safe spaces and income-generating activities (T2) and in localities with safe spaces and husbands' clubs (T3). Impacts are actually not significant for unmarried girls in T2. On the contrary, we find that impacts are significantly higher among unmarried girls for the gender attitudes index in localities with safe spaces and husbands' clubs and Leaders (T3 + Leaders), and for the SES index in the safe spaces and income-generating activities localities (T2). In both cases, impacts are non-significant for married girls. Suggestively, we only find a significant impact of safe spaces with Leaders (T1 + Leaders), and safe spaces with husbands' clubs (T3) on SES for unmarried girls, with the caveat that these impacts are not significantly different from those on married girls. Taken together, these results suggest stronger impacts on attitudes and SES for unmarried girls.

Finally, in table 10, we observe very limited heterogeneity with respect to the marital status on decision-making on individual issues, nutrition, and mental health.<sup>21</sup> We find that married girls have a significantly greater improvement of the violence index (which reflects a lower prevalence of violence) than the unmarried girls in localities with safe spaces and husbands' clubs with the Leader engagement (T3 + Leaders), though the improvement for them is not significantly different from zero.

Given the low proportion of significant differences over the total number of tests performed, we conclude that we find little evidence of heterogeneous impacts between married and unmarried girls at baseline.

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<sup>20</sup>At baseline, between 57% (T3 + Leaders) and 67% (control group) of the nonattrited sample were married and the variable is not statistically different between treatment groups (see Table 1).

<sup>21</sup>We do not report the results for the marriage and pregnancy index since by construction the dummy variable Ever married composing the index is equal to one for the sample of married girls at baseline.

Table 8: Impact on primary outcomes by marital status at baseline

	(1) SRH behavior (15 yo+)	(2) IGA
T1 (safe spaces)	0.204* (0.117)	0.208** (0.101)
T1 x married	-0.056 (0.135)	-0.251** (0.118)
T1 + Leaders	0.248** (0.122)	0.138 (0.133)
T1 + Leaders x married	-0.094 (0.159)	-0.173 (0.152)
T2 (safe spaces + IGA)	0.105 (0.127)	0.182 (0.112)
T2 x married	0.133 (0.122)	0.008 (0.124)
T2 + Leaders	0.039 (0.188)	0.326*** (0.111)
T2 + Leaders x married	0.090 (0.232)	-0.128 (0.097)
T3 (safe spaces + husbands' clubs)	0.286** (0.130)	0.367*** (0.097)
T3 x married	0.016 (0.110)	-0.109 (0.123)
T3 + Leaders	0.218* (0.116)	0.341** (0.160)
T3 + Leaders x married	-0.109 (0.146)	-0.101 (0.183)
T1 + T1 x Mar = 0	.163	.707
(T1 + L) + (T1 + L) x Mar = 0	.203	.796
T2 + T2 x Mar = 0	.0164	.0711
(T2 + L) + (T2 + L) x Mar = 0	.325	.0355
T3 + T3 x Mar = 0	.00706	.0139
(T3 + L) + (T3 + L) x Mar = 0	.352	.0845
N	2,931	2,999
Control mean	0	0

*Note:* \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , standard errors in parentheses clustered at the locality level. IGA = income-generating activity; mar = married; yo = years old. The table presents estimated impacts of our 6 interventions' combinations relative to the pure control group, for the unmarried then the married sample. All regressions control for the baseline value of the outcome variable, stratification fixed effects, and the following baseline variables: adolescent girl's age, education level, an indicator for being engaged in an IGA, knowledge of modern contraception, household is rural, household head is female, and at least one household member has an agricultural activity. When the baseline value of the outcome variable is missing, it is imputed and a dummy indicating whether the variable is imputed or not is added as control.

Table 9: Impact on mechanism outcomes by marital status at baseline

	(1) SRH knowledge (15 yo+)	(2) Gender attitudes	(3) Aspirations	(4) SES
T1 (safe spaces)	0.382*** (0.122)	0.246** (0.122)	-0.173* (0.104)	-0.117 (0.157)
T1 x married	-0.141 (0.136)	-0.064 (0.126)	0.017 (0.159)	0.157 (0.141)
T1 + Leaders	0.191 (0.161)	0.144 (0.136)	-0.147 (0.142)	0.416*** (0.156)
T1 + Leaders x married	-0.070 (0.168)	-0.104 (0.173)	-0.085 (0.138)	-0.283 (0.180)
T2 (safe spaces + IGA)	0.185 (0.156)	0.203* (0.119)	0.072 (0.129)	0.425*** (0.120)
T2 x married	0.182 (0.140)	-0.065 (0.148)	0.033 (0.116)	-0.280** (0.113)
T2 + Leaders	0.048 (0.174)	0.126 (0.137)	0.044 (0.120)	0.361** (0.147)
T2 + Leaders x married	0.028 (0.155)	-0.080 (0.161)	-0.181 (0.136)	-0.096 (0.148)
T3 (safe spaces + husbands' clubs)	0.347*** (0.126)	0.287*** (0.086)	0.034 (0.128)	0.296** (0.144)
T3 x married	0.130 (0.103)	-0.107 (0.093)	-0.097 (0.127)	-0.175 (0.132)
T3 + Leaders	0.288** (0.134)	0.347*** (0.096)	-0.096 (0.134)	0.497*** (0.132)
T3 + Leaders x married	-0.076 (0.203)	-0.245* (0.125)	0.198 (0.125)	-0.067 (0.152)
T1 + T1 x Mar = 0	.082	.0755	.275	.718
(T1 + L) + (T1 + L) x Mar = 0	.311	.761	.109	.318
T2 + T2 x Mar = 0	.00101	.143	.389	.133
(T2 + L) + (T2 + L) x Mar = 0	.512	.705	.243	.0139
T3 + T3 x Mar = 0	3.52e-06	.0481	.611	.184
(T3 + L) + (T3 + L) x Mar = 0	.33	.246	.476	.000904
N	2,998	2,999	2,990	2,999
Control mean	0	0	0	0

*Note:* \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , standard errors in parentheses clustered at the locality level. IGA = income-generating activity; mar = married; yo = years old. The table presents estimated impacts of our 6 interventions' combinations relative to the pure control group, for the unmarried then the married sample. All regressions control for the baseline value of the outcome variable, stratification fixed effects, and the following baseline variables: adolescent girl's age, education level, an indicator for being engaged in an IGA, knowledge of modern contraception, household is rural, household head is female, and at least one household member has an agricultural activity. When the baseline value of the outcome variable is missing, it is imputed and a dummy indicating whether the variable is imputed or not is added as control.

Table 10: Impact on secondary outcomes by marital status at baseline

	(1)	(2)	(3)	(4)	(5)
	Violence (15 yo+)	Decision- making (individual)	Decision- making (couples)	Finance	Nutrition
T1 (safe spaces)	-0.050 (0.102)	-0.028 (0.167)	0.018 (0.144)	-0.412** (0.181)	0.302** (0.124)
T1 x married	0.162 (0.121)	0.151 (0.163)	0.013 (0.147)	0.021 (0.152)	-0.035 (0.125)
T1 + Leaders	0.131 (0.120)	0.153 (0.153)	0.170 (0.120)	-0.161 (0.160)	-0.131 (0.150)
T1 + Leaders x married	-0.261 (0.163)	0.148 (0.182)	-0.210 (0.140)	-0.110 (0.143)	0.218 (0.162)
T2 (safe spaces + IGA)	-0.029 (0.112)	0.206 (0.160)	0.057 (0.093)	-0.344** (0.169)	0.260** (0.128)
T2 x married	0.020 (0.140)	-0.076 (0.144)	0.045 (0.112)	-0.017 (0.159)	0.014 (0.127)
T2 + Leaders	-0.027 (0.111)	0.121 (0.149)	0.030 (0.091)	-0.088 (0.206)	0.011 (0.148)
T2 + Leaders x married	0.168 (0.149)	-0.185 (0.142)	0.185 (0.129)	-0.100 (0.221)	-0.018 (0.161)
T3 (safe spaces + husbands' clubs)	0.090 (0.098)	0.208 (0.130)	0.103 (0.174)	-0.626*** (0.209)	0.097 (0.151)
T3 x married	0.079 (0.120)	-0.019 (0.125)	-0.235 (0.162)	-0.083 (0.127)	0.020 (0.115)
T3 + Leaders	-0.182 (0.130)	0.389** (0.156)	0.215 (0.130)	0.061 (0.154)	0.295* (0.176)
T3 + Leaders x married	0.341** (0.138)	0.003 (0.164)	-0.087 (0.162)	-0.187 (0.147)	-0.042 (0.175)
T1 + T1 x Mar = 0	.299	.312	.813	.0267	.0123
(T1 + L) + (T1 + L) x Mar = 0	.369	.0718	.725	.085	.455
T2 + T2 x Mar = 0	.927	.343	.368	.0407	.0204
(T2 + L) + (T2 + L) x Mar = 0	.147	.599	.065	.285	.954
T3 + T3 x Mar = 0	.128	.0911	.187	.00106	.409
(T3 + L) + (T3 + L) x Mar = 0	.103	.00857	.37	.418	.0256
N	2,927	2,915	2,999	2,999	2,999
Control mean	0	0	0	0	0

*Note:* \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , standard errors in parentheses clustered at the locality level. IGA = income-generating activity; mar = married; yo = years old. The table presents estimated impacts of our 6 interventions' combinations relative to the pure control group, for the unmarried then the married sample. All regressions control for the baseline value of the outcome variable, stratification fixed effects, and the following baseline variables: adolescent girl's age, education level, an indicator for being engaged in an IGA, knowledge of modern contraception, household is rural, household head is female, and at least one household member has an agricultural activity. When the baseline value of the outcome variable is missing, it is imputed and a dummy indicating whether the variable is imputed or not is added as control.



## 5 Discussion

In this paper, we assessed the impacts of safe spaces and accompanying measures targeting out-of-school adolescent girls and young women in Côte d’Ivoire, using a cluster randomized controlled trial design. One year after the end of the interventions, we find that safe spaces are the most impactful when combined with husbands’ and future husbands’ clubs. Interestingly, engaging men in the community has similar impacts as providing an adolescent with entrepreneurship training and a small startup grant on the likelihood that she engages in an IGA. Socio-emotional skills also improved significantly among eligible girls in the villages combining safe spaces with the IGA support intervention or the husband’s clubs. While the engagement of community and religious leaders yields mixed results on girls’ empowerment, the increase in decision-making power and the reduction in pregnancies are the most significant when both the men and the leaders are engaged. This speaks in favor of interventions involving all community members who may hold conservative gender norms in order to address and lessen the adverse effect of a restrictive environment on adolescent girls.

These conclusions are not reached without acknowledging the project’s implementation challenges. These challenges included interruptions due to COVID-19, limited capacity in delivering safe space sessions, a participation rate limited to a maximum of 65%, and limited supervision of messages conveyed by religious leaders, which may have led to conflicting messages—the impacts observed on some outcomes related to SRH knowledge reflect this. Such obstacles to achieving a high-quality implementation are inherent and often encountered in region-wide projects but are nonetheless important to bear in mind when drawing conclusions on the project’s impact.

While further research will explore the longer-term impacts of the intervention,<sup>22</sup> overall findings suggest that bundling safe spaces with livelihood support intervention and engaging the community can have beneficial impacts on girls.

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<sup>22</sup>As of January 2024, a second follow-up survey was ongoing in the study sample and was collecting data three years after the end of the intervention.

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# Appendix

Figure 3: Interventions implementation details

Community safe spaces						
Start and end months (across eligible locations)	Implementing partner	Frequency of sessions	Method of selection of female mentors	Criteria for female mentors	Mentors training duration	Community-level mobilization
Opening: November 2018 (first)–October 2019 (last safe space) Closing: December 2019 (first)–February 2020 (last safe space)	International Rescue Committee	2 hours twice a week for 6 months (96 total hours)	Local NGOs in the area recommended women (if any), and consultations with community members and leaders took place. All selected mentors were validated by the beneficiaries	25–45 years old, minimum of 9th grade completed, living in the community, willing to be a volunteer (no salary, just stipends)	21 days	Before the implementation, mobilization was carried out to the community, the beneficiaries, and the community and religious leaders. During the implementation period, there were mobilization sessions to the community before each activity

Income generating activities support										
Age eligibility	Start and end month (across eligible locations)	Implementing NGO	Duration of intervention	Entrepreneurship training hours	Financial and business skills in the curriculum	Socioemotional skills in the curriculum	Average amount of cash transfer in FCFA per beneficiary	Average amount of cash transfer in USD PPP 2019*	Method of disbursement of the cash transfer	Training of trainers duration
16–24	October 2019–April 2020	International Rescue Committee	6 months	13 hours over 3 days + 2 days to finalize business plan	Entry cost, business plan, management, costs registry	Self-esteem, listening and empathy, stress management, problem solving	55,900 (high variation based on the size and the number of business associates. Min = 27,000; Max = 1,533,000)	228	One-off payment in cash	3 days

Husbands' and future husbands' clubs						
Age eligibility	Start and end month (across eligible locations)	Implementing NGO	Duration of intervention	Frequency of sessions	Method of selection of male mentors	Mentors training duration
12–25	August 2019–February 2020	International Rescue Committee	6 months	One session a week of 3 hours (total ~ 72 hours)	Local NGOs in the area recommended men (if any), and consultations with community members and leaders took place.	5 days

Leaders intervention					
Start and end month (across eligible locations)	Implementing NGO	Duration of interventions	Type of interventions	Frequency	Mobilization activities
July–October 2019	ARSIP (Alliance des Religieux pour la Santé Intégrale et la Promotion de la Personne humaine)	3 months	(i) Sermons by religious leaders during regular services (ii) Educational talks by female leaders with parents of beneficiaries (iii) Communitywide conversation by village chiefs	Once a month	Door-to-door outreach to parents or leaders reluctant to the program

Notes: \*Conversion factor = 245.51. NGO = nongovernmental organization; PPP = purchasing power parity.

Source: <https://data.worldbank.org/indicator/PA.NUS.PPP?locations=CI>

# Attrition and Take-up Tables

Table A1: Attrition

	(1) Attriter midline survey
T1 (Safe spaces)	-0.008 (0.043)
T1 + leaders	-0.079** (0.039)
T2 (safe spaces + IGA)	-0.048 (0.042)
T2 + Leaders	-0.091*** (0.030)
T3 (safe Spaces + husbands' clubs)	-0.088** (0.041)
T3 + Leaders	-0.021 (0.047)
T1 = T1 + L	.154
T2 = T2 + L	.302
T3 = T3 + L	.22
T1 = T2	.447
T2 = T3	.418
T1 = T3	.115
T1 + L = T2 + L	.753
T2 + L = T3 + L	.141
T1 + L = T3 + L	.28
N	3,790
Control mean	.238

*Note:* \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , OLS regression with standard errors in parentheses clustered at the locality level. IGA = income-generating activity; OLS = ordinary least squares. The dependent variable for column (1) is a dummy for attrited individuals at the follow-up survey. The p-values of the difference tests between the treatments are in the second part of the table. This regression controls stratification fixed effects.

Table A2: Attendance per treatment arm (self-reported take-up)

	(1) Attended at least one safe space session
T1 (safe spaces)	0.496 (0.500)
T1 + Leaders	0.474 (0.500)
T2 (safe spaces + IGA)	0.652 (0.477)
T2 + Leaders	0.494 (0.500)
T3 (safe spaces + husbands' clubs)	0.476 (0.500)
T3 + Leaders	0.605 (0.486)
T4 (school safe Spaces)	0.026 (0.159)
Control	0.018 (0.131)
N	2,999

*Note:* Standard deviations in parentheses. IGA = income-generating activity.

Table A3: Determinants of attendance (self-reported take-up)

	(1) Attended at least one safe space session
T1 (safe spaces)	0.456*** (0.065)
T1 + Leaders	0.466*** (0.062)
T2 (safe spaces + IGA)	0.615*** (0.069)
T2 + Leaders	0.479*** (0.054)
T3 (safe spaces + husbands' clubs)	0.449*** (0.074)
T3 + Leaders	0.560*** (0.058)
Rural	0.086** (0.039)
Household size	0.002 (0.002)
Household head is female	-0.029 (0.025)
Household head is polygamous	-0.033** (0.015)
Household head had no formal education	-0.005 (0.017)
Household head is Muslim	-0.014 (0.024)
Adolescent age	0.003 (0.003)
Adolescent has been married/lived with a husband/partner	-0.008 (0.021)
Adolescent has gone to school	0.014 (0.019)
Index decision-making: individual issues (categories 1-6)	-0.000 (0.002)
Ado has been engaged in any IGA (last 30 days)	0.003 (0.019)
T1 = T1 + L	.913
T2 = T2 + L	.12
T3 = T3 + L	.216
T1 = T2	.088
T2 = T3	.0944
T1 = T3	.938
T1 + L = T2 + L	.867
T2 + L = T3 + L	.307
T1 + L = T3 + L	.256
N	2,999
Control mean	.018

*Note:* \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , OLS regression with standard errors in parentheses clustered at the locality level. IGA = income-generating activity; OLS = ordinary least squares. The dependent variable for column (1) is a dummy for attending at least one safe space session. When the baseline value is missing, it is imputed and a dummy indicating whether the variable is imputed or noted is added as control. This regression controls stratification fixed effects.

## Variables and Indices Composition

Table A4: Indices composition

Index	Variables
SRH behavior (15 yo+)	Ever had sex [yes = 1] (15 yo+)
	Had transactional sex in the last 6 months [yes = 1] (15 yo+)
	Was sexually active in the last 12 months [yes = 1] (15 yo+)
	Used a condom in last sexual intercourse [yes = 1] (15 yo+)
	Ever used a contraception to avoid pregnancy [yes = 1] (15 yo+)
IGA	Uses modern products (pads, reusable pads, or tampons) [yes = 1] (ever had period)
	Worked in any IGA (last 6 months) [yes = 1]
	Total profits cash (last 30 days) (IHS)
	Received income from IGA (last 30 days) [yes = 1]
	Number of IGA adolescent has been engaged in (last 6 months)
SRH knowledge & attitude	Number of IGA adolescent took the initiative (last 6 months)
	Worked in a nonagricultural IGA (last 6 months)[yes = 1]
	Knows of at least one modern contraception method [yes = 1]
	Has ever heard of HIV/AIDS [yes = 1] (15 yo+)
	Agrees using a condom can reduce HIV transmission risk [yes = 1] (15 yo+)
Gender attitudes	Attitude index on maternal health care (15 yo+)
	Has already heard of modern menstrual hygiene products [yes = 1]
	Declares at least one advantage of using modern menstrual hygiene products [yes = 1]
	Agrees that it is okay for a girl to attend school when she is on her period [yes = 1]
	Index gender equality (std)
Aspirations	Index gender equality based on conformity to traditional gender role beliefs (std)
	Ideal age for a woman to marry
	Ideal age for a man to marry
	Finds at least one disadvantage in marrying a girl before 18 [yes = 1]
	Expected education for adolescent's female children
SES	Gap between the ideal level of education for her daughter(s) and son(s)
	Adolescent's ideal number of children
	Occupation desired by adolescent is high or intermediate status [yes = 1]
Marriage and pregnancy	Revenue adolescent wishes to make from desired occupation
	Self esteem index
	General efficacy index
	Self-awareness index
	Problem-solving index
	Perseverance index
Violence (15 yo+)	Index on ability to influence others
	Creativity index
	Adolescent ever been married [yes = 1]
Decision-making individual	Adolescent currently pregnant [yes = 1]
	Adolescent ever been pregnant [yes = 1]
	Experienced at least one type of emotional violence [yes = 1]
Decision-making couples (married)	Experienced at least one type of physical violence [yes = 1] (15 yo+)
	Experienced at least one type of sexual violence [yes = 1] (15 yo+)
	Decision-making index on individual issues (std)
Finances	Decision-making index on couples issues (if married at baseline and midline) (std)
	Borrowed money in the last 12 months [yes = 1]
	Amount of money saved by adolescent (IHS)
	Saved money in the last 12 months [yes = 1]
Nutrition	Amount of money loaned by adolescent (IHS)
	Adolescent's dietary diversity dcore [0-1]
Mental health	Overall, adolescent feels happy or very happy [yes = 1]
	Mental health index

*Note:* AIDS = acquired immunodeficiency syndrome; HIV = human immunodeficiency virus; IGA = income-generating activity; IHS = inverse hyperbolic sine; SES = socio-emotional skills; SRH = sexual and reproductive health; std = standard deviation; yo = years old.

Table A5: Statements on gender equality and gender-based violence

Index	Items
Gender equality	<ol style="list-style-type: none"> <li>1. Who should have the highest level of education in the family?</li> <li>2. Who should earn money for the family?</li> <li>3. Who should be responsible for washing, cleaning and cooking?</li> <li>4. If there is no water pump or tap, who should go fetch water?</li> <li>5. Who should be in charge of feeding, and washing the kids?</li> <li>6. Who should be in charge of caring for sick people?</li> <li>7. Who should help the children with their homework?</li> </ol>
Decision-making (individual)	<p>To what extent do you make your own decision when it comes to</p> <ol style="list-style-type: none"> <li>1. The money you earn?</li> <li>2. Your studies?</li> <li>3. Your work?</li> <li>4. Your healthcare?</li> <li>5. The tasks you do in a given day?</li> <li>6. Your whereabouts?</li> </ol>
Decision-making (couples)	<p>To what extent do you make your own decision when it comes to</p> <ol style="list-style-type: none"> <li>1. Family planning?</li> <li>2. Your pregnancies?</li> <li>3. The way the household's money is spent?</li> <li>4. The main household purchases?</li> <li>5. The visits you pay to your family?</li> </ol>
Physical violence	<ol style="list-style-type: none"> <li>1. Has anyone hurt you physically, punched, shoved, slapped, hit you in the last 12 months?</li> <li>2. Has anyone kicked you, dragged you to the ground, tried to strangle you, burned you, threatened you with a knife, or pulled a gun on you in the last 12 months?</li> </ol>
Sexual violence	<ol style="list-style-type: none"> <li>1. Has anyone ever physically forced you to have sex when you didn't want to in the last 12 months?</li> <li>2. Has anyone forced you to do other sexual practices that you didn't want to do in the last 12 months?</li> <li>3. Has anyone touched you in a sexual way, I mean your breasts, your buttocks, or your private parts, without your permission, touching without permission includes pinching, grabbing, rubbing, or fondling against your will, either directly or through your clothing in the last 12 months?</li> </ol>
Emotional violence	<ol style="list-style-type: none"> <li>1. Has anyone said or done something to humiliate you in front of other people in the last 12 months?</li> <li>2. Has anyone threatened to hurt or harm you or anyone close to you in the last 12 months?</li> <li>3. Has anyone insulted or belittled you in the last 12 months?</li> </ol>



Table A6: Statements on socio-emotional skills and on mental health

Index	Items
Problem-solving skills	<ol style="list-style-type: none"> <li>1. When I am faced/confronted with a problem, I can usually find several solutions.</li> <li>2. If I am in trouble, I can usually think of a solution</li> <li>3. I solve most problems if I put in the necessary effort</li> <li>4. Thanks to my skillful and creative thinking, I know how to handle unforeseen situations</li> <li>5. I can always solve difficult problems if I try hard enough</li> <li>6. When I have a decision to make, I take the time to try to predict the positive and negative consequences of each possible option before I act</li> <li>7. When I have a problem to solve, one of the first things I do is get as many facts about the problem as possible</li> <li>8. When I am trying to solve a problem, I think of as many options as possible until I can no longer come up with any more ideas</li> <li>9. I am able to come up with new and different ideas</li> <li>10. I like to think of new ways of doing things</li> <li>11. I come up with new ways to do things</li> <li>12. I am an original thinker</li> <li>13. I plan tasks carefully</li> </ol>
Perseverance skills	<ol style="list-style-type: none"> <li>1. I finish what I begin</li> <li>2. Setbacks do not discourage me</li> <li>3. I am diligent</li> <li>4. If someone is against me, I can find ways to get what I want</li> <li>5. It is easy for me to stick to my aims and achieve my goals</li> <li>6. I am confident that I could deal conveniently with unexpected events</li> </ol>
Self-awareness skills	<ol style="list-style-type: none"> <li>1. My behavior often puzzles me (reverse negatively coded items)</li> <li>2. I understand my own behaviors</li> <li>3. I am aware of my thoughts</li> <li>4. I monitor my thinking to ensure it is accurate</li> <li>5. I analyze my behavior after I make mistakes</li> <li>6. I know the skills I have that other people do not have</li> <li>7. I assess my strengths and weaknesses in new situations</li> <li>8. I criticize my own abilities</li> <li>9. I review how I am thinking when I make a mistake</li> <li>10. I have a clear sense of who I am</li> <li>11. I understand other people's thoughts, feelings, and actions better than my own (reverse negatively coded items)</li> </ol>
Emotional regulation skills	<ol style="list-style-type: none"> <li>1. I can remain calm when I am facing difficulties because I can rely on my abilities to cope</li> </ol>
Ability to influence	<ol style="list-style-type: none"> <li>1. I can communicate my ideas in a way that will convince people to agree with me</li> <li>2. People like to follow my ideas</li> <li>3. When I ask for help, I receive it</li> <li>4. I am good at getting people to help me when I need it</li> <li>5. I am good at examining social situations to determine how to present myself well</li> <li>6. I observe social situations carefully before deciding how to present an idea to others</li> <li>7. I am able to adjust my behavior to make a good impression</li> </ol>
Mental health	<ol style="list-style-type: none"> <li>1. Have you been able to focus on what you are doing ?</li> <li>2. Have you been sleep-deprived because of a problem?</li> <li>3. Have you felt able to make decisions?</li> <li>4. Have you felt stressed?</li> <li>5. Have you lost self-confidence?</li> <li>6. Did you feel that you had a useful role in life?</li> <li>7. Did you feel that you could not overcome difficulties?</li> <li>8. Have you been able to enjoy your normal daily activities?</li> <li>9. Have you been able to cope with your own problems?</li> <li>10. Have you been feeling unhappy and depressed?</li> <li>11. Have you considered yourself as a useless person?</li> <li>12. Have you been reasonably happy, overall?</li> </ol>

## Results on Mechanisms and Secondary Outcomes

Table A7: Impact on SRH knowledge (15+)

	Knows modern contraception method	Heard of HIV	Knows condom reduces HIV risks	Maternal care attitude	Knows modern MH products	Declares advantages of modern MH products	Agrees that girls should attend school on their period
T1 (safe spaces)	0.089** (0.042)	0.079 (0.053)	0.090 (0.056)	0.225*** (0.085)	0.100 (0.061)	0.074 (0.074)	0.056 (0.037)
T1 + Leaders	0.046 (0.042)	0.088* (0.045)	0.060 (0.064)	0.149* (0.088)	0.067 (0.053)	0.097 (0.066)	-0.010 (0.048)
T2 (safe spaces + IGA)	0.061 (0.037)	0.069 (0.043)	0.163*** (0.057)	0.287*** (0.088)	0.157*** (0.049)	0.158*** (0.049)	0.027 (0.034)
T2 + Leaders	0.054 (0.042)	0.082* (0.044)	0.078 (0.053)	0.089 (0.078)	0.035 (0.058)	0.084 (0.052)	-0.048 (0.050)
T3 (safe spaces + husbands' clubs)	0.117*** (0.036)	0.094** (0.044)	0.064 (0.057)	0.239*** (0.082)	0.160*** (0.046)	0.169*** (0.043)	0.095*** (0.032)
T3 + Leaders	0.077* (0.040)	0.054 (0.062)	0.117 (0.074)	0.109 (0.100)	0.051 (0.068)	0.007 (0.074)	0.092** (0.044)
T1 = T1 + L	.356	.879	.679	.393	.623	.782	.222
T2 = T2 + L	.859	.792	.195	.0282	.0469	.158	.158
T3 = T3 + L	.273	.519	.519	.203	.107	.021	.943
T1 = T2	.511	.855	.286	.513	.374	.25	.491
T2 = T3	.115	.598	.161	.609	.96	.805	.0679
T1 = T3	.49	.784	.694	.876	.333	.177	.334
T1 + L = T2 + L	.869	.897	.8	.494	.607	.849	.539
T2 + L = T3 + L	.587	.654	.618	.838	.831	.302	.0206
T1 + L = T3 + L	.479	.592	.513	.711	.824	.295	.0782
N	2,953	2,931	2,094	2,931	2,871	2,871	2,995
Control mean	.831	.785	.529	3.35	.639	.463	.811

*Note:* \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , standard errors in parentheses clustered at the locality level. The table presents estimated impacts of our 6 interventions' combinations relative to the pure control group. The p-values of the difference tests between the treatments are in the second part of the table. All regressions control for the baseline value of the outcome variable, stratification fixed effects, and the following baseline variables: adolescent girl's age, education level, an indicator for being engaged in an IGA, knowledge of modern contraception, household is rural, household head is female, and at least one household member has an agricultural activity. When the baseline value of the outcome variable is missing, it is imputed and a dummy indicating whether the variable is imputed or not is added as control.

Table A8: Impact on gender attitudes

	Gender equality	Gender equality (conformity to roles)	Ideal age for a woman to marry	Ideal age for a man to marry	Gap of ideal age to marry women-men	Expected edu for ado's girls	Gap of ideal edu girls-boys
T1 (safe spaces)	0.269 (0.238)	0.260 (0.246)	-0.054 (0.487)	-0.982 (0.609)	0.697* (0.407)	0.030 (0.085)	0.011 (0.073)
T1 + Leaders	0.006 (0.174)	-0.134 (0.194)	0.487 (0.538)	0.242 (0.664)	-0.168 (0.406)	0.029 (0.066)	0.057 (0.072)
T2 (safe spaces + IGA)	0.045 (0.138)	0.106 (0.162)	0.774** (0.350)	0.574 (0.499)	-0.446 (0.380)	0.018 (0.073)	0.139** (0.060)
T2 + Leaders	0.111 (0.169)	0.146 (0.191)	0.441 (0.353)	-0.169 (0.532)	0.500 (0.392)	-0.072 (0.096)	-0.003 (0.065)
T3 (safe spaces + husbands' clubs)	0.313* (0.174)	0.389** (0.170)	0.365 (0.354)	-0.027 (0.546)	0.108 (0.486)	0.170** (0.071)	-0.026 (0.051)
T3 + Leaders	0.179 (0.194)	0.163 (0.176)	1.353** (0.525)	0.939 (0.640)	0.055 (0.319)	0.150* (0.077)	-0.023 (0.052)
T1 = T1 + L	.291	.135	.363	.0633	.0658	.991	.618
T2 = T2 + L	.689	.844	.279	.0855	.0287	.388	.054
T3 = T3 + L	.536	.236	.0474	.108	.911	.806	.956
T1 = T2	.329	.538	.0527	.00281	.0163	.895	.111
T2 = T3	.112	.112	.195	.176	.272	.0549	.00914
T1 = T3	.863	.618	.325	.0836	.279	.127	.613
T1 + L = T2 + L	.582	.208	.925	.484	.126	.294	.479
T2 + L = T3 + L	.745	.932	.0654	.0583	.251	.037	.76
T1 + L = T3 + L	.416	.155	.184	.329	.586	.119	.283
N	2,990	2,990	2,995	2,995	1,734	2,940	2,973
Control mean	1.03	1.22	18	22.9	-4.91	3.19	-1.04

*Note:* \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , standard errors in parentheses clustered at the locality level. The table presents estimated impacts of our 6 interventions' combinations relative to the pure control group. The p-values of the difference tests between the treatments are in the second part of the table. All regressions control for the baseline value of the outcome variable, stratification fixed effects, and the following baseline variables: adolescent girl's age, education level, an indicator for being engaged in an IGA, knowledge of modern contraception, household is rural, household head is female, and at least one household member has an agricultural activity. When the baseline value of the outcome variable is missing, it is imputed and a dummy indicating whether the variable is imputed or not is added as control.

Table A9: Impact on aspirations

	Desired number children	Occupation desired	
		High or intermediate	Desired remuneration
T1 (safe spaces)	0.124 (0.131)	-0.079 (0.060)	-0.250 (0.387)
T1 + Leaders	-0.139 (0.145)	-0.144* (0.087)	-0.260 (0.186)
T2 (safe spaces + IGA)	-0.317** (0.141)	0.030 (0.047)	-0.097 (0.199)
T2 + Leaders	-0.137 (0.126)	-0.090 (0.061)	-0.040 (0.165)
T3 (safe spaces + husbands' clubs)	-0.220* (0.124)	-0.104 (0.066)	0.202 (0.159)
T3 + Leaders	-0.291* (0.166)	-0.066 (0.082)	-0.200 (0.298)
T1 = T1 + L	.118	.497	.981
T2 = T2 + L	.264	.0645	.792
T3 = T3 + L	.697	.694	.194
T1 = T2	.00916	.104	.717
T2 = T3	.548	.0554	.151
T1 = T3	.0288	.748	.257
T1 + L = T2 + L	.991	.57	.286
T2 + L = T3 + L	.39	.795	.604
T1 + L = T3 + L	.446	.46	.85
N	2,946	2,965	2,993
Control mean	5.51	.812	11.6

*Note:* \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , standard errors in parentheses clustered at the locality level. The table presents estimated impacts of our 6 interventions' combinations relative to the pure control group. The p-values of the difference tests between the treatments are in the second part of the table. All regressions control for the baseline value of the outcome variable, stratification fixed effects, and the following baseline variables: adolescent girl's age, education level, an indicator for being engaged in an IGA, knowledge of modern contraception, household is rural, household head is female, and at least one household member has an agricultural activity. When the baseline value of the outcome variable is missing, it is imputed and a dummy indicating whether the variable is imputed or not is added as control.

Table A10: Impact on SES

	Self-Esteem	General-Efficacy	Self-awareness	Problem solving	Perseverance	Influence	Creativity
T1 (safe spaces)	-0.003 (0.243)	-0.449 (0.583)	0.431 (0.532)	-0.285 (0.857)	-0.253 (0.358)	-0.282 (0.488)	-0.089 (0.280)
T1 + Leaders	0.621** (0.257)	1.477** (0.609)	1.440** (0.587)	1.743** (0.850)	0.729* (0.406)	0.567 (0.416)	0.550* (0.295)
T2 (safe spaces + IGA)	0.697*** (0.230)	1.033* (0.619)	1.290*** (0.476)	1.723** (0.743)	0.374 (0.327)	1.031** (0.429)	0.668*** (0.211)
T2 + Leaders	0.687** (0.300)	2.272*** (0.587)	1.000** (0.492)	2.209*** (0.734)	0.942*** (0.347)	1.277*** (0.489)	0.613** (0.262)
T3 (safe spaces + husbands' clubs)	0.451** (0.220)	0.975* (0.547)	1.020** (0.447)	1.307* (0.770)	0.425 (0.289)	0.689 (0.422)	0.523** (0.230)
T3 + Leaders	1.141*** (0.260)	2.419*** (0.631)	1.869*** (0.479)	3.218*** (0.896)	1.493*** (0.393)	1.498*** (0.438)	1.067*** (0.295)
T1 = T1 + L	.026	.00551	.164	.038	.0403	.0936	.0604
T2 = T2 + L	.974	.0806	.62	.541	.157	.647	.83
T3 = T3 + L	.0122	.037	.138	.047	.01	.097	.0721
T1 = T2	.00998	.0433	.173	.0307	.14	.0177	.00688
T2 = T3	.315	.932	.631	.615	.886	.47	.526
T1 = T3	.0896	.0353	.345	.095	.0861	.0666	.0377
T1 + L = T2 + L	.844	.26	.532	.603	.646	.18	.847
T2 + L = T3 + L	.178	.836	.145	.27	.222	.681	.16
T1 + L = T3 + L	.0833	.213	.528	.152	.126	.0535	.148
N	2,995	2,995	3,003	3,003	3,003	3,003	2,979
Control mean	7.06	16.6	20.3	24.3	11.7	12.3	7.41

*Note:* \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , standard errors in parentheses clustered at the locality level. The table presents estimated impacts of our 6 interventions' combinations relative to the pure control group. The p-values of the difference tests between the treatments are in the second part of the table. All regressions control for the baseline value of the outcome variable, stratification fixed effects, and the following baseline variables: adolescent girl's age, education level, an indicator for being engaged in an IGA, knowledge of modern contraception, household is rural, household head is female, and at least one household member has an agricultural activity. When the baseline value of the outcome variable is missing, it is imputed and a dummy indicating whether the variable is imputed or not is added as control.

Table A11: Impact on marriage and pregnancy

	Currently Pregnant	Ever Pregnant	Ever Married
T1 (safe spaces)	-0.004 (0.018)	0.024 (0.033)	-0.003 (0.039)
T1 + Leaders	-0.001 (0.019)	-0.017 (0.040)	0.018 (0.027)
T2 (safe spaces + IGA)	0.030 (0.027)	0.018 (0.025)	-0.029 (0.026)
T2 + Leaders	-0.010 (0.025)	0.044* (0.025)	-0.014 (0.029)
T3 (safe spaces + husbands' clubs)	-0.001 (0.020)	0.027 (0.029)	0.001 (0.028)
T3 + Leaders	-0.039* (0.020)	-0.007 (0.031)	-0.046* (0.027)
T1 = T1 + L	.92	.355	.59
T2 = T2 + L	.232	.346	.62
T3 = T3 + L	.124	.359	.122
T1 = T2	.254	.862	.518
T2 = T3	.313	.764	.308
T1 = T3	.925	.936	.904
T1 + L = T2 + L	.751	.138	.312
T2 + L = T3 + L	.307	.117	.311
T1 + L = T3 + L	.127	.813	.0326
N	2,846	2,571	2,991
Control mean	.109	.799	.803

*Note:* \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , standard errors in parentheses clustered at the locality level. The table presents estimated impacts of our 6 interventions' combinations relative to the pure control group. The p-values of the difference tests between the treatments are in the second part of the table. All regressions control for the baseline value of the outcome variable, stratification fixed effects, and the following baseline variables: adolescent girl's age, education level, an indicator for being engaged in an IGA, knowledge of modern contraception, household is rural, household head is female, and at least one household member has an agricultural activity. When the baseline value of the outcome variable is missing, it is imputed and a dummy indicating whether the variable is imputed or not is added as control.

Table A12: Impact on finance

	Took a loan	Saved money	Amount loaned	Amount saved
T1 (safe spaces)	-0.014 (0.030)	0.051 (0.063)	0.315 (0.549)	-0.105 (0.305)
T1 + Leaders	-0.032 (0.024)	0.089* (0.052)	0.934** (0.467)	-0.294 (0.266)
T2 (safe spaces + IGA)	-0.025 (0.024)	0.097 (0.066)	1.291* (0.662)	-0.236 (0.253)
T2 + Leaders	-0.021 (0.026)	0.166*** (0.048)	1.583*** (0.427)	-0.186 (0.277)
T3 (safe spaces + husbands' clubs)	-0.040 (0.027)	0.050 (0.064)	0.596 (0.585)	-0.496** (0.247)
T3 + Leaders	0.010 (0.031)	0.133** (0.056)	0.986** (0.462)	0.084 (0.315)
T1 = T1 + L	.567	.575	.318	.573
T2 = T2 + L	.889	.315	.671	.867
T3 = T3 + L	.148	.251	.545	.0833
T1 = T2	.741	.562	.204	.699
T2 = T3	.599	.56	.382	.353
T1 = T3	.447	.989	.689	.237
T1 + L = T2 + L	.692	.176	.216	.73
T2 + L = T3 + L	.363	.593	.255	.441
T1 + L = T3 + L	.203	.495	.927	.278
N	2,995	2,995	2,956	3,003
Control mean	.097	.346	3.22	.988

*Note:* \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , standard errors in parentheses clustered at the locality level. The table presents estimated impacts of our 6 interventions' combinations relative to the pure control group. The p-values of the difference tests between the treatments are in the second part of the table. All regressions control for the baseline value of the outcome variable, stratification fixed effects, and the following baseline variables: adolescent girl's age, education level, an indicator for being engaged in an IGA, knowledge of modern contraception, household is rural, household head is female, and at least one household member has an agricultural activity. When the baseline value of the outcome variable is missing, it is imputed and a dummy indicating whether the variable is imputed or not is added as control.

Table A13: Impact on violence (15+)

	At least one Emotional violence	At least one Physical violence	At least one Sexual violence
T1 (safe spaces)	-0.001 (0.068)	-0.025 (0.016)	0.002 (0.023)
T1 + Leaders	0.028 (0.065)	-0.021 (0.016)	0.020 (0.027)
T2 (safe spaces + IGA)	-0.003 (0.045)	0.007 (0.020)	0.001 (0.019)
T2 + Leaders	-0.032 (0.040)	-0.026* (0.014)	0.003 (0.021)
T3 (safe spaces + husbands' clubs)	-0.046 (0.055)	-0.019 (0.016)	-0.023 (0.017)
T3 + Leaders	0.008 (0.065)	-0.009 (0.017)	-0.004 (0.018)
T1 = T1 + L	.737	.797	.546
T2 = T2 + L	.489	.0734	.947
T3 = T3 + L	.467	.59	.263
T1 = T2	.968	.122	.987
T2 = T3	.466	.199	.18
T1 = T3	.538	.727	.266
T1 + L = T2 + L	.324	.654	.519
T2 + L = T3 + L	.513	.308	.751
T1 + L = T3 + L	.803	.516	.37
N	2,924	2,931	2,931
Control mean	.231	.057	.046

*Note:* \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , standard errors in parentheses clustered at the locality level. The table presents estimated impacts of our 6 interventions' combinations relative to the pure control group. The p-values of the difference tests between the treatments are in the second part of the table. All regressions control for the baseline value of the outcome variable, stratification fixed effects, and the following baseline variables: adolescent girl's age, education level, an indicator for being engaged in an IGA, knowledge of modern contraception, household is rural, household head is female, and at least one household member has an agricultural activity. When the baseline value of the outcome variable is missing, it is imputed and a dummy indicating whether the variable is imputed or not is added as control.



Table A14: Impact on mental health and nutrition

	Feels Happy or very happy	Mental Health Index	Women's Dietary Diversity score (0-1)	Minimum Dietary Diversity (yes=1)
T1 (safe spaces)	0.096*** (0.036)	0.490* (0.287)	-0.059** (0.024)	-0.114** (0.049)
T1 + Leaders	-0.023 (0.043)	0.149 (0.285)	-0.035* (0.020)	-0.066 (0.054)
T2 (safe spaces + IGA)	0.072* (0.037)	0.611** (0.271)	-0.048** (0.023)	-0.130** (0.051)
T2 + Leaders	0.071 (0.047)	-0.490* (0.288)	-0.019 (0.021)	-0.066 (0.058)
T3 (safe spaces + husbands' clubs)	0.042 (0.048)	0.160 (0.305)	-0.090*** (0.026)	-0.246*** (0.082)
T3 + Leaders	0.125*** (0.044)	0.249 (0.301)	0.000 (0.019)	-0.060 (0.053)
T1 = T1 + L	.00947	.283	.388	.451
T2 = T2 + L	.99	.000985	.279	.337
T3 = T3 + L	.135	.809	.00091	.0343
T1 = T2	.536	.718	.679	.785
T2 = T3	.539	.184	.155	.188
T1 = T3	.298	.349	.312	.116
T1 + L = T2 + L	.0883	.06	.515	.993
T2 + L = T3 + L	.308	.0375	.405	.932
T1 + L = T3 + L	.00486	.771	.121	.923
N	3,003	3,003	2,995	3,003
Control mean	.696	13.4	.405	.811

*Note:* \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , standard errors in parentheses clustered at the locality level. The table presents estimated impacts of our 6 interventions' combinations relative to the pure control group. The p-values of the difference tests between the treatments are in the second part of the table. All regressions control for the baseline value of the outcome variable, stratification fixed effects, and the following baseline variables: adolescent girl's age, education level, an indicator for being engaged in an IGA, knowledge of modern contraception, household is rural, household head is female, and at least one household member has an agricultural activity. When the baseline value of the outcome variable is missing, it is imputed and a dummy indicating whether the variable is imputed or not is added as control.

## LASSO Specification Tables

Table A15: Impact on primary outcomes—with double-LASSO selected controls

	(1) SRH behavior (15yo+)	(2) IGA
T1 (safe spaces)	0.218** (0.087)	0.119 (0.104)
T1 + Leaders	0.207** (0.094)	0.062 (0.137)
T2 (safe spaces + IGA)	0.167* (0.091)	0.155* (0.087)
T2 + Leaders	0.085 (0.104)	0.276*** (0.088)
T3 (safe spaces + husbands' clubs)	0.286*** (0.106)	0.333*** (0.083)
T3 + Leaders	0.159 (0.101)	0.251** (0.126)
T1 = T1 + L	.915	.701
T2 = T2 + L	.482	.201
T3 = T3 + L	.302	.523
T1 = T2	.605	.741
T2 = T3	.309	.0518
T1 = T3	.546	.0466
T1 + L = T2 + L	.305	.124
T2 + L = T3 + L	.551	.847
T1 + L = T3 + L	.679	.26
N	2,935	3,003
Control mean	0	0

*Note:* \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , standard errors in parentheses clustered at the locality level. The table presents estimated impacts of our 6 interventions' combinations relative to the pure control group. The p-values of the difference tests between the treatments are in the second part of the table. All regressions control for stratification fixed effects and the double-LASSO-selected variables within a set of baseline values that include the outcome variable at baseline, the adolescent individual characteristics and her household's. When the baseline value is missing, it is imputed and if it is selected by the double-LASSO procedure a dummy indicating whether the variable is imputed or not is added as control.

Table A16: Impact on mechanism outcomes—with double-LASSO selected controls

	(1) SRH knowledge (15 yo+)	(2) Gender attitudes	(3) Aspirations	(4) SES
T1 (safe spaces)	0.265** (0.118)	0.242*** (0.093)	-0.119 (0.101)	-0.011 (0.111)
T1 + Leaders	0.155 (0.104)	0.087 (0.115)	-0.140 (0.123)	0.259** (0.113)
T2 (safe spaces + IGA)	0.257** (0.110)	0.172** (0.077)	0.049 (0.105)	0.226** (0.094)
T2 + Leaders	0.058 (0.119)	0.063 (0.104)	-0.078 (0.092)	0.301*** (0.098)
T3 (safe spaces + husbands' clubs)	0.433*** (0.098)	0.206*** (0.077)	-0.030 (0.113)	0.181** (0.092)
T3 + Leaders	0.176 (0.158)	0.155** (0.077)	0.014 (0.149)	0.443*** (0.108)
T1 = T1 + L	.308	.208	.882	.0433
T2 = T2 + L	.0925	.299	.287	.486
T3 = T3 + L	.0806	.509	.796	.0222
T1 = T2	.947	.448	.179	.0481
T2 = T3	.0697	.649	.557	.659
T1 = T3	.0973	.704	.5	.0981
T1 + L = T2 + L	.388	.857	.647	.733
T2 + L = T3 + L	.465	.378	.555	.235
T1 + L = T3 + L	.891	.549	.381	.162
N	3,002	3,003	2,995	3,003
Control mean	0	0	0	0

*Note:* \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , standard errors in parentheses clustered at the locality level. The table presents estimated impacts of our 6 interventions' combinations relative to the pure control group. The p-values of the difference tests between the treatments are in the second part of the table. All regressions control for stratification fixed effects and the double-LASSO-selected variables within a set of baseline values that include the outcome variable at baseline, the adolescent individual characteristics and her household's. When the baseline value is missing, it is imputed and if it is selected by the double-LASSO procedure a dummy indicating whether the variable is imputed or not is added as control.

Table A17: Impact on secondary outcomes—with double-LASSO selected controls

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Marriage and pregnancy	Violence (15 yo+)	Decision-making (individual)	Decision-making (couples)	Finance	Nutrition	Mental health
T1 (safe spaces)	-0.044 (0.059)	0.057 (0.092)	0.045 (0.118)	0.094 (0.144)	0.007 (0.119)	-0.449*** (0.158)	0.241*** (0.090)
T1 + Leaders	-0.011 (0.069)	-0.040 (0.112)	0.247** (0.117)	0.378*** (0.123)	0.041 (0.103)	-0.226 (0.144)	-0.006 (0.115)
T2 (safe spaces + IGA)	-0.091* (0.055)	-0.014 (0.083)	0.122 (0.122)	0.131 (0.142)	0.067 (0.087)	-0.389** (0.154)	0.243** (0.109)
T2 + Leaders	-0.005 (0.068)	0.082 (0.074)	0.005 (0.117)	0.160 (0.145)	0.161* (0.090)	-0.171 (0.151)	-0.032 (0.114)
T3 (safe spaces + husbands' clubs)	-0.007 (0.053)	0.129 (0.090)	0.207** (0.102)	0.278** (0.130)	-0.019 (0.115)	-0.679*** (0.202)	0.077 (0.133)
T3 + Leaders	0.043 (0.060)	0.028 (0.092)	0.321*** (0.123)	0.276 (0.171)	0.133 (0.122)	-0.094 (0.125)	0.244** (0.108)
T1 = T1 + L	.688	.414	.105	.0399	.803	.22	.032
T2 = T2 + L	.281	.22	.418	.868	.339	.23	.0343
T3 = T3 + L	.481	.326	.393	.992	.308	.00454	.25
T1 = T2	.524	.458	.592	.831	.63	.752	.988
T2 = T3	.212	.131	.528	.365	.481	.2	.254
T1 = T3	.606	.476	.2	.256	.859	.303	.213
T1 + L = T2 + L	.946	.245	.077	.163	.289	.756	.846
T2 + L = T3 + L	.559	.544	.0274	.548	.83	.631	.0319
T1 + L = T3 + L	.52	.575	.595	.544	.515	.389	.0533
N	2,995	2,931	2,919	1,734	3,003	3,003	3,003
Control mean	0	0	0	0	0	0	0

*Note:* \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , standard errors in parentheses clustered at the locality level. The table presents estimated impacts of our 6 interventions' combinations relative to the pure control group. The p-values of the difference tests between the treatments are in the second part of the table. All regressions control for stratification fixed effects and the double-LASSO-selected variables within a set of baseline values that include the outcome variable at baseline, the adolescent individual characteristics and her household's. When the baseline value is missing, it is imputed and if it is selected by the double-LASSO procedure a dummy indicating whether the variable is imputed or not is added as control.

## Multiple Hypothesis Testing—Q-Values

Table A18: Impact on primary outcomes—with false discovery rate adjusted q-values

	(1)	(2)	(3)	(4)	(5)	(6)
	SRH Behavior			IGA		
	Beta	pval	qval	Beta	pval	qval
T1 (safe spaces)	0.178	0.056	0.130	0.051	0.583	0.604
T1 + Leaders	0.187	0.047	0.126	0.022	0.844	0.734
T2 (safe spaces + IGA)	0.200	0.031	0.099	0.179	0.047	0.126
T2+Leaders	0.102	0.341	0.413	0.240	0.007	0.044
T3 (safe spaces + husbands' clubs)	0.303	0.005	0.043	0.293	0.000	0.011
T3 + Leaders	0.165	0.081	0.170	0.271	0.022	0.081

*Note:* The coefficients and the p-values in this table (beta and pval) are obtained from the regressions in table 3 and they denotes the impact of our treatments. The q-values (qval) are False Discovery Rate adjusted p-values and are estimated using the procedure described in Anderson 2008.

50

Table A19: Impact on mechanism outcomes—with false discovery rate adjusted q-values

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Knowledge in SRH			Gender attitudes			Aspirations			SES		
	Beta	pval	qval	Beta	pval	qval	Beta	pval	qval	Beta	pval	qval
T1 (safe spaces)	0.306	0.008	0.045	0.208	0.024	0.085	-0.159	0.117	0.197	-0.022	0.845	0.734
T1 + Leaders	0.147	0.176	0.269	0.082	0.438	0.520	-0.198	0.120	0.198	0.247	0.030	0.099
T2 (safe spaces + IGA)	0.308	0.006	0.043	0.160	0.035	0.104	0.098	0.378	0.453	0.248	0.006	0.044
T2+Leaders	0.064	0.586	0.604	0.071	0.487	0.539	-0.071	0.478	0.539	0.301	0.003	0.041
T3 (safe spaces + husbands' clubs)	0.427	0.000	0.001	0.220	0.004	0.042	-0.023	0.839	0.734	0.191	0.040	0.112
T3 + Leaders	0.250	0.108	0.190	0.204	0.003	0.042	0.020	0.876	0.734	0.459	0.000	0.001

*Note:* The coefficients and the p-values in this table (beta and pval) are obtained from the regressions in table 6 and they denotes the impact of our treatments. The q-values (qval) are False Discovery Rate adjusted p-values and are estimated using the procedure described in Anderson 2008.

Table A20: Impact on secondary outcomes—with false discovery rate adjusted q-values

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
	Marriage and pregnancy			Violence (15 yo+)			Decision-making (indiv)			Decision-making (couples)			Finance			Nutrition			Mental health		
$\hat{\beta}$	Beta	pval	qval	Beta	pval	qval	Beta	pval	qval	Beta	pval	qval	Beta	pval	qval	Beta	pval	qval	Beta	pval	qval
T1 (safe spaces)	0.004	0.942	0.804	0.051	0.572	0.604	0.069	0.559	0.604	0.111	0.441	0.520	0.024	0.837	0.734	-0.403	0.013	0.062	0.278	0.004	0.042
T1 + Leaders	-0.022	0.752	0.712	-0.029	0.802	0.734	0.251	0.063	0.143	0.405	0.006	0.043	0.036	0.710	0.706	-0.239	0.098	0.188	-0.002	0.983	0.804
T2 (safe spaces + IGA)	-0.060	0.309	0.390	-0.015	0.855	0.734	0.159	0.213	0.318	0.170	0.233	0.320	0.090	0.337	0.413	-0.357	0.022	0.081	0.268	0.011	0.054
T2+Leaders	-0.019	0.791	0.734	0.085	0.251	0.335	0.002	0.989	0.804	0.204	0.177	0.269	0.147	0.098	0.188	-0.152	0.326	0.409	-0.003	0.981	0.804
T3 (safe spaces + husbands' clubs)	-0.040	0.465	0.539	0.142	0.115	0.197	0.199	0.051	0.128	0.297	0.019	0.077	-0.039	0.724	0.706	-0.679	0.001	0.022	0.108	0.420	0.516
T3 + Leaders	0.072	0.223	0.318	0.019	0.830	0.734	0.395	0.002	0.039	0.407	0.016	0.071	0.164	0.143	0.223	-0.048	0.725	0.706	0.268	0.019	0.077

*Note:* The coefficients and the p-values in this table (beta and pval) are obtained from the regressions in table 7 and they denotes the impact of our treatments. The q-values (qval) are False Discovery Rate adjusted p-values and are estimated using the procedure described in Anderson 2008.

# Attrition Robustness—Bounds

Table A21: Robustness of impact on SRH behavior index to differential attrition

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Mainspec.	Trimming treated		Imputing control			Imputing with mean				IPW
		Bottom UB	Top LB	95th pc.	75th pc. LB	50th pc.	-0.25 SD LB	-0.10 SD LB	+0.10 SD UB	+0.25 SD UB	
T1 (Safe Spaces)	0.178* (0.092)	0.199** (0.092)	0.129 (0.089)	0.161* (0.092)	0.172* (0.092)	0.175* (0.092)	0.033 (0.072)	0.098 (0.072)	0.185** (0.072)	0.250*** (0.073)	0.181** (0.092)
T1+Leaders	0.187** (0.094)	0.367*** (0.096)	-0.021 (0.082)	0.110 (0.095)	0.171* (0.093)	0.178* (0.092)	0.071 (0.079)	0.133* (0.078)	0.215*** (0.076)	0.277*** (0.075)	0.191** (0.093)
T2 (Safe Spaces + IGA)	0.200** (0.093)	0.377*** (0.072)	0.074 (0.107)	0.154* (0.092)	0.185** (0.091)	0.189** (0.091)	0.055 (0.082)	0.118 (0.079)	0.203*** (0.076)	0.266*** (0.074)	0.199** (0.093)
T2+Leaders	0.102 (0.107)	0.406*** (0.084)	-0.123 (0.106)	0.015 (0.105)	0.068 (0.105)	0.086 (0.105)	-0.021 (0.090)	0.043 (0.089)	0.128 (0.089)	0.192** (0.089)	0.101 (0.108)
T3 (Safe Spaces + Husbands Clubs)	0.303*** (0.108)	0.508*** (0.090)	0.116 (0.107)	0.192* (0.110)	0.261** (0.107)	0.285*** (0.106)	0.203** (0.084)	0.260*** (0.085)	0.337*** (0.088)	0.394*** (0.090)	0.303*** (0.110)
T3+Leaders	0.165* (0.095)	0.231** (0.098)	0.080 (0.091)	0.152 (0.095)	0.161* (0.094)	0.169* (0.094)	0.042 (0.075)	0.108 (0.074)	0.197*** (0.073)	0.263*** (0.073)	0.171* (0.094)
N	2,935	2,927	2,927	2,943	2,943	2,943	3,717	3,717	3,717	3,717	2,935
Control Mean	0	0	0	.017	.006	-.003	.061	.024	-.024	-.061	0

*Note:* \*\*\* p<0.01, \*\* p<0.05, \* p<0.1, standard errors in parentheses clustered at the locality level. Column (1) replicates the main results presented in tables 3, 4 and 5. Columns (2)-(3) present results equivalent to Lee bounds: we re-run the estimations after dropping K observations from the top/bottom of the distribution in the treatment group to calculate the lower/upper bound, where K is the difference between the number of attriters in the treatment groups and the control group. Columns (4)-(6) present similar results, but instead of dropping K observations in the treatment group, we impute the outcomes of K attriters in the control group using the 5th, 25th and 50th percentiles of the observed distribution of the treatment group. Columns (7)-(10) replace the outcomes for attriters in all the treatment groups (including the control group) with the mean minus/plus 0.10/0.25 times the standard deviation of the distribution of the respective treatment group. Column (11) presents the Inverse Probability Weighting estimates.

Table A22: Robustness of impact on IGA index to differential attrition

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Mainspec.	Trimming treated		Imputing control			Imputing with mean				IPW
		Bottom UB	Top LB	95th pc.	75th pc. LB	50th pc.	-0.25 SD LB	-0.10 SD	+0.10 SD	+0.25 SD UB	
T1 (safe spaces)	0.051 (0.092)	0.075 (0.094)	0.008 (0.091)	0.039 (0.092)	0.044 (0.092)	0.050 (0.092)	-0.062 (0.073)	0.004 (0.072)	0.093 (0.071)	0.159** (0.070)	0.058 (0.092)
T1 + Leaders	0.022 (0.113)	0.137 (0.103)	-0.197* (0.103)	-0.045 (0.115)	-0.012 (0.113)	0.023 (0.113)	-0.078 (0.096)	-0.017 (0.095)	0.063 (0.094)	0.124 (0.094)	0.028 (0.113)
T2 (safe spaces + IGA)	0.179** (0.090)	0.263*** (0.091)	0.048 (0.096)	0.129 (0.091)	0.151* (0.090)	0.183** (0.089)	0.057 (0.075)	0.118 (0.074)	0.200*** (0.072)	0.261*** (0.071)	0.176* (0.089)
T2 + Leaders	0.240*** (0.089)	0.395*** (0.088)	0.029 (0.094)	0.162* (0.089)	0.200** (0.088)	0.233*** (0.088)	0.129* (0.069)	0.185*** (0.070)	0.260*** (0.072)	0.316*** (0.074)	0.239*** (0.089)
T3 (safe spaces + husbands' clubs)	0.293*** (0.081)	0.468*** (0.091)	0.089 (0.083)	0.193** (0.082)	0.235*** (0.081)	0.278*** (0.080)	0.193*** (0.065)	0.249*** (0.065)	0.323*** (0.067)	0.379*** (0.068)	0.298*** (0.081)
T3 + Leaders	0.271** (0.118)	0.309*** (0.114)	0.212* (0.114)	0.255** (0.117)	0.263** (0.117)	0.271** (0.118)	0.147 (0.096)	0.213** (0.095)	0.301*** (0.094)	0.367*** (0.094)	0.275** (0.120)
N	3,003	2,995	2,995	3,011	3,011	3,011	3,785	3,785	3,785	3,785	3,003
Control mean	0	0	0	.019	.01	.001	.06	.024	-.024	-.06	0

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1, standard errors in parentheses clustered at the locality level. Column (1) replicates the main results presented in tables 3, 4 and 5. Columns (2)-(3) present results equivalent to Lee bounds: we re-run the estimations after dropping K observations from the top/bottom of the distribution in the treatment group to calculate the lower/upper bound, where K is the difference between the number of attriters in the treatment groups and the control group. Columns (4)-(6) present similar results, but instead of dropping K observations in the treatment group, we impute the outcomes of K attriters in the control group using the 5th, 25th and 50th percentiles of the observed distribution of the treatment group. Columns (7)-(10) replace the outcomes for attriters in all the treatment groups (including the control group) with the mean minus/plus 0.10/0.25 times the standard deviation of the distribution of the respective treatment group. Column (11) presents the Inverse Probability Weighting estimates.



Table A23: Robustness of impact on SRH knowledge index to differential attrition

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Mainspec.	Trimming treated		Imputing control			Imputing with mean				IPW
		Bottom UB	Top LB	95th pc.	75th pc. LB	50th pc.	-0.25 SD LB	-0.10 SD LB	+0.10 SD UB	+0.25 SD UB	
T1 (safe spaces)	0.306*** (0.114)	0.363*** (0.102)	0.283** (0.114)	0.297*** (0.114)	0.297*** (0.114)	0.300*** (0.114)	0.133 (0.088)	0.200** (0.087)	0.290*** (0.087)	0.357*** (0.087)	0.309*** (0.112)
T1 + Leaders	0.147 (0.109)	0.368*** (0.103)	0.044 (0.106)	0.113 (0.105)	0.116 (0.106)	0.130 (0.106)	0.021 (0.087)	0.080 (0.086)	0.159* (0.086)	0.218** (0.087)	0.144 (0.109)
T2 (safe spaces + IGA)	0.308*** (0.110)	0.469*** (0.097)	0.257** (0.110)	0.281** (0.109)	0.281** (0.109)	0.290*** (0.109)	0.170* (0.089)	0.230*** (0.088)	0.311*** (0.086)	0.371*** (0.085)	0.302*** (0.111)
T2 + Leaders	0.064 (0.118)	0.320*** (0.099)	-0.045 (0.121)	0.022 (0.115)	0.032 (0.115)	0.054 (0.115)	-0.059 (0.098)	-0.001 (0.098)	0.077 (0.098)	0.136 (0.099)	0.063 (0.120)
T3 (safe spaces + husbands' clubs)	0.427*** (0.098)	0.597*** (0.104)	0.350*** (0.093)	0.371*** (0.094)	0.371*** (0.094)	0.390*** (0.094)	0.338*** (0.075)	0.389*** (0.076)	0.456*** (0.078)	0.506*** (0.080)	0.420*** (0.099)
T3 + Leaders	0.250 (0.155)	0.349** (0.141)	0.217 (0.154)	0.241 (0.154)	0.241 (0.154)	0.247 (0.154)	0.105 (0.122)	0.172 (0.121)	0.260** (0.120)	0.327*** (0.120)	0.245 (0.151)
N	3,002	2,994	2,994	3,010	3,010	3,010	3,784	3,784	3,784	3,784	3,002
Control mean	0	0	0	.011	.011	.003	.06	.024	-.024	-.06	0

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1, standard errors in parentheses clustered at the locality level. Column (1) replicates the main results presented in tables 3, 4 and 5. Columns (2)-(3) present results equivalent to Lee bounds: we re-run the estimations after dropping K observations from the top/bottom of the distribution in the treatment group to calculate the lower/upper bound, where K is the difference between the number of attriters in the treatment groups and the control group. Columns (4)-(6) present similar results, but instead of dropping K observations in the treatment group, we impute the outcomes of K attriters in the control group using the 5th, 25th and 50th percentiles of the observed distribution of the treatment group. Columns (7)-(10) replace the outcomes for attriters in all the treatment groups (including the control group) with the mean minus/plus 0.10/0.25 times the standard deviation of the distribution of the respective treatment group. Column (11) presents the Inverse Probability Weighting estimates.

Table A24: Robustness of impact on Gender attitudes index to differential attrition

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Mainspec.	Trimming treated		Imputing control			Imputing with mean				IPW
		Bottom UB	Top LB	95th pc.	75th pc. LB	50th pc.	-0.25 SD LB	-0.10 SD LB	+0.10 SD UB	+0.25 SD UB	
T1 (safe spaces)	0.208** (0.092)	0.259*** (0.086)	0.155* (0.085)	0.198** (0.092)	0.202** (0.092)	0.206** (0.092)	0.100 (0.070)	0.165** (0.071)	0.252*** (0.072)	0.316*** (0.073)	0.213** (0.093)
T1 + Leaders	0.082 (0.105)	0.274*** (0.077)	-0.075 (0.101)	0.041 (0.106)	0.060 (0.105)	0.077 (0.105)	-0.012 (0.087)	0.046 (0.086)	0.123 (0.086)	0.181** (0.086)	0.083 (0.105)
T2 (safe spaces + IGA)	0.160** (0.076)	0.291*** (0.071)	0.055 (0.084)	0.122 (0.076)	0.141* (0.075)	0.155** (0.075)	0.057 (0.061)	0.115* (0.060)	0.192*** (0.060)	0.250*** (0.060)	0.160** (0.076)
T2 + Leaders	0.071 (0.102)	0.341*** (0.082)	-0.108 (0.093)	0.017 (0.100)	0.041 (0.101)	0.058 (0.101)	-0.031 (0.086)	0.027 (0.085)	0.104 (0.084)	0.162* (0.083)	0.079 (0.101)
T3 (safe spaces + husbands' clubs)	0.220*** (0.076)	0.422*** (0.076)	0.044 (0.071)	0.151** (0.074)	0.180** (0.074)	0.207*** (0.074)	0.126** (0.062)	0.180*** (0.061)	0.251*** (0.061)	0.305*** (0.061)	0.226*** (0.076)
T3 + Leaders	0.204*** (0.069)	0.290*** (0.069)	0.152** (0.071)	0.193*** (0.069)	0.198*** (0.069)	0.201*** (0.069)	0.099* (0.053)	0.162*** (0.053)	0.246*** (0.054)	0.309*** (0.056)	0.214*** (0.070)
N	3,003	2,995	2,995	3,011	3,011	3,011	3,785	3,785	3,785	3,785	3,003
Control mean	0	0	0	.013	.007	.003	.06	.024	-.024	-.06	0

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Note: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , standard errors in parentheses clustered at the locality level. Column (1) replicates the main results presented in tables 3, 4 and 5. Columns (2)-(3) present results equivalent to Lee bounds: we re-run the estimations after dropping K observations from the top/bottom of the distribution in the treatment group to calculate the lower/upper bound, where K is the difference between the number of attriters in the treatment groups and the control group. Columns (4)-(6) present similar results, but instead of dropping K observations in the treatment group, we impute the outcomes of K attriters in the control group using the 5th, 25th and 50th percentiles of the observed distribution of the treatment group. Columns (7)-(10) replace the outcomes for attriters in all the treatment groups (including the control group) with the mean minus/plus 0.10/0.25 times the standard deviation of the distribution of the respective treatment group. Column (11) presents the Inverse Probability Weighting estimates.

Table A25: Robustness of impact on Aspirations index to differential attrition

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Mainspec.	Trimming treated		Imputing control			Imputing with mean				IPW
		Bottom UB	Top LB	95th pc.	75th pc. LB	50th pc.	-0.25 SD LB	-0.10 SD	+0.10 SD	+0.25 SD UB	
T1 (safe spaces)	-0.159 (0.101)	-0.119 (0.095)	-0.217** (0.096)	-0.167 (0.101)	-0.163 (0.101)	-0.160 (0.101)	-0.285*** (0.080)	-0.219*** (0.079)	-0.130* (0.078)	-0.064 (0.078)	-0.157 (0.099)
T1 + Leaders	-0.198 (0.127)	0.013 (0.097)	-0.364*** (0.124)	-0.235* (0.125)	-0.212* (0.126)	-0.200 (0.126)	-0.302*** (0.103)	-0.242** (0.104)	-0.163 (0.105)	-0.103 (0.107)	-0.195 (0.127)
T2 (safe spaces + IGA)	0.098 (0.111)	0.226** (0.100)	-0.036 (0.101)	0.070 (0.110)	0.085 (0.110)	0.094 (0.110)	-0.032 (0.089)	0.032 (0.089)	0.117 (0.088)	0.181** (0.089)	0.096 (0.111)
T2 + Leaders	-0.071 (0.100)	0.167** (0.079)	-0.269** (0.107)	-0.122 (0.098)	-0.092 (0.098)	-0.074 (0.098)	-0.166* (0.085)	-0.108 (0.084)	-0.031 (0.083)	0.027 (0.082)	-0.067 (0.100)
T3 (safe spaces + husbands' clubs)	-0.023 (0.111)	0.188* (0.108)	-0.257** (0.099)	-0.108 (0.110)	-0.051 (0.109)	-0.029 (0.109)	-0.118 (0.090)	-0.060 (0.092)	0.018 (0.096)	0.076 (0.099)	-0.019 (0.110)
T3 + Leaders	0.020 (0.126)	0.094 (0.112)	-0.054 (0.123)	0.005 (0.126)	0.014 (0.126)	0.018 (0.126)	-0.083 (0.102)	-0.017 (0.101)	0.071 (0.099)	0.136 (0.099)	0.013 (0.124)
N	2,991	2,983	2,983	2,999	2,999	2,999	3,773	3,773	3,773	3,773	2,991
Control mean	0	0	0	.017	.006	.001	.06	.024	-.024	-.06	0

*Note:* \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , standard errors in parentheses clustered at the locality level. Column (1) replicates the main results presented in tables 3, 4 and 5. Columns (2)-(3) present results equivalent to Lee bounds: we re-run the estimations after dropping K observations from the top/bottom of the distribution in the treatment group to calculate the lower/upper bound, where K is the difference between the number of attriters in the treatment groups and the control group. Columns (4)-(6) present similar results, but instead of dropping K observations in the treatment group, we impute the outcomes of K attriters in the control group using the 5th, 25th and 50th percentiles of the observed distribution of the treatment group. Columns (7)-(10) replace the outcomes for attriters in all the treatment groups (including the control group) with the mean minus/plus 0.10/0.25 times the standard deviation of the distribution of the respective treatment group. Column (11) presents the Inverse Probability Weighting estimates..

Table A26: Robustness of impact on SES index to differential attrition

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Mainspec.	Trimming treated		Imputing control			Imputing with mean				IPW
		Bottom UB	Top LB	95th pc.	75th pc. LB	50th pc.	-0.25 SD LB	-0.10 SD LB	+0.10 SD UB	+0.25 SD UB	
T1 (safe spaces)	-0.022 (0.113)	0.031 (0.106)	-0.057 (0.113)	-0.031 (0.112)	-0.027 (0.113)	-0.024 (0.113)	-0.152* (0.088)	-0.086 (0.087)	0.001 (0.087)	0.066 (0.087)	-0.024 (0.115)
T1 + Leaders	0.247** (0.113)	0.489*** (0.111)	0.087 (0.106)	0.197* (0.110)	0.216* (0.111)	0.238** (0.112)	0.139 (0.093)	0.199** (0.093)	0.279*** (0.094)	0.339*** (0.095)	0.254** (0.112)
T2 (safe spaces + IGA)	0.248*** (0.090)	0.402*** (0.079)	0.149* (0.089)	0.211** (0.089)	0.226** (0.089)	0.240*** (0.089)	0.132* (0.071)	0.191*** (0.071)	0.269*** (0.072)	0.328*** (0.073)	0.257*** (0.090)
T2 + Leaders	0.301*** (0.099)	0.521*** (0.090)	0.146 (0.105)	0.243** (0.096)	0.265*** (0.097)	0.286*** (0.097)	0.197** (0.083)	0.253*** (0.082)	0.328*** (0.082)	0.385*** (0.082)	0.304*** (0.100)
T3 (safe spaces + husbands' clubs)	0.191** (0.092)	0.381*** (0.082)	0.030 (0.087)	0.116 (0.090)	0.156* (0.090)	0.185** (0.090)	0.098 (0.078)	0.150* (0.077)	0.219*** (0.077)	0.271*** (0.077)	0.197** (0.095)
T3 + Leaders	0.459*** (0.105)	0.562*** (0.098)	0.404*** (0.107)	0.442*** (0.105)	0.449*** (0.105)	0.454*** (0.105)	0.340*** (0.085)	0.407*** (0.083)	0.497*** (0.080)	0.564*** (0.079)	0.463*** (0.104)
N	3,003	2,995	2,995	3,011	3,011	3,011	3,785	3,785	3,785	3,785	3,003
Control mean	0	0	0	.019	.011	.005	.06	.024	-.024	-.06	0

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1, standard errors in parentheses clustered at the locality level. Column (1) replicates the main results presented in tables 3, 4 and 5. Columns (2)-(3) present results equivalent to Lee bounds: we re-run the estimations after dropping K observations from the top/bottom of the distribution in the treatment group to calculate the lower/upper bound, where K is the difference between the number of attriters in the treatment groups and the control group. Columns (4)-(6) present similar results, but instead of dropping K observations in the treatment group, we impute the outcomes of K attriters in the control group using the 5th, 25th and 50th percentiles of the observed distribution of the treatment group. Columns (7)-(10) replace the outcomes for attriters in all the treatment groups (including the control group) with the mean minus/plus 0.10/0.25 times the standard deviation of the distribution of the respective treatment group. Column (11) presents the Inverse Probability Weighting estimates.

Table A27: Robustness of impact on marriage and pregnancy index to differential attrition

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Mainspec.	Trimming treated		Imputing control			Imputing with mean				IPW
		Bottom UB	Top LB	95th pc.	75th pc. LB	50th pc.	-0.25 SD LB	-0.10 SD LB	+0.10 SD UB	+0.25 SD UB	
T1 (safe spaces)	0.004 (0.059)	0.050 (0.058)	-0.034 (0.058)	0.003 (0.059)	0.004 (0.059)	0.010 (0.059)	-0.096** (0.045)	-0.024 (0.044)	0.072 (0.044)	0.144*** (0.044)	0.000 (0.062)
T1 + Leaders	-0.022 (0.071)	0.172*** (0.064)	-0.177*** (0.057)	-0.068 (0.071)	-0.037 (0.071)	-0.008 (0.071)	-0.080 (0.063)	-0.019 (0.063)	0.061 (0.063)	0.122* (0.063)	-0.021 (0.073)
T2 (safe spaces + IGA)	-0.060 (0.058)	0.073 (0.057)	-0.177*** (0.058)	-0.103* (0.059)	-0.051 (0.058)	-0.051 (0.058)	-0.179*** (0.050)	-0.116** (0.049)	-0.033 (0.048)	0.029 (0.048)	-0.062 (0.059)
T2 + Leaders	-0.019 (0.071)	0.202*** (0.043)	-0.215*** (0.067)	-0.083 (0.072)	-0.043 (0.071)	-0.005 (0.070)	-0.087 (0.064)	-0.030 (0.063)	0.048 (0.063)	0.105* (0.064)	-0.021 (0.073)
T3 (safe spaces + husbands' clubs)	-0.040 (0.055)	0.195*** (0.055)	-0.216*** (0.050)	-0.116** (0.054)	-0.062 (0.054)	-0.012 (0.054)	-0.094** (0.046)	-0.037 (0.044)	0.039 (0.044)	0.096** (0.045)	-0.046 (0.056)
T3 + Leaders	0.072 (0.059)	0.138*** (0.053)	0.021 (0.059)	0.060 (0.059)	0.069 (0.059)	0.077 (0.059)	-0.000 (0.051)	0.066 (0.053)	0.155*** (0.056)	0.222*** (0.060)	0.068 (0.060)
N	2,995	2,987	2,987	3,003	3,003	3,003	3,777	3,777	3,777	3,777	2,995
Control mean	0	0	0	.018	.007	-.002	.06	.024	-.024	-.06	0

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1, standard errors in parentheses clustered at the locality level. Column (1) replicates the main results presented in tables 3, 4 and 5. Columns (2)-(3) present results equivalent to Lee bounds: we re-run the estimations after dropping K observations from the top/bottom of the distribution in the treatment group to calculate the lower/upper bound, where K is the difference between the number of attriters in the treatment groups and the control group. Columns (4)-(6) present similar results, but instead of dropping K observations in the treatment group, we impute the outcomes of K attriters in the control group using the 5th, 25th and 50th percentiles of the observed distribution of the treatment group. Columns (7)-(10) replace the outcomes for attriters in all the treatment groups (including the control group) with the mean minus/plus 0.10/0.25 times the standard deviation of the distribution of the respective treatment group. Column (11) presents the Inverse Probability Weighting estimates.

Table A28: Robustness of impact on violence index to differential attrition

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Mainspec.	Trimming treated		Imputing control			Imputing with mean				IPW
		Bottom UB	Top LB	95th pc.	75th pc. LB	50th pc.	-0.25 SD LB	-0.10 SD LB	+0.10 SD UB	+0.25 SD UB	
T1 (safe spaces)	0.051 (0.090)	0.129 (0.086)	0.040 (0.090)	0.047 (0.089)	0.047 (0.089)	0.047 (0.089)	-0.064 (0.070)	0.003 (0.069)	0.092 (0.069)	0.160** (0.069)	0.042 (0.089)
T1 + Leaders	-0.029 (0.113)	0.279*** (0.085)	-0.094 (0.123)	-0.043 (0.113)	-0.043 (0.113)	-0.043 (0.113)	-0.139 (0.092)	-0.076 (0.092)	0.008 (0.092)	0.071 (0.093)	-0.026 (0.112)
T2 (safe spaces + IGA)	-0.015 (0.082)	0.219*** (0.071)	-0.054 (0.084)	-0.029 (0.081)	-0.029 (0.081)	-0.029 (0.081)	-0.119* (0.063)	-0.055 (0.064)	0.031 (0.065)	0.095 (0.067)	-0.016 (0.081)
T2 + Leaders	0.085 (0.074)	0.354*** (0.061)	0.032 (0.080)	0.064 (0.072)	0.064 (0.072)	0.064 (0.072)	-0.014 (0.060)	0.042 (0.059)	0.118** (0.058)	0.174*** (0.057)	0.080 (0.072)
T3 (safe spaces + husbands' clubs)	0.142 (0.090)	0.400*** (0.065)	0.092 (0.096)	0.113 (0.088)	0.113 (0.088)	0.113 (0.088)	0.042 (0.076)	0.097 (0.075)	0.171** (0.073)	0.226*** (0.073)	0.142 (0.088)
T3 + Leaders	0.019 (0.091)	0.140* (0.082)	0.004 (0.093)	0.014 (0.091)	0.014 (0.091)	0.014 (0.091)	-0.094 (0.073)	-0.026 (0.071)	0.064 (0.069)	0.132* (0.068)	0.012 (0.092)
N	2,931	2,923	2,923	2,939	2,939	2,939	3,713	3,713	3,713	3,713	2,931
Control mean	0	0	0	.005	.005	.005	.061	.024	-.024	-.061	0

Note: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , standard errors in parentheses clustered at the locality level. Column (1) replicates the main results presented in tables 3, 4 and 5. Columns (2)-(3) present results equivalent to Lee bounds: we re-run the estimations after dropping K observations from the top/bottom of the distribution in the treatment group to calculate the lower/upper bound, where K is the difference between the number of attriters in the treatment groups and the control group. Columns (4)-(6) present similar results, but instead of dropping K observations in the treatment group, we impute the outcomes of K attriters in the control group using the 5th, 25th and 50th percentiles of the observed distribution of the treatment group. Columns (7)-(10) replace the outcomes for attriters in all the treatment groups (including the control group) with the mean minus/plus 0.10/0.25 times the standard deviation of the distribution of the respective treatment group. Column (11) presents the Inverse Probability Weighting estimates.

Table A29: Robustness of impact on decision-making index to differential attrition

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Mainspec.	Trimming treated		Imputing control			Imputing with mean				IPW
		Bottom UB	Top LB	95th pc.	75th pc. LB	50th pc.	-0.25 SD LB	-0.10 SD LB	+0.10 SD UB	+0.25 SD UB	
T1 (safe spaces)	0.069 (0.117)	0.108 (0.112)	0.029 (0.118)	0.056 (0.116)	0.062 (0.117)	0.065 (0.117)	-0.054 (0.093)	0.014 (0.092)	0.105 (0.091)	0.173* (0.092)	0.071 (0.118)
T1 + Leaders	0.251* (0.135)	0.454*** (0.141)	0.061 (0.129)	0.180 (0.135)	0.208 (0.134)	0.235* (0.134)	0.157 (0.115)	0.220* (0.114)	0.303*** (0.113)	0.366*** (0.112)	0.249* (0.133)
T2 (safe spaces + IGA)	0.159 (0.128)	0.282** (0.110)	0.035 (0.130)	0.106 (0.127)	0.135 (0.126)	0.155 (0.127)	0.011 (0.101)	0.076 (0.101)	0.163 (0.101)	0.229** (0.102)	0.159 (0.126)
T2 + Leaders	0.002 (0.115)	0.188 (0.120)	-0.222** (0.094)	-0.071 (0.113)	-0.036 (0.113)	0.009 (0.114)	-0.133 (0.100)	-0.074 (0.099)	0.005 (0.098)	0.065 (0.097)	0.004 (0.116)
T3 (safe spaces + husbands' clubs)	0.199* (0.102)	0.386*** (0.095)	-0.006 (0.105)	0.097 (0.099)	0.155 (0.099)	0.202** (0.100)	0.084 (0.086)	0.141* (0.085)	0.218** (0.084)	0.276*** (0.084)	0.202** (0.102)
T3 + Leaders	0.395*** (0.127)	0.454*** (0.133)	0.335*** (0.126)	0.376*** (0.127)	0.386*** (0.127)	0.392*** (0.127)	0.261*** (0.100)	0.332*** (0.099)	0.426*** (0.097)	0.497*** (0.097)	0.399*** (0.127)
N	2,919	2,911	2,911	2,927	2,927	2,927	3,701	3,701	3,701	3,701	2,919
Control mean	0	0	0	.023	.011	.004	.06	.024	-.024	-.06	0

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1, standard errors in parentheses clustered at the locality level. Column (1) replicates the main results presented in tables 3, 4 and 5. Columns (2)-(3) present results equivalent to Lee bounds: we re-run the estimations after dropping K observations from the top/bottom of the distribution in the treatment group to calculate the lower/upper bound, where K is the difference between the number of attriters in the treatment groups and the control group. Columns (4)-(6) present similar results, but instead of dropping K observations in the treatment group, we impute the outcomes of K attriters in the control group using the 5th, 25th and 50th percentiles of the observed distribution of the treatment group. Columns (7)-(10) replace the outcomes for attriters in all the treatment groups (including the control group) with the mean minus/plus 0.10/0.25 times the standard deviation of the distribution of the respective treatment group. Column (11) presents the Inverse Probability Weighting estimates.

Table A30: Robustness of impact on decision-making (couple matters) index to differential attrition

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Mainspec.	Trimming treated		Imputing control			Imputing with mean				IPW
		Bottom UB	Top LB	95th pc.	75th pc. LB	50th pc.	-0.25 SD LB	-0.10 SD LB	+0.10 SD UB	+0.25 SD UB	
T1 (safe spaces)	0.111 (0.144)	0.190 (0.130)	0.020 (0.132)	0.076 (0.145)	0.097 (0.144)	0.104 (0.143)	-0.050 (0.097)	0.052 (0.095)	0.187** (0.092)	0.289*** (0.091)	0.115 (0.145)
T1 + Leaders	0.405*** (0.145)	0.717*** (0.135)	0.095 (0.123)	0.298** (0.147)	0.352** (0.144)	0.379*** (0.144)	0.297*** (0.110)	0.386*** (0.108)	0.506*** (0.106)	0.595*** (0.105)	0.404*** (0.146)
T2 (safe spaces + IGA)	0.170 (0.142)	0.383*** (0.129)	-0.064 (0.131)	0.091 (0.142)	0.130 (0.141)	0.168 (0.140)	-0.035 (0.100)	0.062 (0.100)	0.192* (0.100)	0.289*** (0.102)	0.169 (0.142)
T2 + Leaders	0.204 (0.150)	0.487*** (0.148)	-0.157 (0.122)	0.099 (0.149)	0.149 (0.148)	0.199 (0.148)	0.018 (0.115)	0.104 (0.114)	0.219* (0.113)	0.305*** (0.112)	0.203 (0.151)
T3 (safe spaces + husbands' clubs)	0.297** (0.126)	0.664*** (0.109)	-0.125 (0.121)	0.124 (0.126)	0.212* (0.124)	0.301** (0.123)	0.123 (0.095)	0.212** (0.093)	0.330*** (0.093)	0.419*** (0.094)	0.301** (0.125)
T3 + Leaders	0.407** (0.168)	0.546*** (0.200)	0.258 (0.166)	0.377** (0.169)	0.394** (0.168)	0.404** (0.167)	0.228** (0.113)	0.342*** (0.108)	0.494*** (0.103)	0.608*** (0.101)	0.403** (0.168)
N	1,734	1,726	1,726	1,742	1,742	1,742	2,516	2,516	2,516	2,516	1,734
Control mean	0	0	0	.043	.019	.005	.083	.033	-.033	-.083	0

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1, standard errors in parentheses clustered at the locality level. Column (1) replicates the main results presented in tables 3, 4 and 5. Columns (2)-(3) present results equivalent to Lee bounds: we re-run the estimations after dropping K observations from the top/bottom of the distribution in the treatment group to calculate the lower/upper bound, where K is the difference between the number of attriters in the treatment groups and the control group. Columns (4)-(6) present similar results, but instead of dropping K observations in the treatment group, we impute the outcomes of K attriters in the control group using the 5th, 25th and 50th percentiles of the observed distribution of the treatment group. Columns (7)-(10) replace the outcomes for attriters in all the treatment groups (including the control group) with the mean minus/plus 0.10/0.25 times the standard deviation of the distribution of the respective treatment group. Column (11) presents the Inverse Probability Weighting estimates.



Table A31: Robustness of impact on finance index to differential attrition

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Mainspec.	Trimming treated		Imputing control			Imputing with mean				IPW
		Bottom UB	Top LB	95th pc.	75th pc. LB	50th pc.	-0.25 SD LB	-0.10 SD LB	+0.10 SD UB	+0.25 SD UB	
T1 (safe spaces)	0.024 (0.117)	0.034 (0.118)	-0.052 (0.113)	0.010 (0.117)	0.019 (0.116)	0.027 (0.117)	-0.099 (0.087)	-0.029 (0.088)	0.064 (0.089)	0.134 (0.090)	0.022 (0.117)
T1 + Leaders	0.036 (0.096)	0.117 (0.098)	-0.184** (0.073)	-0.030 (0.097)	0.014 (0.096)	0.054 (0.096)	-0.062 (0.081)	-0.003 (0.080)	0.075 (0.079)	0.134* (0.080)	0.040 (0.095)
T2 (safe spaces + IGA)	0.090 (0.093)	0.147* (0.089)	-0.087 (0.093)	0.036 (0.093)	0.072 (0.092)	0.107 (0.093)	-0.023 (0.077)	0.038 (0.075)	0.119 (0.072)	0.179** (0.071)	0.084 (0.092)
T2 + Leaders	0.147 (0.090)	0.252*** (0.095)	-0.102 (0.066)	0.065 (0.088)	0.121 (0.088)	0.149* (0.089)	0.045 (0.072)	0.101 (0.074)	0.176** (0.076)	0.231*** (0.078)	0.142 (0.090)
T3 (safe spaces + husbands' clubs)	-0.039 (0.112)	0.045 (0.117)	-0.257*** (0.088)	-0.129 (0.112)	-0.073 (0.111)	-0.006 (0.110)	-0.130 (0.092)	-0.076 (0.094)	-0.004 (0.098)	0.050 (0.100)	-0.035 (0.114)
T3 + Leaders	0.164 (0.111)	0.191* (0.111)	0.052 (0.086)	0.137 (0.113)	0.158 (0.111)	0.169 (0.111)	0.029 (0.089)	0.099 (0.088)	0.191** (0.087)	0.261*** (0.087)	0.165 (0.109)
N	3,003	2,995	2,995	3,011	3,011	3,011	3,785	3,785	3,785	3,785	3,003
Control mean	0	0	0	.032	.007	-.007	.06	.024	-.024	-.06	0

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1, standard errors in parentheses clustered at the locality level. Column (1) replicates the main results presented in tables 3, 4 and 5. Columns (2)-(3) present results equivalent to Lee bounds: we re-run the estimations after dropping K observations from the top/bottom of the distribution in the treatment group to calculate the lower/upper bound, where K is the difference between the number of attriters in the treatment groups and the control group. Columns (4)-(6) present similar results, but instead of dropping K observations in the treatment group, we impute the outcomes of K attriters in the control group using the 5th, 25th and 50th percentiles of the observed distribution of the treatment group. Columns (7)-(10) replace the outcomes for attriters in all the treatment groups (including the control group) with the mean minus/plus 0.10/0.25 times the standard deviation of the distribution of the respective treatment group. Column (11) presents the Inverse Probability Weighting estimates.

Table A32: Robustness of impact on nutrition index to differential attrition

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Mainspec.	Trimming treated		Imputing control			Imputing with mean				IPW
		Bottom UB	Top LB	95th pc.	75th pc. LB	50th pc.	-0.25 SD LB	-0.10 SD LB	+0.10 SD UB	+0.25 SD UB	
T1 (safe spaces)	-0.403** (0.161)	-0.362** (0.155)	-0.429*** (0.160)	-0.411** (0.161)	-0.409** (0.161)	-0.403** (0.161)	-0.515*** (0.123)	-0.443*** (0.124)	-0.347*** (0.125)	-0.274** (0.126)	-0.404** (0.160)
T1 + Leaders	-0.239* (0.144)	-0.019 (0.122)	-0.382*** (0.140)	-0.273* (0.144)	-0.263* (0.143)	-0.243* (0.143)	-0.316*** (0.117)	-0.256** (0.118)	-0.175 (0.119)	-0.114 (0.120)	-0.236 (0.144)
T2 (safe spaces + IGA)	-0.357** (0.155)	-0.224 (0.144)	-0.463*** (0.144)	-0.385** (0.154)	-0.377** (0.154)	-0.351** (0.154)	-0.485*** (0.125)	-0.420*** (0.123)	-0.332*** (0.120)	-0.267** (0.119)	-0.353** (0.155)
T2 + Leaders	-0.152 (0.154)	0.116 (0.150)	-0.303* (0.156)	-0.196 (0.152)	-0.196 (0.152)	-0.156 (0.153)	-0.262** (0.124)	-0.202 (0.124)	-0.122 (0.125)	-0.063 (0.125)	-0.147 (0.154)
T3 (safe spaces + husbands' clubs)	-0.679*** (0.203)	-0.480*** (0.164)	-0.885*** (0.176)	-0.736*** (0.203)	-0.692*** (0.202)	-0.666*** (0.202)	-0.791*** (0.170)	-0.732*** (0.172)	-0.654*** (0.176)	-0.595*** (0.179)	-0.677*** (0.204)
T3 + Leaders	-0.048 (0.137)	0.024 (0.135)	-0.086 (0.135)	-0.059 (0.138)	-0.059 (0.138)	-0.050 (0.137)	-0.162 (0.109)	-0.091 (0.110)	0.003 (0.111)	0.074 (0.113)	-0.047 (0.137)
N	3,003	2,995	2,995	3,011	3,011	3,011	3,785	3,785	3,785	3,785	3,003
Control mean	0	0	0	.01	.01	0	.06	.024	-.024	-.06	0

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1, standard errors in parentheses clustered at the locality level. Column (1) replicates the main results presented in tables 3, 4 and 5. Columns (2)-(3) present results equivalent to Lee bounds: we re-run the estimations after dropping K observations from the top/bottom of the distribution in the treatment group to calculate the lower/upper bound, where K is the difference between the number of attriters in the treatment groups and the control group. Columns (4)-(6) present similar results, but instead of dropping K observations in the treatment group, we impute the outcomes of K attriters in the control group using the 5th, 25th and 50th percentiles of the observed distribution of the treatment group. Columns (7)-(10) replace the outcomes for attriters in all the treatment groups (including the control group) with the mean minus/plus 0.10/0.25 times the standard deviation of the distribution of the respective treatment group. Column (11) presents the Inverse Probability Weighting estimates.

Table A33: Robustness of impact on mental health index to differential attrition

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Mainspec.	Trimming treated		Imputing control			Imputing with mean				IPW
		Bottom UB	Top LB	95th pc.	75th pc. LB	50th pc.	-0.25 SD LB	-0.10 SD LB	+0.10 SD UB	+0.25 SD UB	
T1 (safe spaces)	0.278*** (0.096)	0.325*** (0.093)	0.250*** (0.094)	0.270*** (0.096)	0.272*** (0.096)	0.275*** (0.096)	0.144** (0.072)	0.213*** (0.072)	0.305*** (0.072)	0.374*** (0.073)	0.282*** (0.096)
T1 + Leaders	-0.002 (0.107)	0.220** (0.089)	-0.154 (0.107)	-0.038 (0.106)	-0.030 (0.106)	-0.014 (0.106)	-0.114 (0.088)	-0.050 (0.088)	0.034 (0.088)	0.098 (0.089)	-0.004 (0.107)
T2 (safe spaces + IGA)	0.268** (0.104)	0.426*** (0.098)	0.169* (0.098)	0.231** (0.104)	0.238** (0.103)	0.251** (0.103)	0.158* (0.081)	0.221*** (0.081)	0.304*** (0.082)	0.367*** (0.083)	0.267** (0.104)
T2 + Leaders	-0.003 (0.112)	0.254*** (0.088)	-0.182* (0.105)	-0.050 (0.111)	-0.030 (0.111)	-0.010 (0.111)	-0.115 (0.095)	-0.056 (0.094)	0.023 (0.092)	0.082 (0.092)	0.003 (0.112)
T3 (safe spaces + husbands' clubs)	0.108 (0.134)	0.366*** (0.099)	-0.053 (0.118)	0.045 (0.134)	0.059 (0.134)	0.085 (0.133)	0.004 (0.121)	0.062 (0.116)	0.138 (0.111)	0.196* (0.108)	0.112 (0.134)
T3 + Leaders	0.268** (0.114)	0.369*** (0.114)	0.223* (0.114)	0.255** (0.114)	0.257** (0.114)	0.264** (0.114)	0.146 (0.092)	0.215** (0.090)	0.307*** (0.088)	0.375*** (0.088)	0.271** (0.115)
N	3,003	2,995	2,995	3,011	3,011	3,011	3,785	3,785	3,785	3,785	3,003
Control mean	0	0	0	.015	.012	.004	.06	.024	-.024	-.06	0

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1, standard errors in parentheses clustered at the locality level. Column (1) replicates the main results presented in tables 3, 4 and 5. Columns (2)-(3) present results equivalent to Lee bounds: we re-run the estimations after dropping K observations from the top/bottom of the distribution in the treatment group to calculate the lower/upper bound, where K is the difference between the number of attriters in the treatment groups and the control group. Columns (4)-(6) present similar results, but instead of dropping K observations in the treatment group, we impute the outcomes of K attriters in the control group using the 5th, 25th and 50th percentiles of the observed distribution of the treatment group. Columns (7)-(10) replace the outcomes for attriters in all the treatment groups (including the control group) with the mean minus/plus 0.10/0.25 times the standard deviation of the distribution of the respective treatment group. Column (11) presents the Inverse Probability Weighting estimates.