

Two Sides of Gender: Sex, Power, and Adolescence *

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July 23, 2021

Abstract

Adolescents in Sub-Saharan Africa have among the highest rates of unplanned pregnancy and intimate partner violence (IPV) across the globe. We implement a randomized controlled trial offering adolescent females in Tanzania access to free contraceptives, a goal-setting activity around improving their sexual and reproductive health (SRH) outcomes, as well as a soccer-based behavior change program for their male partners. Offering male partners a soccer intervention, which educates and inspires young men to make better SRH choices, reduces female reports of IPV. Female adolescents invited to participate in the goal-setting activity also report significant decreases in IPV. Impacts are larger among females who were already sexually active at baseline. The soccer intervention appears to reduce IPV by shifting male attitudes around violence and reducing sexual activity. The goal-setting intervention reduces IPV by shifting females toward less risky partners.

*We would like to thank participants at UCSD, UT Austin, UC Riverside, WADES, OU, Rice University, Georgetown, and the World Bank for their valuable comments and feedback, as well as Gabriela Rubio for excellent research assistance. We thank Lori Heise and Michael Frese for helpful conversations. We gratefully acknowledge funding for this project from the Hewlett Foundation and the Gender Innovation Lab (GIL) at the World Bank. All analysis presented is pre-registered through the AEA RCT registry (RCT ID: AEARCTR-0001305). The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not necessarily represent the views of the International Bank for Reconstruction and Development/World Bank and its affiliated organizations, or those of the Executive Directors of the World Bank or the governments they represent. For questions or comments please contact Manisha Shah at ManishaShah@ucla.edu.

1 Introduction

Being an adolescent anywhere in the world is challenging. It is particularly challenging for adolescents in Sub-Saharan African (SSA) who face the highest rates of unplanned teenage pregnancy, new HIV infections, and intimate partner violence (IPV) in the world (World Health Organization, 2013, UNAIDS, 2019, World Health Organization, 2019). While SSA has the highest adolescent birth rate, less than 10 % of adolescents aged 15-19 use any modern contraceptive method in Tanzania (National Bureau of Statistics (NBS) and ICF Macro, 2010). In addition, social norms and lack of bargaining power with sexual partners affect a female’s ability to make safe choices around sexual and reproductive health (SRH). Approximately 30 % of ever-partnered 15-24 year olds report experiencing IPV in the last 12 months (Stöckl et al., 2014).

Sexual relations and SRH outcomes involve power dynamics between males and females. We implement a randomized controlled trial (RCT) to change these power dynamics around adolescent relationships in Tanzania with the goal of improving SRH outcomes related to violence, unintended pregnancy and disease transmission. More specifically, for females, we randomize access to free and modern contraceptives and invitations to participate in a goal-setting activity aimed at motivating the adoption of safe behaviors to improve their SRH outcomes. These interventions build on an ongoing adolescent empowerment program (Empowerment and Livelihoods for Adolescents (*ELA*) clubs) delivered to females through a network of 149 clubs in three regions of Tanzania. The boyfriends of the females were invited to participate in an intervention using an innovative sport-based pedagogy that employs soccer-specific activities, metaphors, and language to educate and inspire them. The curriculum focused on reshaping males’ attitudes and behaviors around masculinity, gender-based violence, and sexual relationships.

We collect baseline data on all female ELA participants aged 11-22 and their boyfriends, and resurvey them two years later. Intent-to-treat (ITT) estimates show that an index of frequent female experience of IPV is reduced by 0.16 of a standard deviation as a result of a males’ soccer (*Boys*) intervention and by 0.13 of a standard deviation as a result of the female goal-setting (*Goal*) intervention. Impacts are significantly larger among

females who were already sexually active at baseline, highlighting greater efficacy of the interventions for those more vulnerable to IPV.

We propose a simple conceptual framework to explain these findings. The literature has emphasized two motivations for violence: (i) instrumental: where violence is used as a tool by men for controlling the behavior and resources of their female partners (Tauchen, Witte and Long, 1991; Bloch and Rao, 2002) and (ii) expressive: where violence against female partners provides men with a source of gratification, whether through a direct utility effect (Tauchen, Witte and Long, 1991; Aizer, 2010) or an irrational impulse (Card and Dahl, 2011). While there could also be some biological roots, these motivations point to the potentially important role of learning and socialization in explaining why men perpetrate violence against their female partners and, hence, to the promise of educational interventions targeted to them. The *Boys* intervention could increase male distaste for IPV, increasing the cost of engaging in violence and reducing his expressive motive for violence. It could also reduce a male's utility from instrumental violence if he uses violence to engage in risky sex, and he perceives lower utility from risky sex after receiving the soccer curriculum. Both mechanisms (weakly) predict a reduction in IPV.

On the other side of the gender divide, the empowerment of women can have an important protective effect against IPV. Much of the literature has focused on the role of empowerment along economic dimensions (Baranov et al. (2021); Dildar, 2020; Haushofer et al., 2019; Hidrobo, Peterman and Heise, 2016; Heath, 2014; Perova, 2010; Anderson and Eswaran, 2009). Based on standard models of household bargaining, the idea is that greater income potential leads to a reduction in IPV because it gives women a more credible threat to leave a violent partner (Aizer, 2010; Anderberg et al., 2016). Survivors of IPV, however, also often describe the psychological challenges of breaking free from abusive relationships, even in environments where financial resources are not a binding constraint. Indeed, the assumption in those models that agents have unlimited self-control to pursue their goals effectively overlooks the complex psychology of IPV, highlighting the potential value for commitment devices (Aizer and Dal Bo, 2009). In addition, in our adolescent setting, the majority of these relationships do not include joint household decision making and bargaining over shared financial resources. The goal-

setting intervention can help females develop strategies to commit to safer sex behaviors, increasing female utility from health and potentially encouraging adolescent females to sort into healthier sexual relationships.

In line with this conceptual framework, our results show that reductions in IPV associated with the *Boys* intervention appear to be driven by a shift in male attitudes around violence and reductions in sexual activity. Meanwhile, reductions in IPV because of the *Goal* intervention suggest that females take more control. There is significantly higher partner churn, with females ending up with better quality partners as measured by partner age, educational attainment and contraceptive utilization. Interestingly, supply side factors such as access to free contraceptives have no significant impact on adolescent SRH outcomes like unintended pregnancy, likely because self-reported take-up is close to zero.

This paper makes the following important contributions. First, because we experimentally treat females in certain communities and males along with females in other communities, we are able to investigate what happens when both males and females are treated with SRH programming. Traditional programming has not focused on involving males in SRH education programs or service provision because they often are not the primary beneficiaries of the services; however, because of gendered power dynamics, males often control decisions surrounding sexual behavior which impact SRH outcomes (Varga, 2003). Previous research provides evidence that treating males and females together with SRH programming may have larger positive impacts on SRH behaviors, but these studies do not provide causal estimates (e.g., Samandari, Speizer and O’Connell, 2010; Mufune, 2009; and Tao et al., 2015). Therefore, it is impossible to separate the effect of treating both female and male partners from underlying differences in motivation and other characteristics. Moreover, when treating couples, experimental methods have focused exclusively on married couples or long-term partners (e.g., Shattuck et al., 2011). Adolescents, on the other hand, who are at an age where programs that focus on adjusting attitudes toward sex and risky behaviors may have significant long-term effects due to the fact they are establishing a course for future relationships and are more malleable (Steinberg, 2015; Sheehan et al., 2017). Interestingly, while we find that treating males or treating females is important to reduce IPV, there is no additional complementarity from

both interventions occurring together. Second, most traditional SRH and family planning programs across the globe target married couples or individual adults, so we still know relatively little about how to improve adolescent SRH outcomes (besides cash and school).¹ Third, this study provides low-cost, scalable solutions for decreasing IPV among adolescents, contributing to a literature on the use of low-cost life skills programming, focusing on improving socio-emotional skills to improve adolescent outcomes (Edmonds, Feigenberg and Leight (2020); Ashraf et al. (2020); Dhar, Jain and Jayachandran (2018)). Fourth, we contribute to the small causal literature on the impact of sports programming on adolescents (Beaman et al. (forthcoming); Ditzmann and Samii (2016)). Lastly, evidence on the role of goal setting is scant in low income settings, and, as far as we know, this is the first application of goal setting to SRH.²

2 Background and Study Design

2.1 Setting and Sample

This study was implemented in three regions of Tanzania—Dodoma, Iringa and Mbeya—in partnership with BRAC Maendeleo. BRAC opened a network of 150 adolescent female’s clubs (Empowerment and Livelihoods for Adolescents (*ELA*) clubs) in the second half of 2009 across these regions. Dodoma, the capital region, and Iringa are centrally located, while Mbeya resides along the western boundary, sharing a border with neighboring countries Zambia and Malawi. Mbeya is the largest of the three regions in terms of population at 2.7 million people as of the 2012 census, with Dodoma having a population of 2.2 million and Iringa just under 1 million people (National Bureau of Statistics et al., 2012). The average size of study communities is about 3,000 people.

ELA clubs served as the basis for identifying the female study population. ELA is

¹Financial incentives and education have been shown to reduce teen pregnancy, early marriage and to reduce HIV/AIDS (see Baird, McIntosh and Özler (2011); Erulkar and Muthengi (2009); Bandiera et al. (2020), and Buchmann et al. (2021)).

²Setting goals has been found to increase self-control and decrease present-biased behavior, even if non-binding, and is a common method used to improve aspirations (Hsiaw, 2013). Goal setting has been widely used in personnel economics to improve worker performance and productivity (Goerg, 2015). There is also research in education using goal setting to increase student performance on tests, entrance exams, and homework (Clark et al., 2017); decreasing energy consumption (Harding and Hsiaw, 2014); and increasing savings (Choi et al., 2006).

an education-based intervention designed to empower adolescent females by providing a safe social space, life-skills training and support in adolescent development. Females aged 11-24 are invited to participate in ELA. Participation is voluntary but members are expected to attend 5 days per week from 3-6PM. Each club averages 20 members and has a mentor who runs the programs. This program was started by BRAC in Bangladesh but today is also implemented in Uganda, Sierra Leone, South Sudan and Liberia. ELA will be the base upon which we layer additional interventions described below, and serves as the control group.

While the evidence on ELA from Uganda and Sierra Leone is mostly positive (Bandiera et al. (2018); Bandiera et al. (2019)), Buehren et al. (2017) find no positive impacts of ELA in Tanzania. Moreover, previous research has found no significant selection of females into ELA clubs. Buehren et al. (2017) find that, while ELA participants in Tanzania are less likely to have a child than non-participants, there is no evidence that they differ by education enrollment status, relationship status, engagement in income generating activities, or across several measures of household wealth. Likewise, in Uganda, Bandiera et al. (2018, 2020) find little evidence of selection on observables into ELA participation. Finally, we compare our sample ELA members at baseline to the random sample of adolescent females from the same communities from the baseline sample of the Buehren et al. (2017) study and find no evidence of systematic differences (see Table A1). Therefore, ELA participants are plausibly representative of females aged 11-24 in study communities.

2.2 Study Design and Interventions

Figure 1 illustrates the overall design of the RCT. Treatment status was assigned at the ELA club level and at the individual level, depending on the treatment. At the ELA club level, the 149 clubs were randomly allocated to three groups of equal size: two treatment arms and one control arm. The control arm (49 clubs) maintained the status quo, ELA clubs. The two treatments arms are (i) *Supply* (50 clubs), which provided access to free contraceptives, and (ii) *Boys* (50 clubs), which layers a soccer intervention on top of the free contraceptives that is offered to boyfriends. At the individual level, a sub-sample of

865 females across all three study arms was randomly selected to receive an invitation to participate in the *Goal* intervention, an individual goal-setting activity.

Free Contraceptives. Marie Stopes Tanzania (MST) supplied three nurses to visit the 100 ELA clubs in the *Supply* and *Boys* treatment arms four to five times from April 2017 to January 2018. The nurses were assigned a visit schedule so that, over the course of two months, every club was visited at least once. Long-acting reversible contraceptives (LARCs), such as the IUC (intra-uterine contraceptive), 3 or 5 year implants, and 3 month injectables, were made available free of charge at the clubs. Condoms, female condoms, and the pill were also made available; however, no one reports taking up the pill in our data. Nurses provided free access to each contraceptive method to all ELA club members at each location, as well as instructions on how to use each form of available contraceptive and the associated side-effects of each method. A private area was set up at each club for the nurse to meet with females interested in any of the contraceptive methods and the visits occurred in the afternoon during normal ELA hours between 3 and 6pm.

Soccer Intervention. The *Boys* arm was implemented by the organization Grassroot Soccer. They are focused on empowering adolescent males, educating them on sexual and reproductive health topics, preventing HIV, and increasing uptake of health promoting services among youth (ages 10-19).³ The activity-based curriculum uses soccer language and analogies to deliver key messages and start conversations that promote healthy and responsible behaviors. Attendance is mandatory and males must attend at least 8 out of 10 practices to be considered graduates of the program.

In each region, there were five coaches who each ran three 10-week Grassroot Soccer programs so that, in total, 15 teams of approximately 25 males participated in Grassroot Soccer in each region over the study period. In total, 1,090 males completed the soccer curriculum in *Boys* communities, including those we targeted. The soccer intervention primarily targeted males within female ELA club members' social and sexual networks

³This is the ideal age for the intervention but Grassroot Soccer treated a few individuals older than 19 as some of the boyfriends named by females in the *Boys* treatment were older than 19 and were invited to participate.

(described in more detail in section 3). Based on these social and sexual networks, 583 males were invited to enroll in Grassroot Soccer and 313 ultimately enrolled. Because we had funding for 1000 males to participate, Grassroot Soccer additionally enrolled another 700 males from treatment arm 3 communities by recruiting at local schools. Therefore the *Boys* impact will be a combination of direct effects of males who were named by a female in our sample and spillover effects from males who enrolled and live in the same communities, but were not necessarily named by a female in our sample.

Grassroot Soccer began implementing sessions of the 10-week soccer curriculum during the second half of February 2017, continuing through December 2017. The curriculum includes ten 90-minute soccer practices on topics related to risk behavior, HIV/AIDS prevention, and intimate partner violence/respecting females/alcohol abuse. Coaches are available post-practice for an additional 15-30 minutes in case males want one-on-one meetings to discuss more private issues. Nine of the practices are on SRH issues and one is on malaria. Of the nine classes on SRH issues at least five touch on issues related to IPV. For example, in the Communicate lesson (lesson two), males are expected to name at least one local service for victims of rape and violence. The key messages of this lesson are (1) “Boys and females can listen to each other and respect each other, even though it can be difficult; (2) When communicating with someone of the opposite sex, remember to: find a safe place to talk, show respect to the person you are communicating with, make strong eye contact, and stay positive; and (3) In life, we should all stand up for females to protect them from abuse” (Grassroot Soccer, 2013). Similarly in lesson three, Risky Partners, the key message is about having sex with individuals your own age and not pressuring younger females to have sex. In lesson nine, Red Card, males are given scenarios worthy of a red card such as bus drivers requiring sex for free stuff, older partners pressuring younger females to have sex, negative peer pressure to have sex, and gender-based violence. Therefore this intervention focuses on the importance of preventing IPV, both as an instrument to reduce the risk of contracting and spreading HIV and as a goal in itself.

Goal Setting. Goal setting is about self regulation strategies and can also be helpful when addressing emotional or behavioral difficulties. Oettingwen and Gollwitzer (2010) argue that framing goals in terms of positive outcomes vs preventing negative outcomes is more effective. It is a valuable tool often used in cognitive-behavioral therapy (CBT).

For the activity, we set the goal to remain healthy and stay STI/HIV free for the following year. Females were asked if this was a goal they would be willing to work toward. If they agreed, we went through the S.M.A.R.T. process (Doran, 1981) where the adolescent was asked to suggest and commit to 1-3 specific strategies to follow during the next 12 months in order to achieve the goal. S.M.A.R.T. stands for Specific, Measurable, Achievable, Relevant, and Timely.

The initial goal-setting activity took place in August 2017. This entire activity took about 90 minutes and was done one-on-one with the trained enumerator. Of the 789 participants, 113 females (14.3%) set 3 strategies, 383 females (48.5%) set 2 strategies, and 293 females (37.1%) set only one strategy. The strategies were chosen by the female participants and mostly focused around the adoption of safe sexual behaviors. Figure 3 highlights that the most commonly named strategy was to use a condom, followed by abstinence, and being faithful. Respondents also wrote about why this goal is important for their future and what obstacles they might face in following through with their specific strategies.

We returned four months later in December 2017 to check-in and remind participants of the goal and the strategies they had set and to collect information on the females' perceptions of whether they were successfully meeting those aims. During the endline data collection, we asked participants about their success in implementing their strategies and achieving the goal. In Table A2 we explore characteristics from baseline that predict the total number of strategies developed and the number of strategies ultimately reported as achieved at endline (both of which range from 0-3). Interestingly, females who likely suffer from depression identify and achieve fewer strategies.⁴ Consistent with the psychological concept of self-efficacy, females with higher general self-efficacy scores identify and achieve

⁴Likely depression is measured using the Patient Health Questionnaire-2 (PHQ-2), where a score of 3 or higher is indicative of depression. The PHQ-2 includes the first two items of the PHQ-9 (Kroenke, Spitzer and Williams, 2003).

more strategies.⁵ It also appears that wealth is important, in that females from households with earthen floors set and identify fewer strategies. These results are at least suggestive that this goal-setting activity generated meaningful data.

3 Data Collection and Outcomes

3.1 Data Collection

Sample. From August to October 2016, we conducted a census of members of all 149 ELA clubs in operation in Dodoma, Iringa, and Mbeya. The census was taken by meeting with the club leader of each club and obtaining a complete list of active members between the ages of 11 and 22 years old. Active members were defined as females who were currently attending ELA clubs at least 2 times a week if she was in school and at least 3 times a week if she was out of school. The census identified a population of 3,419 females aged 11 to 22 across the 149 clubs. The female baseline survey occurred from September to December 2016, 2–5 months before any interventions were implemented, and resulted in a final sample of 3,178 females.⁶

The sample of adolescent males were recruited through their relationship to the females in our sample. During the baseline survey, we asked females to name males with whom they were friends, males to whom they were attracted, and males with whom they were currently having, or historically had, sex. All of the males identified as being in the females’ sexual networks (912 males) in the *Boys* arm were selected for survey, and, in the *Supply* arm and the control arm, we randomly sampled sexual network males for the survey. The males’ baseline survey took place from December 2016 to February 2017. In total, 1,466 males were surveyed at baseline, 787 of whom were in the *Boys* arm, 376 in the *Supply* arm and 303 in the *ELA* Control arm. The sequential nature of the baseline survey allowed for the female’s baseline data on their social networks to serve as the sampling frame for the male sample. Figure 1 presents the distribution of the sample

⁵Self-Efficacy is measured using the General Self-Efficacy Scale developed by Schwarzer and Jerusalem (1995). A total self-efficacy score that ranges from 10-40 is generated. We then standardized this score using the mean and standard deviation of the score among females in control communities.

⁶This sample size is 92.9% of the total number of females listed at these clubs during the census. The discrepancy reflects changes in participation in ELA clubs rather than refusals to participate in survey.

across the study arms.

Prior to endline data collection, another census of ELA members was conducted during May 2018. Endline data collection took place between June and August 2018, 6 months after the end of all interventions. There were two additional rounds of data collection—in August 2017 and December 2017—for the sub-sample of females who participated in the goal-setting intervention. Figure 2 shows the timing of the data collection relative to the interventions. To measure intervention impacts, we use two types of data from both females and males: individual quantitative data with self reports of behaviors (collected during baseline, endline, and the additional data collection rounds for goal-setting participants) and biological measures of sexually transmitted infections (STIs) and HIV from STI and HIV tests conducted during the baseline and endline surveys.

The baseline and endline adolescent surveys collected information on the adolescent’s household (e.g., roster, dwelling characteristics, household assets) and about the adolescent’s sexual behavior, SRH knowledge and attitudes, education and time use, health, and socio-emotional skills. The additional rounds of data collection for the goal-setting participants gathered more detailed information about the adolescent’s socio-emotional skills and SRH knowledge, as well as specific information around the strategies they set and barriers and facilitators to achieving them.

The STI and HIV tests were conducted at mobile testing clinics that were set up at central locations near the clubs. Mobile testing centers were equipped with rapid testing kits for HIV and syphilis and microscopes for examining urine samples to detect gonorrhea and trichomoniasis. All HIV testing was accompanied by HIV counseling both before and after testing. If any respondent tested positive for HIV they were referred local health centers and provided with treatment information and antibiotics were provided for STIs. Ultimately due to unexpectedly low disease prevalence, we are underpowered to detect any change in HIV or STIs (see panel C, Table 1). Therefore we do not focus on STI/HIV as an outcome.

3.2 Outcomes

Our primary outcomes focus around SRH behaviors and outcomes, and can be divided into two groups of measures: (i) contraceptive use and pregnancy and (ii) intimate partner violence. In addition, we explore other outcomes that may be mechanisms through which our interventions operate, such as changes in sexual partnerships (both quantity and quality), gender attitudes (around violence, SRH, and domestic roles), time use, locus of control, and risk and time preferences. These outcomes are measured in both the baseline and endline survey rounds.

For each group of outcomes, we create an overall index by (1) redefining each outcome in the group to be oriented in the same direction, (2) standardizing each outcome to the mean and standard deviation among adolescents in control communities at baseline and endline separately, and (3) taking the unweighted mean across all outcomes in the outcome group, following Kling, Liebman and Katz (2007).⁷

Intimate partner violence. For females, we measure intimate partner violence (IPV) based on the responses to three questions that capture the respondent’s experience of physical (pushing, shaking, or throwing something at her), psychological (threatening to hurt or harm her or someone she cares about), and sexual (being physically forced to have sexual intercourse) violence from their most recent partner within the last two years. The survey captures whether the violence occurs often, sometimes, not in the last 12 months, or never. We generate two sets of indicators to capture whether the violence has happened (i) often or (ii) within the last year. These indicators are from the domestic violence module of the Tanzania Demographic and Health Survey (Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC) et al., 2016). For males, the survey instead asks if he has perpetrated such violence on his most recent partner within the last two years, rather than experiencing it.

⁷In cases where there is variation in the number of observations for a particular outcome, the sample is restricted to those individuals for whom we have responses across all outcomes within the defined index group.

4 Empirical Framework

To estimate intent-to-treat (ITT) effects in each treatment arm on our SRH outcomes, we use a difference-in-differences (DD) approach, given by the following equation:

$$Y_{ict} = \alpha + \beta_1 \text{Boys}_c \times \text{Post}_t + \beta_2 \text{Supply}_c \times \text{Post}_t + \beta_3 \text{Goal}_i \times \text{Post}_t + \theta_1 \text{Post}_t + \theta_2 \text{Goal}_i + X'_{it} \xi + \alpha_c + \epsilon_{ict}, \quad (1)$$

where Y_{ict} is the outcome of interest for individual i in club c at time t , Boys_c and Supply_c are binary indicators for being members of clubs assigned to the *Boys* and *Supply* treatment arms, respectively, Goal_i is a binary indicator being invited to participate in the goal-setting activity, Post_t is a dummy variable that takes the value 1 for the period after treatment is implemented, X_{it} is a vector of individual characteristics, and α_c is a vector of club fixed effects that control for treatment assignment. The standard errors ϵ_{ict} are clustered at the club level to account for the study design. The parameters of interest are β_1 , β_2 , and β_3 and capture the ITT effects of the *Boys* treatment, *Supply* treatment, and *Goal* treatment relative to the *ELA* Control arm, respectively.

In all regressions with female data, unless noted otherwise, X_{it} includes age, highest grade completed, and binary indicators for the frequency of communication with mothers about sexual reproductive health topics, and whether the female's household (i.e., parents) owns the house in which she lives. We include these controls because they are strongly correlated with sexual activity and relationship status and improve the precision of the estimates; however, the results are qualitatively similar if we do not include them.

We also estimate models that account for the cross-cutting nature of the goal-setting intervention and interact *Goal* with the *Supply* and *Boys* arms, following Muralidharan, Romero and Wüthrich (2021). More formally, we estimate:

$$\begin{aligned}
Y_{ict} = & \alpha + \gamma_1 \text{Boys}_c \times \text{Post}_t \times \text{Goal}_i + \beta_1 \text{Boys}_c \times \text{Post}_t \\
& + \gamma_2 \text{Supply}_c \times \text{Post}_t \times \text{Goal}_i + \beta_2 \text{Supply}_c \times \text{Post}_t \\
& + \beta_3 \text{Goal}_i \times \text{Post}_t + \theta_1 \text{Post}_t + \theta_2 \text{Goal}_i \\
& + \theta_3 \text{Goal}_i \times \text{Boys}_c + \theta_4 \text{Goal}_i \times \text{Supply}_c \\
& + X'_{it} \xi + \alpha_c + \epsilon_{ict}
\end{aligned} \tag{2}$$

where all terms are defined as in equation 1. In this specification, our primary interest is in the estimates on the interaction terms (γ_1, γ_2) .

Finally, since our interventions are aimed at shifting sexual behavior, we test for heterogeneous effects by whether the respondent has had sex at baseline, estimating the following model:

$$\begin{aligned}
Y_{ict} = & \alpha + \eta_1 \text{Boys}_c \times \text{Post}_t \times \text{Had Sex}_i + \beta_1 \text{Boys}_c \times \text{Post}_t \\
& + \eta_2 \text{Supply}_c \times \text{Post}_t \times \text{Had Sex}_i + \beta_2 \text{Supply}_c \times \text{Post}_t \\
& + \eta_3 \text{Goal}_i \times \text{Post}_t \times \text{Had Sex}_i + \beta_3 \text{Goal}_i \times \text{Post}_t \\
& + \theta_1 \text{Post}_t + \theta_2 \text{Goal}_i + \theta_5 \text{Had Sex}_i + \theta_6 \text{Had Sex}_i \times \text{Post}_t \\
& + \theta_7 \text{Had Sex}_i \times \text{Boys}_c + \theta_8 \text{Had Sex}_i \times \text{Supply}_c + \theta_9 \text{Had Sex}_i \times \text{Goal}_i \\
& + X'_{it} \xi + \alpha_c + \epsilon_{ict}
\end{aligned} \tag{3}$$

where Had Sex_i is a binary indicator for individual i being sexually active at baseline and all other terms are defined as in equation 1. Our coefficients of interest are η_1 and β_1 , η_2 and β_2 , and η_3 and β_3 .

4.1 Baseline Balance and Follow-up

The underlying identification assumption to interpret the results from an RCT as causal is that sample characteristics are balanced at baseline. We show baseline balance for our baseline survey sample of 3,178 females for our primary outcomes in Table 1. In columns

1–3, we show the balance for the cluster randomization and we show the balance for the goal-setting intervention in columns 4–5. Overall, the RCT appears to be balanced across all outcomes, with only a few small difference in the likelihood of ever having been pregnant between females invited to goal setting and those who were not and a few sporadic differences in contraceptive utilization.

Of the 3,178 females in our baseline sample, 2,591 were successfully tracked to the endline survey, an overall tracking rate of 81.5%. This tracking rate was similar across survey treatments (81% in the control arm, 79% in *Supply*, and 85% in *Boys*, and 80% of females invited to *Goal*). The main results of this study focus on the panel of females who were surveyed both at baseline and at endline.⁸ Table B1 presents baseline balance for this sub-sample. The treatment balance is maintained within this sub-sample.

Additional balance tables are found in the Appendix. We report balance for demographic characteristics and additional outcomes in Tables B2–B4 and in Table B5 to show balance for the IPV outcomes for sub-sample of females who reported having had sex at baseline.

5 Results

5.1 Impacts from Supply Treatment Arm

When we estimate equation 1, Table 2 (column 2) shows there is no statistically significant impact of the *Supply* arm on the likelihood of pregnancy or contraceptive use. Table 1 illustrates the low reported prevalence of modern contraceptive methods used at baseline (less than one percent for implants, IUCs, female condom) and Table 2 highlights that this barely changes between baseline and endline in the *Supply* arm. Therefore, while we continue to control for the *Supply* arm in all regressions as in equation 1, we omit the results from the main tables moving forward.

⁸We restrict to the balanced panel sample because of the nature of the goal-setting intervention, for which we randomly selected girls at the individual level from the baseline sample of females to receive invitations to participate.

5.2 Impacts from Boys and Goal Treatment Arm

Table 3 (columns 1 and 2) presents results for β_1 and β_3 from the estimation of equation 1 for the IPV outcomes. Rows 1 and 2 present the estimates for each IPV index and rows 3-8 focus on the individual components of each index.

Table 3 shows a reduction in the IPV outcomes in clubs whose communities received the *Boys* intervention. In particular, the *Boys* intervention reduces the IPV Often Index by 0.162 standard deviations and the IPV Index by 0.120 standard deviations. These results are statistically significant at the 5 and 10 percent level, respectively. The index coefficients and their respective 95% confidence intervals are shown in Figure 4. Looking at the individual components of the indices, it appears that *Boys* reduces the various IPV outcomes between 1 and 3.5 percentage points. Figure 4 shows these impacts graphically.

Table 3 also shows that the goal-setting intervention decreases the IPV Often and IPV in last year index, similar to the *Boys* arm. Goal setting decreases IPV Often by 0.130 standard deviations and IPV in last year by 0.113 standard deviations. The individual components of the indices (psychological abuse often and in last year, physical abuse often, and forced sex in the last year) are all statistically significant with magnitudes between 1–3 percentage points. Figure 5 shows the impact of the *Goal* intervention from the estimation of equation 1 on the IPV indices. We also find evidence that females who are more engaged in the goal-setting activity reap larger benefits. Table A3 shows that the impact of the *Goal* intervention on experience of IPV is concentrated among females who set two to three strategies compared to those who set only one or no strategies. Females that set 2-3 strategies report a reduction in IPV Often by 0.203 standard deviations and in IPV in last year by 0.119 standard deviations.

These impacts are based on the entire sample of females, starting at age 11, when almost no one is experiencing IPV. Impacts become larger as females age and become sexually active. Table 4 reports the results from estimating equation 3, where we investigate heterogeneous treatment effects by had sex at baseline status. Since violence is highly correlated with sexual partnership, this is an important avenue to explore. From these results, it is clear in last year that the IPV effect is largest for females who are already

having sex at baseline. In the *Boys* arm, there is an overall 0.548 standard deviation decrease in the IPV Often Index (see Figure 6) among females who were already having sex at baseline.

Table 4 also suggests that the impacts of goal setting are larger for the females who had already had sex at baseline. In fact, the effect of goal setting on experiencing IPV in last year is significantly different between females who had sex at baseline (reduction of 0.334 standard deviations) and those who did not (reduction of 0.033 standard deviations). Figure 6 and Appendix Figure A1 display this result graphically for IPV Often and IPV in last year.

We also look at heterogeneity by age, shown in Figure A2, and the results are consistent with the heterogeneity according to whether the female was sexually active at baseline. Figure A3 presents the equivalent treatment effects for the IPV in last year Index, which are consistent.

Since both the *Goal* and *Boys* intervention reduce the reported experience of IPV among females, a natural question arises about the mechanisms driving these reductions. Another question is whether being assigned to the *Boys* arm and receiving the goal-setting intervention has an additional effect on IPV. We investigate this further both through our conceptual framework and empirically in the next section.

6 Conceptual Framework

We develop a simple theoretical framework to understand the mechanisms by which the *Boys* and *Goal* interventions can potentially affect IPV. We assume that the utility of partner $i \in \{m, f\}$ depends on whether they engage in risky sex, S , his or her health level, H_i , and whether the male inflicts violence on the female, V :

$$U_i = U_i(H_i(S(V)), S(V), V) \quad (4)$$

with $\frac{\Delta U_i}{\Delta S} > 0$ and $\frac{\Delta U_i}{\Delta H_i} > 0$. As in Dupas (2011), we assume that risky sex entails a risk of HIV/STI infection; thus, health depends on whether the couple engages in risky sex, giving $H = H_i(S)$. In the absence of violence, partner i is willing to engage in risky sex

if the utility gain from doing so, $\frac{\Delta U_i}{\Delta S}$, is greater than the utility loss from the resulting expected reduction in health, $(\frac{\Delta U_i}{\Delta H_i})(\frac{\Delta H_i}{\Delta S})$. To simplify notation, let $\Pi_i = \frac{\Delta U_i}{\Delta S} + (\frac{\Delta U_i}{\Delta H_i})(\frac{\Delta H_i}{\Delta S})$ which captures this utility trade-off.

We assume that violence per se entails a utility loss, $\frac{\Delta U_i}{\Delta V} < 0$ either through stigma, psychic, or physical costs. Violence however has an instrumental value for the male adolescent. In the absence of violence, the partners engage in risky sex only when they both want it (i.e. when $\Pi_m > 0$ and $\Pi_f > 0$). With violence, the male can pressure the female to engage in risky sex (i.e. when $\Pi_m > 0$ and $\Pi_f < 0$). Whether the couple engages in risky sex therefore depends on whether the boy uses violence, $S = S(V)$.⁹ In case of disagreement, the total impact of violence on each partner's utility is thus:

$$\frac{\Delta U_i}{\Delta V} + \Pi_i \frac{\Delta S}{\Delta V} \quad (5)$$

where the first term captures the direct disutility from violence, and the second term captures the indirect, or instrumental (dis)utility from violence.

In equilibrium, the male chooses whether to engage in violence to maximize his utility subject to not violating the female participation constraint:

$$U_f(H_f, S, V) \geq \bar{U}_f \quad (6)$$

where $\bar{U}_f$ denotes her outside option (i.e. the utility she could obtain if she were to leave the relationship). Therefore, her participation constraint determines whether she “tolerates” violence without leaving. The relationship must also provide the male with a level of utility that is at least as great as his own outside option $\bar{U}_m$, i.e. his participation

⁹In our framework, violence is assumed to be (expressively) distasteful to the male (because it decreases his utility), but it is an instrument he can use to influence sexual behaviors. There is a lot of empirical evidence that males use violence to get risky sex (see Raj et al., 2007; Teitelman et al., 2011; Alleyne et al., 2011; Kalichman et al., 1998). The theoretical literature on IPV differs in terms of their assumptions regarding male motives for violence. Tauchen, Witte and Long (1991) assume that violence is both (expressively) pleasurable and an instrument to control female behavior. Farmer and Tiefenthaler (1997) assume that violence is pleasurable but has no instrumental value. Eswaran and Malhotra (2011) assume that violence is distasteful but an instrument to ensure that the female allocates resources in accordance with the preferences of the male. Haushofer et al. (2019) develop a general model where violence can be an instrument to extract resources from the female, and can be either pleasurable or distasteful in terms of its non-pecuniary returns.

constraint must also be satisfied:

$$U_m(H_m, S, V) \geq \bar{U}_m. \quad (7)$$

Equilibrium violence requires both that the male is willing to engage in it *and* the female is willing to endure/stay in relationship. The model highlights that the male is willing to engage in violence if (i) there is disagreement between him and the female about whether to engage in risky sex (i.e. he wants it, and she does not), and (ii) the benefit from having sex (despite the risk of infection) outweighs his disutility from violence. The framework also illustrates that the female is only willing to endure violence (instead of leaving) as long as her disutility from violence does not violate her participation constraint. Note that her disutility from violence is both direct (through $\frac{\Delta U_f}{\Delta V}$) and indirect (through the negative effect violence has on her sexual and reproductive health). If she does not tolerate violence, for the relationship to remain intact, the male must refrain from perpetrating it. This will be the case only if his utility in the absence of risky sex does not violate his participation constraint.¹⁰

6.1 Empirical Specification for Male Data

We now bring in the male survey data and estimate the following specification to corroborate and expand the estimation results:

$$Y_{ict} = \alpha + \beta_1 \text{Boys}_c \times \text{Post}_t + \beta_3 \text{Goal}_i \times \text{Post}_t \\ + \theta_1 \text{Post}_t + \theta_2 \text{Goal}_i + X'_{it} \xi + \alpha_c + \epsilon_{ict}, \quad (8)$$

¹⁰We have assumed throughout that the male derives negative utility from violence. Note that if the male derives positive utility from violence (i.e. violence is expressively pleasurable) he will always choose to engage in violence, regardless of whether such violence has an instrumental role. This would imply that disagreement between partners about whether to engage in risky sex should not predict the incidence of IPV. The fact that the interventions we study lead to a reduction in IPV despite being primarily focused on promoting safe sexual behaviors, suggests that violence has an instrumental role in shaping those behaviors.

where terms are defined as in equation 1. The Goal_i is an indicator that the female who is connected to the male engages in goal setting, not that the male engages. We exclude the supply treatment estimator as it does not directly affect males. X'_{it} is a vector of controls equivalent to the controls for the females' models, except we control for whether the male speaks to his father about sexual reproductive health topics rather than his mother. Location fixed effects in α_c are at the region level for males.

6.2 Boys Arm Mechanisms

The soccer curriculum aims to reshape males' attitudes towards IPV, which translates to an increase in male disutility from violence ($\frac{\Delta U_m}{\Delta V}$). In addition, the soccer curriculum teaches males the importance of avoiding risky behaviors in order to stop the spread of HIV and STIs. In the conceptual framework, this can be modeled as an improvement in the boy's belief about the negative link between risky sex and health ($\frac{\Delta H_m}{\Delta S}$, and through that a decrease in the term $\Pi_m \frac{\Delta S}{\Delta V}$). This reduces the instrumental motivation for violence, i.e. to engage in violence as a means to resolve disagreements over sexual behaviors. The two effects reinforce each other and lead to a decreased willingness to engage in violence by the male.

If the soccer intervention causes an increase in male disutility for violence we would expect an improvement in male attitudes towards IPV and a decrease in IPV. At endline, males were asked their opinion on statements, such as "A woman should tolerate violence from her husband/partner," in order to elicit their attitudes toward violence. We estimate equation 8 and find that the *Boys* arm has a strong impact in reshaping IPV attitudes: Panel A of Table 5 shows that the share of males who agree with this statement is 15.5 percentage points lower in soccer communities than in control communities. The violence attitudes index suggests that males in soccer communities have 0.248 standard deviation "better" attitudes regarding sexual violence. The magnitude of the attitudinal change is similar to RCT results from Dhar, Jain and Jayachandran (2018), who engaged adolescents in classroom discussions about gender equality.¹¹

¹¹Table A4 shows that these shifts in attitudes are concentrated among males who were already sexually active at baseline, precisely the group of males who would be perpetrating IPV and consistent with female reports of greater reductions of IPV among females who were already sexually active at baseline.

In Panel A of Table 5 we also have the same violence indices as in Table 3, but males were asked if they perpetrate those types of violence. While nothing is statistically significant for the IPV Often or IPV in last year Index, males in the soccer treatment arm are 4.3 percentage points less likely to report that they physically hurt or harmed their current partner/girlfriend while under the influence of alcohol or drugs. This result coupled with the results in Table 3 from females reporting decreased experience of IPV, suggests both changes in attitudes regarding IPV, as well as decreases in perpetration of IPV—indicating $\frac{\Delta U_m}{\Delta V}$ decreased.

We do not have direct information on male views about risky versus safe sexual behaviors. However, we now present several pieces of evidence that suggest males in the *Boys* intervention arm are more likely to engage in safe sexual behaviors at endline. If at least some of the IPV that we observe in the data is being used as an instrument to force risky sexual behaviors as the model proposes, we would expect changes in equilibrium sexual activity in both the males’ and the females’ data. Table 6 reports impacts on sexual activity as reported by the females. It shows that the soccer treatment leads to a 0.158 standard deviation reduction in sexual activity; females are 10.3 percentage points less likely to have a current partner (a 31% decrease), 5 percentage points less likely to have ever had sex (a 13% decrease), and have fewer sexual partners. Even among females who remain in partnerships (Panel B of Table 6), we observe that the soccer arm causes a 0.29hrs/day reduction in the time spent with boyfriends (a 56% reduction). In Table 5 (panel B), we report the results for the same outcomes using the male data. While the reductions in sexual activity as reported by the males are not statistically significant, all of the coefficients are negative and economically meaningful.¹²

Moreover, there is some evidence that males in *Boys* intervention communities are more likely to engage in condom use. First, males in the soccer arm are 12.2 percentage points more likely to agree with the statement that “Girls have a right to ask to use a condom” than males in control communities. Second, Table A5 shows that, among males

¹²We do not expect the male results to line up fully with the female results for two reasons. First, keep in mind the sample (as explained above) is not a representative sample of males in these communities. Second, even with representative male and female samples, SRH estimates do often not add up between male and female reports.

who named sexual partners at baseline and endline, males in the *Boys* arm are more 6 percentage points likely to report that their sexual partners use contraceptives (panel A). These findings, alongside the results showing fewer partners and less sexual activity are all consistent with safer, less risky sex.

If male utility in the absence of risky sex (and thus violence) is smaller than his outside option, he will choose to leave the relationship. This can be reinforced by the fact that soccer provides an alternative social activity, which can be captured in the model by an increase in the male’s outside option. We note in Table A6 (Panel B) that males in the soccer arm are significantly more likely to spend time on sports/leisure at endline than males in control communities. Some proportion of the decline in sexual activity by the males is offset by an increase in sports.

Ultimately, the data is broadly compatible with IPV reductions being driven both by changes in direct utility from violence, as well as a decrease in the instrumental motivation for violence.

6.3 Goal Setting Mechanisms

The goal-setting intervention aims to strengthen females’ commitment to adopt safe sexual behaviors to remain healthy. The psychology literature suggests that goals act as salient reference points, generating a utility loss when individuals fall short of achieving them (Locke and Latham, 1990; Heath, Larrick and Wu, 1999). Building on this insight, economists emphasize that goals are effective commitment devices to help overcome imperfect self-regulation (e.g. Koch and Nafziger, 2011; Hsiaw, 2013; Clark et al., 2017). In our framework, this can be modeled in reduced form as an increase in the girl’s utility from health, and through that as a decrease in her utility from risky sex. This can increase or decrease violence.

Goal setting can decrease violence because the increase in female utility from health also results in an increase in her disutility from violence that is used as an instrument to pressure her to engage in risky sex. There are two potential results: (i) the relationship can dissolve because she decides to leave a violent partner and potentially sort into a healthier relationship, or (ii) her boyfriend is willing to remain in the relationship in the

absence of risky sexual behaviors.

Goal setting could increase violence because it may create disagreement between the male and the female about whether to engage in risky sex (if she no longer wants it, but he still does). Such disagreement could trigger a violent response from the male as an instrument to convince her to continue having risky sex. This backlash response will happen if the reduction in the girl’s utility from risky sex induced by the goal setting intervention is not sufficiently strong enough to violate her participation constraint.¹³

Table 3 shows that the goal-setting intervention caused a reduction in IPV, which provides evidence against the idea that its effectiveness was muted by a large backlash effect. The results in Table 6, column 2 suggest that relative to control females, while females invited to participate in the goal-setting activity are equally likely to currently have a partner, they also report having had a significantly larger number of partners in total since the baseline. Mapping this back to the model, this increased turnover in the females’ intimate partnerships is consistent with the goal-setting intervention enabling females to leave abusive partners and potentially pair with less risky partners. There is also suggestive evidence of this in Table A7 where females invited to participate in goal-setting at endline report being 3.9 percentage points less likely to be with previous partners, suggesting partner churn is happening in the *Goal* arm.

To measure male quality in Table 7, we construct an index for each boyfriend, combining information on his age, whether he is enrolled in school, and whether he uses contraceptives, as all of these characteristics are correlated with less risky sex and less risky partnerships (Agüero and Bharadwaj, 2014; Schaefer et al., 2017; Beauclair, Dushoff and Delva, 2018). We average this index, as well as its individual components, across all of the females’s boyfriends (if more than one) conditional on her ever having had a

¹³There is evidence suggesting that the empowerment of women can in some cases lead to a “male backlash.” Most of this research has been conducted in the context of female empowerment along easier to observe economic dimensions (Angelucci, 2008; Bobonis, González-Brenes and Castro, 2013; Erten and Keskin, 2018). The intuition is that greater income potential for women can precipitate more IPV either instrumentally, to control their additional resources, or as an expressive response, aimed at restoring men’s threatened beliefs about their masculine identity. In this case, female empowerment may raise the need to also treat men with complementary interventions, at least in the short term before male attitudes towards women adjust to the new equilibrium (Doepke and Tertilt, 2009) Whether female empowerment diminishes or enhances the effectiveness of educational interventions targeted to men thus depends on the relative strength of the protective and backlash effects of empowerment.

boyfriend. We find that goal setting significantly increases average boyfriend quality by 0.113 standard deviations. Females are choosing younger partners (and thus closer in age to themselves) who are also more likely to be in school and to use contraceptives. Age gaps, contraceptive use, and school enrollment are highly correlated with risky sex. Intuitively, these new partners could pose less of an obstacle for females to implement their SRH goals, because they are either less likely to resort to violence or their preferences over sexual behaviors are more aligned.

Partner churn raises the concern that previous more violent partners might be displaced to the control females. We investigate this concern by comparing IPV outcomes of females invited to the goal-setting activity to females who were not invited to participate within the control communities. If violent partners are being displaced from females in the goal-setting treatment to those who are not, we would expect to see an increase in IPV among non-goal-setting invitees that offsets the decrease in IPV among females invited to goal-setting. Table A8 shows the secular trends in IPV for females invited to participate in goal-setting and those who were not in control communities. It shows that while IPV significantly decreases for females invited to participate in goal-setting, there is no offsetting increase among females who were not invited to participate in the control arm.

An important distinction between the two interventions is that the soccer intervention had an explicit focus on IPV whereas goal-setting intervention did not. Table A9 shows no evidence that the *Goal* intervention changed female attitudes towards IPV or domestic roles. The fact that females chose to leave partnerships in the goal-setting arm (and form new less violent ones) lends further support to the idea that violence is an instrument through which males enforce risky sexual behaviors, thus hindering females' ability to implement their risk reducing strategies.

The predicted increase in the girl's utility from health in the model raises a question about why we do not see changes in sexual behavior that reflect safer sex practices for the *Goal* arm, such as an increase condom use in Table 2 or a reduction in sexual activity in Table 6. This could result from the nature of the strategies that females set, which result in opposing sets of behaviors. Indeed, this is true of two of the top three strategies shown

in Figure 3—some females are committing to use a condom while others set a strategy to abstain from sex. In Table A10, we show that, at endline, females who set strategies to abstain from sex are less likely to be engaging in sex and those who set strategies to use a condom are more likely to use a condom and also engage in more sex compared to non-goal-setting participants. This table provides evidence that the opposing behavior change within the goal-setting arm might be leading to net-zero changes in sexual activity for this treatment arm.

6.4 Interaction between Boys Arm and Goal Arm

In the model, equilibrium violence requires that the male is willing to engage in it and the female is willing to endure it. The *Boys* intervention reduces males’ willingness to perpetrate violence, and the goal-setting intervention reduces female willingness to accept it. The two interventions could therefore substitute each other in reducing violence because the presence of one reduces the need for the other, or, equivalently, the absence of one increases the need for the other. On the other hand, the reduction in the female’s utility from risky sex induced by goal setting can raise the male’s willingness to engage in violence as an instrument to force risky sex. If such an increase in her disutility from risky sex is not sufficiently strong to violate her participation constraint, goal setting can increase violence, raising the need to also treat the males in order to mitigate a violent backlash. In such case, goal setting increases the need for the *Boys* intervention.

Appendix Table A11 presents estimates from Equation 2 which is the impact of the two interventions alone as well as their interaction. The main results remain similar. The *Goal* arm alone reduces the IPV Often Index by 0.213 standard deviations, and the IPV in last year Index by 0.175 standard deviations. The *Boys* arm alone reduces the IPV Often Index by 0.175 standard deviations and the IPV in last year Index by 0.143 standard deviations. While imprecisely estimated, the coefficients on the interaction between the two interventions are positive for both indexes, suggesting that the two interventions may have substituted each other in reducing females’ exposure to IPV. Focusing on the impacts on sexual violence, we see that in control communities, about 5% of the females report having been forced to have sex in the last year. The goal-setting intervention

alone essentially brings the share of females reporting such experience down to zero. Thus, given the effectiveness of the interventions (for this outcome), there is no space for complementarities. Interestingly, for physical abuse in the last year, where neither intervention has an effect as large as the control mean, the interaction term is very close to zero (although none of the coefficients are significant). We re-estimate Equation 2 and restrict to the sexually active at baseline sample and report the results in Table A12. The patterns of the results are similar to Table A11. Tables A13 and A14 further estimate equation 2 for female sexual activity and quality of male partners. They are consistent with results in Tables 6 and 7. The interaction terms are not statistically significant.

6.5 Locus of Control

The psychology literature suggests that decreased violence should result in a higher locus of control since a key component of women’s agency is their locus of control (Donald et al., 2017; Munoz, Brady and Brown, 2017). Locus of control is measured at baseline and endline using the Pearlin Mastery Scale items, which is the extent to which the respondent feels in control of the events that influence her life (Pearlin and Schooler, 1978). The Pearlin Mastery Scale is a 7-item scale of seven statements to which respondents indicate if they strongly disagree, disagree, feel neutral, agree, or strongly agree. The responses to each item are coded so that all responses go in the same direction (toward feelings of more control) and summed to an index that takes on values of 12 to 40. We then standardize this score using the mean and standard deviation among females in control communities at baseline and at endline separately to generate an index measured in standard deviation units.

Table 8 column 2 shows that goal setting significantly increases locus of control by 0.1 standard deviation, and interestingly, we cannot reject that the impact is at least as large as the *Boys* treatment. Taken together with the literature these results suggest that the increased locus of control likely resulted from the decreased violence.

Focusing on the goal setting treatment, the psychology literature suggests that one way to increase locus of control is through goal setting by creating personal motivation to ensure the ability to follow through with dreams and goals, regardless of potential barriers.

Locke and Latham (1990) report there is a positive relationship between difficulty of a personal goal and performance for those with internal locus of control. In this vein, Table A15 also shows that females who already had higher locus of control at baseline (see panels B and C) are more likely to benefit from the goal setting exercise, suggesting that existing locus of control can reinforce the goal setting exercise to be protective against the experience of violence. While quite noisy, the pattern is not the same for those assigned to the *Boys* arm.

7 Cost-effectiveness

The cost of offering the Goal-Setting intervention to 865 of the 3,178 girls in our sample was \$33,072. This figure includes both the cost of the first visit to the girls (where we asked them to set goals) and the cost of the second visit (where we reminded them of their goals). The overall per-girl cost of the *Goal* intervention is thus about \$38. The intent-to-treat impact of the *Goal* intervention is a 0.13 SD reduction in IPV. To ease comparison across treatments and studies, we normalize the cost of each treatment in terms of a 0.25 standard deviation (SD) reduction in IPV. In the case of the *Goal* intervention this translates to a per-girl cost of \$73 per 0.25 SD reduction in IPV.

The cost of offering the *Boys* intervention to the boyfriends of 1,092 girls in our sample was \$44,993. This figure includes both the fixed costs of setting up the clubs and training the staff, as well as the variable costs of running the activities. The overall per-girl cost of the *Boys* intervention is thus about \$41.¹⁴ The intent-to-treat impact of the *Boys* intervention is a 0.16 SD reduction in IPV. This implies a per-girl cost of \$64 per 0.25 SD reduction in IPV.

Given the lack of experimental evidence on reducing IPV among adolescents, we benchmark these IPV impacts and costs with those reported in Haushofer et al. (2019). They examine the IPV impacts of giving unconditional cash transfers averaging \$496 (nominal) to either adult women or their husbands in Kenya. They find that transfers to women reduced physical violence by 0.26 standard deviations and sexual violence by 0.22 standard

¹⁴A total of 1,089 boys in the communities in the *Boys* treatment arm participated in Grassroot Soccer.

deviations, while transfers to their husbands reduced physical violence by 0.18 standard deviations. These imply a per-woman cost of \$477 to \$539 per 0.25 SD reduction in IPV from cash given to women, and a \$689 per 0.25 SD reduction in IPV from cash given to their husbands.

Another helpful benchmark is Hidrobo, Peterman and Heise (2016) who examine the IPV impacts of giving monthly transfers (of cash, vouchers, or food) to adult women in Ecuador. The value of the monthly transfer was \$40 for a total of \$240 per woman over a six-month period. They find that these transfers (regardless of type) reduced the probability that women experience violence by 6 to 7 percentage points (depending on type of violence), which relative to the control group is equivalent to a 19% to 30% reduction in IPV. In our study, the *Goal* intervention and the *Boys* intervention – which cost about \$40 per girl – reduced the probability that girls experience violence by 1 to 3.5 percentage points (depending on type of violence), which relative to girls in the control group (who are younger than the women in Hidrobo, Peterman and Heise (2016) and thus have had less exposure to IPV) is equivalent to a 41% to 100% reduction in IPV.

This basic costing analysis suggests that our interventions can be highly cost-effective in reducing IPV relative to cash grant and other transfer interventions. It is important to note that our interventions were targeted to adolescent girls and their boyfriends, while the transfer interventions examined in Haushofer et al. (2019) and Hidrobo, Peterman and Heise (2016) were targeted to adults. Attitudes and behaviors are likely more malleable during adolescence.

8 Attrition

As the main estimation results utilize the balanced panel sample, it is important to test whether attrition occurs at similar rates across treatment arms and that respondents do not select into attrition based on baseline outcomes. Tables 9 and 10 presents analysis of sample attrition using baseline data for the females and males, respectively. The outcome in all panels is an indicator equal to 1 if the female or male left the sample (attrited).

In both tables, Panel A shows estimates of a regression of attrited on treatment indi-

cators and Panel B shows a regression of attrited on treatment indicators including the goal-setting interaction with each clustered treatment arm. For both females and males, there is no evidence that there is differential attrition by treatment status. In Panel C, we further test for differential attrition across treatment by key outcome and demographic characteristics. These estimations also show no evidence of differential attrition, aside from evidence that goal-setting participants experiencing physical abuse at baseline are less likely to attrit. If anything, this would imply positive bias in our estimate of the impact of goal setting on physical abuse, which would bias us away from finding the negative impacts of goal setting on physical abuse that we see in Table 3. We also provide a more detailed breakdown of the outcome means according to attrition status at baseline and endline in appendix figures A4, A5, and A6.

9 Discussion and Conclusion

This paper presents causal evidence from a multi-level cluster and individual RCT that offers females free access to contraceptives, behavior change programming to male partners through soccer, and a goal-setting activity around staying healthy in order to improve adolescent females' sexual and reproductive health outcomes in Tanzania. We find that offering males soccer programming reduces females experience of IPV often by 0.16 standard deviations on average. Similarly, engaging females in a goal-setting activity reduces experience of IPV often by 0.13 standard deviations. Moreover, reductions in IPV are larger for females who were already sexually active at baseline in both treatment arms.

These interventions each target opposite sides of the gender divide. The reduction in IPV in the *Boys* arm starts with a significant shift in males' attitudes towards IPV. Females exposed to males who participated in this treatment reduce their number of partners and sexual activity. On the other side, the *Goal* arm helps females set concrete strategies on how to improve their sexual and reproductive health, which they achieve. They change their partners and the average quality of partners improve. There is no significant interaction between the two interventions.

The fact that one intervention targeted adolescent males and the other females, helps

provide some insight into how to shift the gender dynamics that allow for IPV at this critical juncture in males' and females' development. The *Goal* arm helps females increase control over their sexual health. They then find partners who are more in line with this goal. The *Boys* arm changes male gender attitudes related to IPV. Gender is ultimately about power relations between men and women, and here we see interventions that each shift one side of the relationship.

While programming focusing on adolescents is increasing, there is still little evidence on what works for IPV. These results provide evidence of two effective, inexpensive and scalable interventions to reduce IPV experienced by adolescent females. Changing gender relations at this early stage of adulthood could potentially shift the trajectory of young men and women's lives, a fruitful avenue for future research. In addition, work to understand how these interventions work, together or separately, in high-violence settings could provide important guidance on when and where to scale-up.

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Figures and Tables

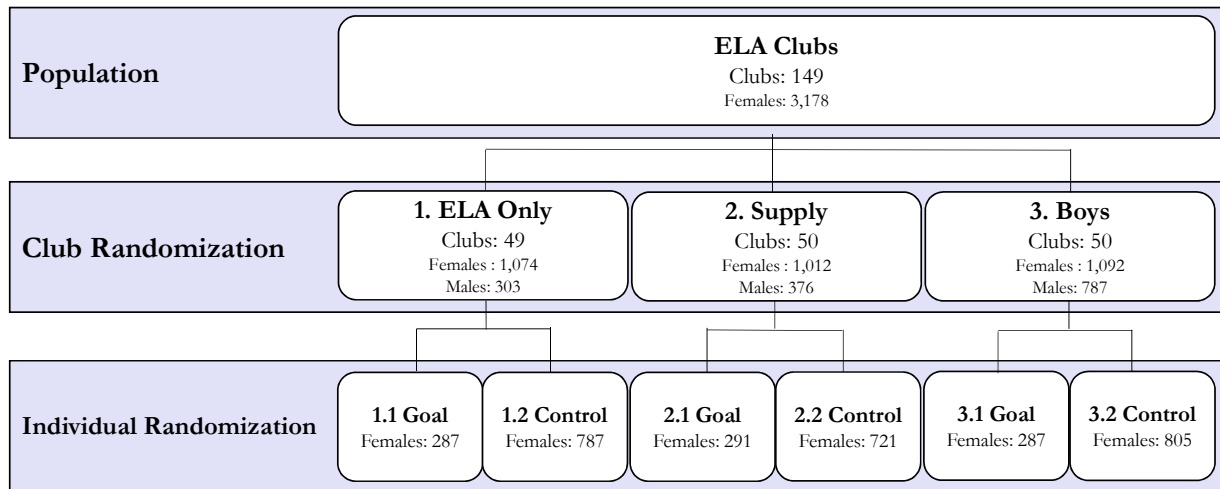


Figure 1 Study Design

Notes. This figure presents the overall study design. The study population, presented in the top box, is female participants at 149 ELA clubs. At the club level randomization, the *ELA* arm includes 49 clubs, which we refer to as control communities. The *Supply* and *Boys* treatment arms include 50 clubs each. For each treatment arm, the figure indicates the number of females and males. The bottom box shows the cross-cutting goal-setting intervention, which invited a random sub-sample of female ELA participants in each treatment arm to participate in the goal-setting intervention.

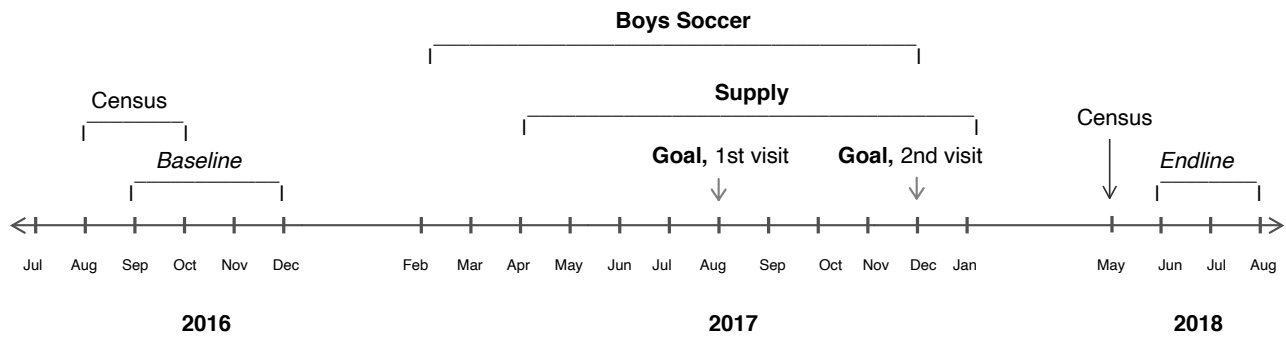


Figure 2 Timeline

Notes. This figure present the overall project timeline for the study.

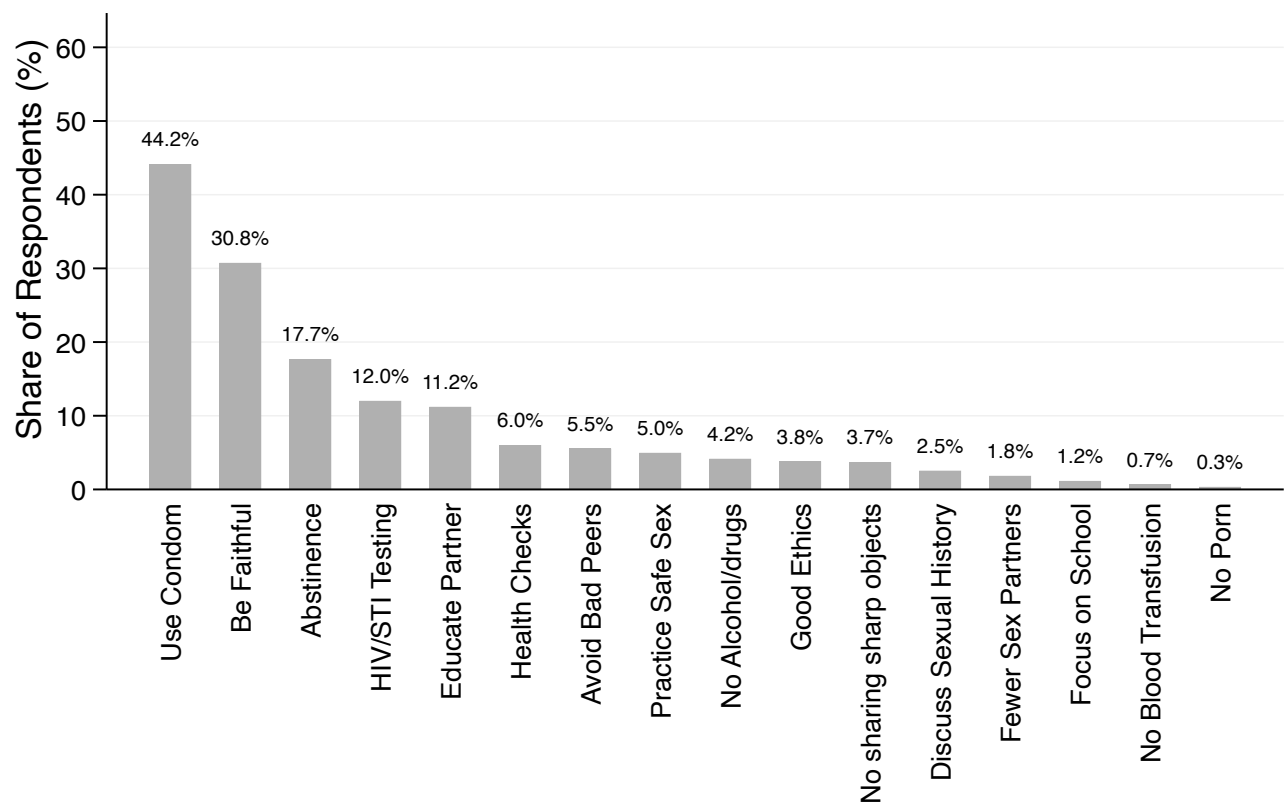


Figure 3 Strategies from Goal-Setting Activity

Notes. This figure presents data from 789 females who participated in the goal-setting activity. For this figure, strategies that females set were categorized into 16 over-arching categories. The percent of females who set a strategies that fits in each categories is presented above the bar. As females could set up to 3 strategies, the percentages above the bars do not sum to 100%.

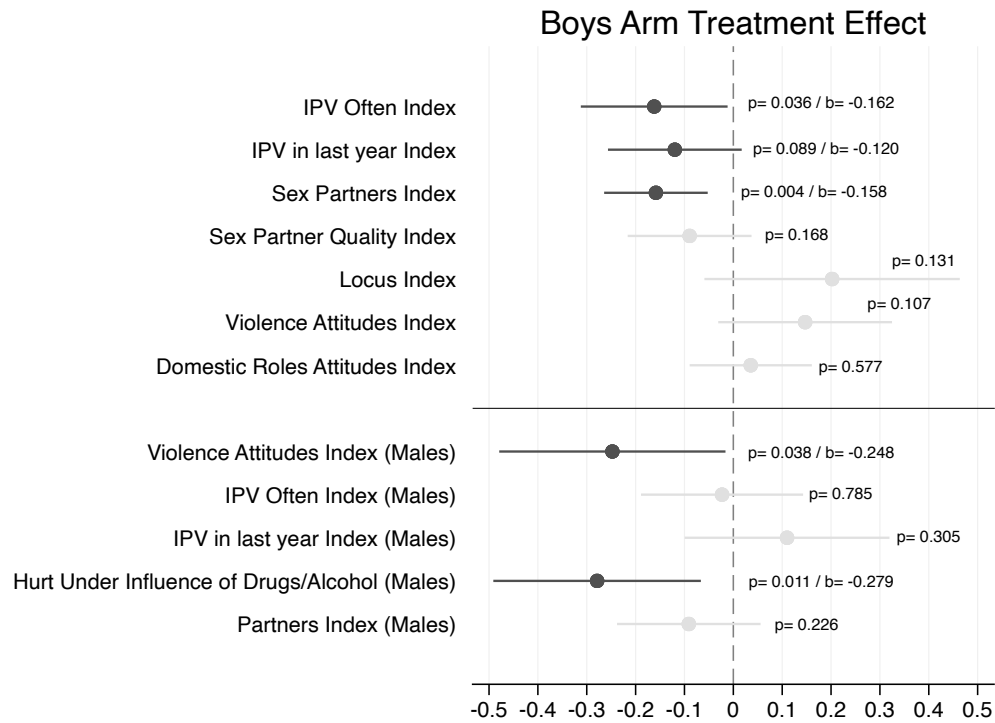


Figure 4 ITT effects of Boys Treatment

Notes. This figure presents the estimates of β_1 from equation 1 for separate regressions on the outcome indexes specified on the y-axis. Bolded markers are statistically significant at $p < 0.1$. p -values and coefficient estimates are displayed beside each marker.

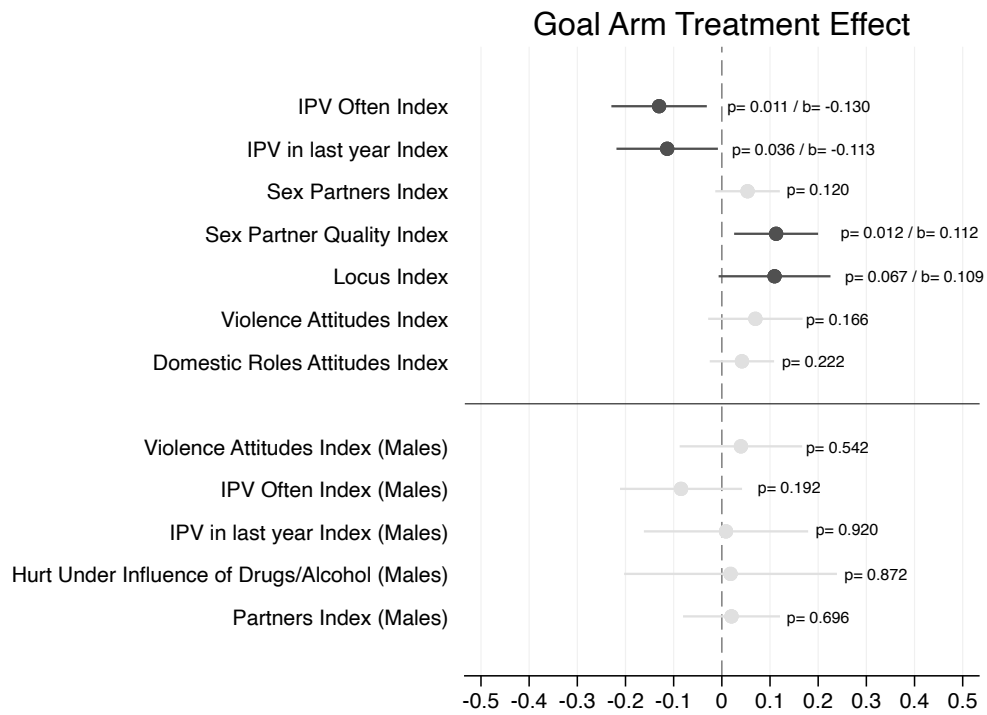


Figure 5 ITT effects of Goal Treatment

Notes. This figure presents the estimates of β_3 from equation 1 for separate regressions on the outcome indexes specified on the y-axis. Bolded markers are statistically significant at $p < 0.1$. p -values and coefficient estimates are displayed beside each marker.

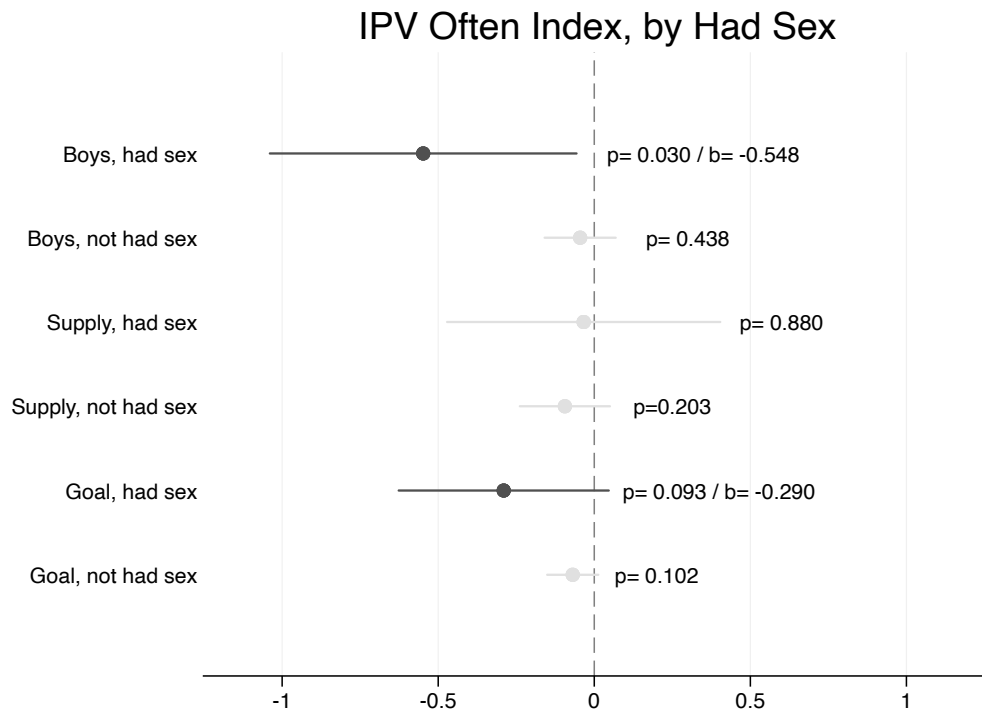


Figure 6 IPV Often Index: Had Sex at Baseline

Notes. This figure presents treatment effect estimates from equation 3 for the IPV Often Index outcome. Boys, had sex is the sum of β_1 and η_1 to present the total effect of the *Boys* treatment for females who were sexually active at baseline. Boy, not had sex is the coefficient estimate on β_1 alone. Likewise, Supply, had sex is the sum of β_2 and η_2 and Supply, not had sex is the estimate for β_2 alone. Finally, Goal, had sex is the sum of β_3 and η_3 and Goal, not had sex is the estimate for β_3 alone. Bolded markers are statistically significant at p<0.1. P-values and coefficient estimates are displayed beside each marker.

Table 1 Treatment-Control Balance at Baseline

	(1)	(2)	(3)	(4)	(5)
Outcome	ELA Control Mean	Boys-ELA	Supply-ELA	No Goal Control Mean	Goal - No Goal
A Pregnancy and Contraception use with last partner					
Ever Pregnant	0.126	0.012 (0.027)	0.006 (0.028)	0.125	0.027* (0.014)
Use Female condom	0.005	-0.003 (0.002)	-0.003 (0.002)	0.003	-0.002 (0.002)
Use Injectable	0.021	-0.009 (0.008)	0.004 (0.008)	0.019	0.002 (0.005)
Use Implant	0.007	0.002 (0.004)	0.004 (0.005)	0.007	0.006 (0.004)
Use IUC	0.007	-0.002 (0.003)	-0.004 (0.003)	0.006	-0.004** (0.002)
Use Condom	0.132	0.001 (0.023)	0.025 (0.027)	0.137	0.012 (0.015)
Use Natural Family Planning	0.016	0.005 (0.007)	0.016 (0.010)	0.023	0.000 (0.005)
B. Intimate Partner Violence					
Psychological Abuse Often	0.017	0.006 (0.008)	0.004 (0.008)	0.018	0.007 (0.006)
Physical Abuse Often	0.008	0.010 (0.007)	0.001 (0.006)	0.011	0.002 (0.004)
Forced Sex Often	0.012	0.004 (0.006)	-0.001 (0.006)	0.013	-0.000 (0.004)
Psychological abuse (in last year)	0.054	0.017 (0.017)	0.013 (0.019)	0.062	0.008 (0.010)
Physical Abuse (in last year)	0.045	0.011 (0.016)	0.010 (0.017)	0.053	-0.003 (0.008)
Forced Sex (in last year)	0.035	0.006 (0.013)	0.008 (0.014)	0.040	-0.003 (0.007)
C. Sexual Activity					
Ever had sex	0.250	-0.001 (0.035)	0.047 (0.036)	0.261	0.019 (0.017)
Currently, has partner	0.212	0.011 (0.034)	0.050 (0.034)	0.230	0.009 (0.017)
Had partner past 2 years	0.266	0.010 (0.037)	0.043 (0.037)	0.279	0.018 (0.018)
Number of Sex Partners past 6 months	0.166	0.049 (0.036)	0.054 (0.036)	0.200	0.005 (0.021)
Total sexual partners ever	0.318	0.018 (0.054)	0.073 (0.052)	0.340	0.024 (0.025)
Frequency of sex typical month	0.806	-0.080 (0.142)	0.283* (0.166)	0.871	-0.005 (0.082)
Hours with boyfriend in the past day	0.030	0.014 (0.013)	0.015 (0.016)	0.041	-0.001 (0.010)
HIV Positive	0.012	-0.001 (0.006)	0.001 (0.006)	0.013	-0.001 (0.005)
STI Positive	0.009	-0.005 (0.004)	-0.004 (0.005)	0.006	0.002 (0.004)
Observations	1074	3178		2313	3178

Notes: Table 1 presents baseline means for the female sample. Column (1) shows control arm means where only ELA operated and column (4) shows the control mean for females not assigned to the goal-setting arm. Columns (2)–(3) and column (5) shows the difference between the control group means and the means in the specified treatment arms, controlling for region fixed affects to adjust for the randomization strata. Estimates in columns (2)–(3) come from a single regression, and estimates in column (5) come from another. Standard errors, clustered at the club level, are presented in parentheses. In Panel A, Ever pregnant is a binary indicator for ever being pregnant, and each of the contraceptive methods are binary indicators for having used the method with the last sexual partner. In Panel B, Psychological Abuse Often (in last year), Physical Abuse Often(in last year), and Force Sex Often(in last year) are binary indicators for the respondent reporting experiencing psychological abuse, physical abuse, or forced sex often(at all) within the last 12 months by her current partner or most recent partner from the past 2 years, respectively. In Panel C, the measures are binary indicators for the adolescent reporting ever having sex, having a current partner, and having a partner in the past 2 years; numeric counts of the number of times the adolescent reported having sex in a typical month, number of sex partners in the last 6 months, and reported hours spent with her boyfriend in the past day; and indicators for being HIV or STI positive, respectively. 0.01***, 0.05**, 0.10*.

Table 2 Pregnancy and Contraception use with last partner

	(1)	(2)	(3)	(4)	(5)
	Boys Treatment	Supply Treatment	Goal Treatment	Endline Control Mean	Observations
Ever Pregnant	-0.016 (0.031)	0.005 (0.033)	0.002 (0.016)	0.127	5182
Contraceptive Index	-0.015 (0.035)	0.010 (0.043)	0.029 (0.037)	-0.000	5182
Use Fem. Condom	0.001 (0.003)	0.002 (0.003)	0.005* (0.003)	0.001	5182
Use Injectable	-0.007 (0.009)	-0.015 (0.010)	-0.009 (0.010)	0.028	5182
Use Implant	-0.004 (0.008)	0.007 (0.009)	-0.001 (0.007)	0.011	5182
Use IUC	0.005 (0.004)	0.008 (0.006)	0.005* (0.003)	0.000	5182
Use Condom	-0.062** (0.029)	-0.033 (0.033)	0.004 (0.023)	0.220	5182
Use Natural Family Planning	-0.021* (0.011)	-0.020 (0.014)	0.013 (0.008)	0.021	5182
B. Conditional on having a partner at baseline or endline					
Ever Pregnant	-0.001 (0.078)	0.081 (0.080)	-0.039 (0.039)	0.295	1958
Contraceptive Index	0.031 (0.089)	0.096 (0.104)	0.033 (0.086)	0.122	1958
Use Female Condom	0.005 (0.008)	0.009 (0.008)	0.009 (0.007)	0.000	1958
Use Injectable	-0.005 (0.025)	-0.028 (0.026)	-0.026 (0.026)	0.070	1958
Use Implant	0.000 (0.020)	0.027 (0.021)	-0.008 (0.019)	0.026	1958
Use IUC	0.010 (0.010)	0.018 (0.014)	0.017*** (0.007)	0.000	1958
Use Condom	-0.132* (0.073)	-0.052 (0.075)	-0.004 (0.051)	0.509	1958
Use Natural Family Planning	-0.055* (0.030)	-0.027 (0.030)	0.034 (0.021)	0.047	1958

Notes: This table uses data from the female sample. Each row in this table presents the coefficients (β_1 , β_2 , and β_3) from a separate estimation of equation 1 for the outcome specified at the start of each row. The treatment effect coefficients for the *Boys* (β_1), *Supply* (β_2), and *Goal* (β_3) treatments are presented in columns (1), (2), and (3), respectively. Column (4) presents the outcome mean at endline in control communities, and column (5) shows the number of observations. Standard errors, clustered at the club level, are presented in parentheses below the treatment effect coefficients in columns (1)–(3). All specifications include controls for highest grade attended, whether the female’s household owns the house she lives in, whether the adolescent talks to her mom about sexual reproductive health topics, age of the adolescent, and club fixed effects. Ever pregnant is a binary indicator for ever being pregnant, and each of the contraceptive methods are binary indicators for having used the method with the last sexual partner. Contraceptive index is generated by standardizing each individual contraceptive indicator (excluding condom and natural family planning methods) to the mean and standard deviation among females in control communities at baseline and at endline separately and taking the unweighted mean of all standardized indicators. The top half of the table presents estimates over the whole balanced panel sample, and Panel B presents estimates for the balanced-panel sub-sample of females who indicated they had a current partner either at baseline or at endline. 0.01***, 0.05**, 0.10*.

Table 3 Impact of Treatments on Intimate Partner Violence (IPV)

	(1)	(2)	(3)	(4)
	Boys Treatment	Goal Treatment	Endline Control Mean	Observations
IPV Often Index	-0.162** (0.077)	-0.130** (0.051)	0.000	5182
IPV in last year Index	-0.120* (0.070)	-0.113** (0.054)	0.000	5182
Psychological Abuse Often	-0.018* (0.011)	-0.021** (0.008)	0.022	5182
Physical Abuse Often	-0.017** (0.008)	-0.013** (0.007)	0.016	5182
Force Sex Often	-0.019* (0.010)	-0.008 (0.006)	0.019	5182
Psychological Abuse in last year	-0.034* (0.020)	-0.033** (0.016)	0.080	5182
Physical Abuse in last year	-0.035** (0.017)	-0.020 (0.014)	0.063	5182
Force Sex in last year	-0.013 (0.016)	-0.021* (0.012)	0.040	5182

Notes: This table uses data from the female sample. Each row presents the coefficients (β_1 and β_3) from a separate estimation of equation 1 for the outcome specified at the start of each row. The treatment effect coefficients for the *Boys* (β_1) and *Goal* (β_3) treatments are presented in columns (1) and (2), respectively. Column (3) presents the outcome mean at endline in control communities, and column (4) shows the number of observations. Standard errors, clustered at the club level, are presented in parentheses below the treatment effect coefficients in columns (1)–(2). All specifications include controls for highest grade attended, whether the female’s household owns the house she lives in, whether the adolescent talks to her mom about sexual reproductive health topics, age of the adolescent, and club fixed effects. Psychological Abuse Often(in last year), Physical Abuse Often(in last year), and Force Sex Often(in last year) are binary indicators for the respondent reporting experiencing psychological abuse, physical abuse, or forced sex often(in last year) within the last 12 months by her current or most recent partner from the past 2 years, respectively. IPV Often(in last year) index is an index generated by standardizing each individual indicator to the mean and standard deviation among females in control communities at baseline and at endline separately and taking the unweighted mean of the three standardized indicators for each frequency set. 0.01***, 0.05 **, 0.10 *.

Table 4 Impact of Treatments on IPV, heterogeneity by had sex at baseline

	(1)	(2)	(3)	(4)
	Boys Treatment	Goal Treatment	Endline Control Mean	Observations
IPV Often Index				
treatment x post	-0.045 (0.058)	-0.069* (0.042)	-0.020	5182
treatment x post x had sex	-0.503** (0.255)	-0.221 (0.181)	0.065	
IPV in last year Index				
treatment x post	-0.052 (0.065)	-0.033 (0.045)	-0.058	5182
treatment x post x had sex	-0.279 (0.224)	-0.302* (0.165)	0.192	
Psychological Abuse Often				
treatment x post	-0.010 (0.009)	-0.009 (0.006)	0.018	5182
treatment x post x had sex	-0.031 (0.034)	-0.046 (0.029)	0.035	
Physical Abuse Often				
treatment x post	-0.005 (0.007)	-0.006 (0.005)	0.013	5182
treatment x post x had sex	-0.052* (0.029)	-0.027 (0.023)	0.025	
Force Sex Often				
treatment x post	-0.009 (0.010)	-0.009 (0.006)	0.018	5182
treatment x post x had sex	-0.043* (0.025)	0.003 (0.019)	0.025	
Psychological Abuse in last year				
treatment x post	-0.018 (0.018)	-0.005 (0.014)	0.058	5182
treatment x post x had sex	-0.065 (0.064)	-0.110** (0.049)	0.153	
Physical Abuse in last year				
treatment x post	-0.019 (0.016)	-0.003 (0.011)	0.048	5182
treatment x post x had sex	-0.065 (0.056)	-0.066 (0.044)	0.114	
Force Sex in last year				
treatment x post	-0.008 (0.014)	-0.010 (0.010)	0.034	5182
treatment x post x had sex	-0.023 (0.047)	-0.038 (0.037)	0.059	

Notes: This table uses data from the female sample. It presents coefficient estimates for β_1 , η_1 , β_3 , and η_3 for 8 separate estimations of equation 3, with each regression organized as a pair of rows (*treatment* $\times$ *post* and *treatment* $\times$ *post* $\times$ *had sex*) for each outcome specified above the aforementioned set. Rows labeled *treatment* $\times$ *post* present coefficients β_1 and β_3 in columns (1) and (2), respectively, for the specified outcome. Rows labeled *treatment* $\times$ *post* $\times$ *had sex* present coefficients η_1 and η_2 in columns (1) and (2), respectively, for the specified outcome. Column (3) presents the outcome mean in control communities at endline and column (4) presents the sample size. Standard errors, clustered at the club level, are presented in parentheses below treatment effect coefficients in columns (1)–(2). See notes for Table 3 for details on control variables and outcome definitions. 0.01***, 0.05 **, 0.10 *.

Table 5 Impacts of Grassroot Soccer and Goal Setting on Males (Male Data)

	(1)	(2)	(3)	(4)
	Boys Treatment	Goal Treatment	Endline Control Mean	Observations
A. IPV Attitudes Perpetration				
Violence Attitudes Index	-0.248** (0.118)	0.028 (0.063)	-0.000	2314
Tolerate violence from husband/partner	-0.155*** (0.049)	0.022 (0.030)	0.085	2314
Men can beat women in certain circumstances	-0.023 (0.070)	0.005 (0.034)	0.166	2314
IPV Often Index	-0.023 (0.085)	-0.105 (0.072)	-0.000	2314
IPV in last year Index	0.110 (0.107)	0.003 (0.089)	0.000	2314
Hurt girlfriend under the influence of drugs/alcohol	-0.043** (0.017)	0.005 (0.017)	0.024	2314
B. SRH Attitudes and Sexual Activity				
Girls have a right to ask to use a condom	0.122** (0.061)	-0.049 (0.037)	0.801	2220
Partners Index	-0.085 (0.071)	0.019 (0.051)	-0.000	2094
Ever Had Sex	-0.028 (0.035)	-0.006 (0.026)	0.623	2314
Currently has partner	-0.072 (0.051)	-0.030 (0.029)	0.559	2314
Had partner past 2yrs	-0.051 (0.045)	-0.009 (0.028)	0.599	2314
Number of sexual partners past 6 months	0.081 (0.082)	0.037 (0.052)	0.478	2231
Total sexual partners ever	-0.094 (0.063)	0.046 (0.042)	0.834	2314
Frequency of sex in a typical month	-0.440 (0.372)	0.088 (0.343)	2.573	2120
Hours with girlfriend in the past day	-0.017 (0.078)	0.068 (0.071)	0.356	2314

Notes: This table uses data from male partners of the females. Each row in this table presents coefficients (β_1 and β_3) from a separate estimation of equation 8 for the outcome specified at the start of each row. The coefficients for the *Boys* (β_1) and *Goal* (β_3) treatments are presented in columns (1) and (2), respectively. Column (3) presents the outcome mean at endline in control communities, and column (4) shows the number of observations. Standard errors, clustered at the club level, are presented in parentheses below the treatment effect coefficients in columns (1)–(2). All specifications include controls for age of the male, highest grade completed, a binary indicator that the male never talks to his father about sexual reproductive health topics, a binary indicator that the male's household owns the house he lives in, and region fixed effects. In Panel A, Tolerate violence from husband/partner is a binary indicator that the male agrees that a female should tolerate violence, Men can beat women in certain circumstances is a binary indicator for the male disagreeing that "a man should not beat a woman under any circumstance," and the Violence Attitudes Index is generated by standardizing each individual indicator to the mean and standard deviation among males in control communities at baseline and at endline separately and taking the unweighted mean of the standardized indicators, where higher values of the index indicate more taste for violence. IPV Often (in last year) index is defined as for the females in Table 3, except the underlying questions are about the male's own perpetration of psychological, physical, and sexual abuse, and Hurt girlfriend under the influence of drugs/alcohol is a binary indicator for the male reporting hurting his current or most recent (within the last 2 years) partner while under the influence of drugs or alcohol. In Panel B, Girls have a right to ask to use a condom is a binary indicator that the male agrees that females have a right to ask to use a condom. Ever had sex is a binary indicator for the respondent reporting ever having had sex, Currently has partner is a binary indicator for reporting currently having a partner, Had Partner past 2 years is a binary indicator for currently having or having had a partner in the past two years, Number of Sex Partners past 6 months is the number of reported sexual partners the respondent has had in the past six months, Frequency of Sex in a typical month is the number of times a respondent reports he has sex in a typical month, and Hours with girlfriend in the last day is the reported number of hours that a respondent spent with his girlfriend in the past day. Respondents who do not have partners or have never had sex are assigned zeros for all outcomes. Partners Index is generated by standardizing each individual indicator to the mean and standard deviation among males in control communities at baseline and at endline separately and taking the unweighted mean of the standardized indicators. 0.01***, 0.05 **, 0.10 *.

Table 6 Impact of Treatments Sexual Activity

	(1)	(2)	(3)	(4)
	Boys Treatment	Goal Treatment	Endline Control Mean	Observations
Sexual Activity Index	-0.158*** (0.054)	0.053 (0.034)	-0.000	4912
Ever Had Sex	-0.050* (0.028)	0.029* (0.017)	0.384	5182
Currently has partner	-0.103*** (0.032)	0.019 (0.022)	0.337	5182
Had partner past 2 years	-0.071** (0.031)	0.015 (0.020)	0.386	5182
Number of sexual partners past 6 months	-0.078* (0.041)	0.028 (0.027)	0.315	5030
Total Sexual partners ever	-0.044 (0.036)	0.046** (0.023)	0.475	5182
Frequency of sex in a typical month	-0.339 (0.232)	0.265 (0.162)	1.505	4990
Hours with boyfriend in the past day	-0.131*** (0.051)	0.020 (0.023)	0.205	5182
B. Conditional on having a partner at baseline or endline				
Frequency of sex in a typical month	-0.579 (0.604)	0.498 (0.428)	3.967	1802
Hours with boyfriend in the past day	-0.293** (0.118)	0.029 (0.059)	0.523	1958

Notes: This table uses data from the female sample. The top part of this table presents coefficients from estimating equation 1 over the whole balanced panel sample. The bottom part of the table again presents coefficients from estimating equation 1, but restricting the sample to a balanced-panel sub-sample of females who report having a current partner either at baseline or at endline. See notes from Table 3 for detail on table structure and control variables. Standard errors, clustered at the club level, are presented in parentheses below coefficient estimates in columns (1) and (2). All outcomes are defined as in 5, except in relation to females themselves. 0.01***, 0.05 **, 0.10 *.

Table 7 Impact of Treatments on Quality of Sexual Partners

	(1)	(2)	(3)	(4)
	Boys Treatment	Goal Treatment	Endline Control Mean	Observations
A. Ever Sexual Partner				
Quality Index	-0.089 (0.065)	0.113** (0.044)	0.007	1621
His Age	0.461 (0.627)	-0.619* (0.318)	25.471	1636
Dropout/Never enroll	-0.009 (0.028)	-0.025 (0.015)	0.049	1634
Use contraceptive	-0.134* (0.071)	0.065 (0.044)	0.666	1634
B. Current Sexual Partners				
Quality Index	-0.022 (0.099)	0.173* (0.089)	-0.000	1239
His Age	0.196 (0.610)	-0.515 (0.515)	25.320	1239
Dropout/Never enroll	-0.022 (0.030)	-0.022 (0.025)	0.043	1239
Use contraceptive	-0.127 (0.096)	0.114* (0.063)	0.664	1239

Notes: This table uses data from the female sample. It presents coefficients from estimating equation 1 on sexual partner quality for the sub-sample of females in the balanced panel sample who list at least one sexual partner during baseline or endline. Panel A is estimated for females who ever had a sexual partner and Panel B is estimated for females who list sexual partners with whom they are currently having sex. See notes from Table 3 on table structure and control variables. Age is the average age in years of all sexual partners listed; Dropout/Never Enrolled is the share of sexual partners listed whose enrollment status is dropped out of school or never enrolled in school, and Use contraceptive is the share of sexual partners that the female reports use contraceptives. The Quality Index is generated by standardizing each individual indicator to the mean and standard deviation among females in control communities at baseline and at endline separately and taking the unweighted mean of the standardized indicators. 0.01***, 0.05 **, 0.10 *.

Table 8 Impacts of Treatments on Locus of Control and Discount Behavior

	(1)	(2)	(3)	(4)
	Boys Treatment	Goal Treatment	Endline Control Mean	Observations
Locus of Control	0.202 (0.133)	0.109* (0.059)	0.000	5182
Very confident can complete task	-0.006 (0.078)	0.043 (0.030)	0.539	5182
Discount Factor	-0.028 (0.046)	0.028 (0.023)	0.261	5182
Chose Riskiest Option	-0.023 (0.031)	-0.005 (0.021)	0.081	4994

Notes: This table uses data from the female sample. It presents treatment effect coefficient estimates of β_1 and β_3 from equation 1. See notes from Table 3 on table structure and control variables. Locus of Control is an index measured in standard deviation units, generated by standardizing the raw Locus of Control score to the mean and standard deviation among females in control communities at baseline and at endline separately. Very confident can complete task is a binary indicator for the female reporting being very confident she can complete any task she starts, Discount Factor measures the extent to which respondents discount the future and ranges from .1 to 1, and Chose Riskiest Option is a binary indicator for the female selecting the riskiest option in a risk game implemented in the field. 0.01***, 0.05 **, 0.10 *.

Table 9 Attrition: Females Sample

	(1)	(2)	(3)	(4)
	× Supply	× Boys	× Goal	Levels
Panel A. Differential Attrition by Treatment Status				
Supply				0.022 (0.035)
Boys				-0.020 (0.029)
Goal				0.002 (0.016)
Panel B. Differential Attrition by Treatment Status, fully interacted				
Supply			0.023 (0.039)	0.015 (0.038)
Boys			-0.031 (0.038)	-0.012 (0.032)
Goal				0.005 (0.025)
Panel C. Differential Attrition by Treatment Status and Key Measures				
Psych. Abuse Often	-0.044 (0.122)	-0.182 (0.130)	0.094 (0.136)	-0.077 (0.096)
Physical Abuse Often	-0.320 (0.207)	-0.140 (0.129)	-0.482** (0.202)	0.448*** (0.151)
Force Sex Often	-0.221 (0.200)	0.041 (0.148)	0.092 (0.170)	0.020 (0.158)
Ever Had Sex	-0.077 (0.070)	0.003 (0.069)	-0.007 (0.059)	0.006 (0.055)
Currently Has Partner	0.084 (0.081)	-0.020 (0.067)	0.006 (0.058)	0.034 (0.053)
Age	0.005 (0.008)	0.007 (0.009)	-0.005 (0.006)	-0.003 (0.007)
Highest Grade	-0.005 (0.009)	-0.012 (0.008)	0.009 (0.007)	0.005 (0.006)
Treatments	0.024 (0.074)	-0.022 (0.117)	-0.036 (0.112)	
F-test p-values	0.721	.387	0.247	
Observations	3178			

Notes: This table uses data from the female sample. Each panel presents coefficients from a separate regression where the outcome, Y_{ic} , is an indicator equal to 1 if the respondent was not resurveyed at endline. In all panels, standard errors, clustered at the club level, are presented in parentheses. The rows of the table list variables included in the model for each panel, and the coefficients on the listed variables are given in the columns. Column (1) presents estimates of coefficients on interactions between the row variables and a treatment indicator for being in the *Supply* arm, in column (2) are estimates of coefficients on interactions with being in the *Boys* arm, and in column (3) are estimates of coefficients on interactions with being in the *Goal* treatment. Column (4) shows estimates of coefficients on the row variables themselves without interactions. In Panel A, the results are taken from estimating:

$$Y_{ic} = \alpha + \beta_1 \text{Supply}_c + \gamma_1 \text{Boys}_c + \delta_1 \text{Goal}_i + \alpha_c + \epsilon_{ic},$$

where α_c is a set of region fixed effects. Panel B presents results from a similar model as A, including two additional terms where goal setting has been interacted with treatment. Panel C presents results from the same base model as panel A, including interactions of each variable listed in the first column with the treatment indicators, as well as their levels and the levels of the treatment indicators. The F-test p-values correspond to a test of the joint significance of all interaction terms in the relevant column in Panel C. 0.01***, 0.05**, 0.10*.

Table 10 Attrition: Males Sample (Male Data)

	(1)	(2)	(3)	(4)
	× Supply	× Boys	× Goal	Levels
Panel A. Differential Attrition by Treatment Status				
Supply				-0.025 (0.027)
Boys				-0.007 (0.013)
Goal				-0.007 (0.013)
Panel B. Differential Attrition by Treatment Status, fully interacted				
Supply			0.012 (0.040)	-0.028 (0.027)
Boys			-0.001 (0.031)	-0.006 (0.021)
Goal				-0.009 (0.027)
Panel C. Differential Attrition by Treatment Status and Key Measures				
Hurt girlfriend under the influence of drugs/alcohol	-0.001 (0.081)	-0.033 (0.080)	-0.128 (0.091)	0.007 (0.079)
Girls have a right to ask to use a condom	-0.010 (0.049)	0.031 (0.039)	-0.006 (0.028)	0.001 (0.037)
Tolerate violence from husband/partner	-0.001 (0.054)	-0.029 (0.047)	0.045 (0.041)	0.009 (0.043)
Ever Had Sex	-0.099 (0.085)	0.026 (0.079)	<0.000 (0.062)	-0.037 (0.081)
Currently Has Partner	0.129 (0.081)	-0.041 (0.076)	0.025 (0.050)	0.017 (0.075)
Age	-0.001 (0.006)	0.006 (0.005)	-0.002 (0.004)	-0.004 (0.005)
Highest Grade	-0.003 (0.009)	-0.010 (0.008)	0.004 (0.004)	0.005 (0.007)
Treatments	-0.155 (0.302)	-0.382 (0.261)	0.221 (0.194)	
F-test p-value	0.779	0.156	0.737	
Observations	1466			

Notes: This table uses data from the male sample. Each panel presents coefficients from a separate regression where the outcome, Y_{ic} , is an indicator equal to 1 if the respondent was not resurveyed at endline. In all panels, standard errors, clustered at the club level, are presented in parentheses. The rows of the table list variables included in the model for each panel, and the coefficients on the listed variables are given in the columns. Column (1) presents estimates of coefficients on interactions between the row variables and a treatment indicator for being in the *Supply* arm, in column (2) are estimates of coefficients on interactions with being in the *Boys* arm, and in column (3) are estimates of coefficients on interactions with being in the *Goal* treatment. Column (4) shows estimates of coefficients on the row variables themselves without interactions. In Panel A, the results are taken from estimating:

$$Y_{ic} = \alpha + \beta_1 \text{Supply}_c + \gamma_1 \text{Boys}_c + \delta_1 \text{Goal}_i + \alpha_c + \epsilon_{ic},$$

where α_c is a set of region fixed effects. Panel B presents results from a similar model as A, including two additional terms where goal setting has been interacted with treatment. Panel C presents results from the same base model as panel A, including interactions of each variable listed in the first column with the treatment indicators, as well as their levels and the levels of the treatment indicators. The F-test p-value correspond to a test of the joint significance of all interaction terms in the relevant column in Panel C. 0.01***, 0.05**, 0.10*.

Appendix

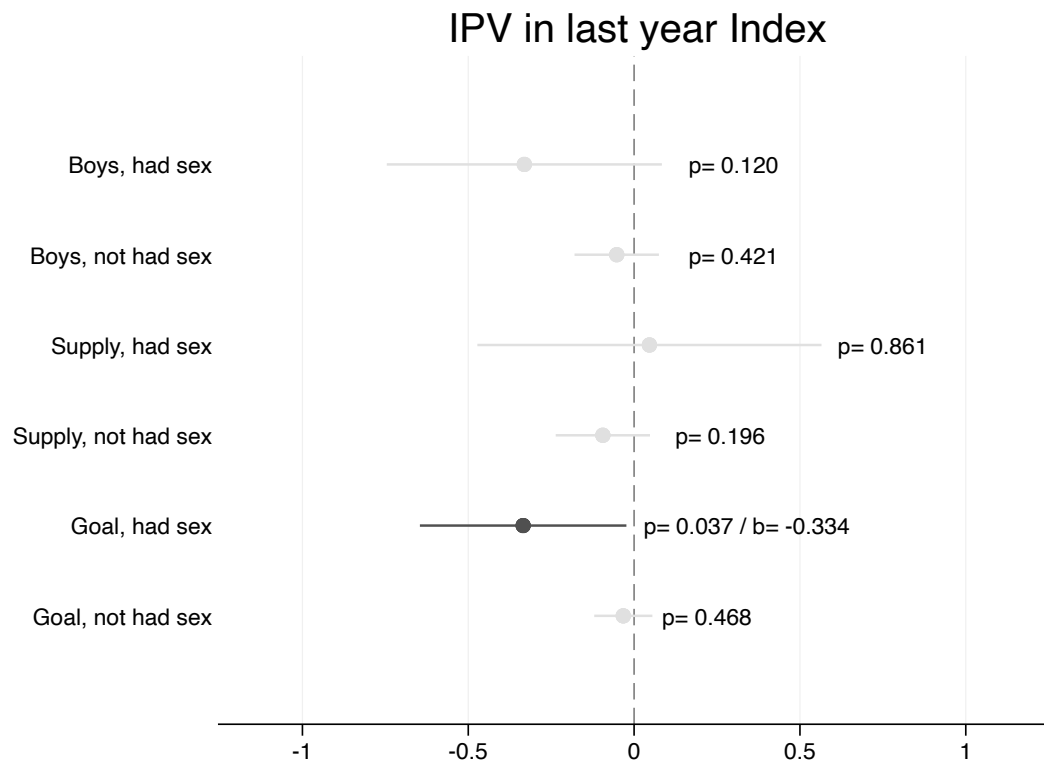


Figure A1 IPV in last year Index: Had Sex at Baseline

Notes. This figure presents treatment effect estimates from equation 3 for the IPV in last year Index outcome. See notes from Figure 6.

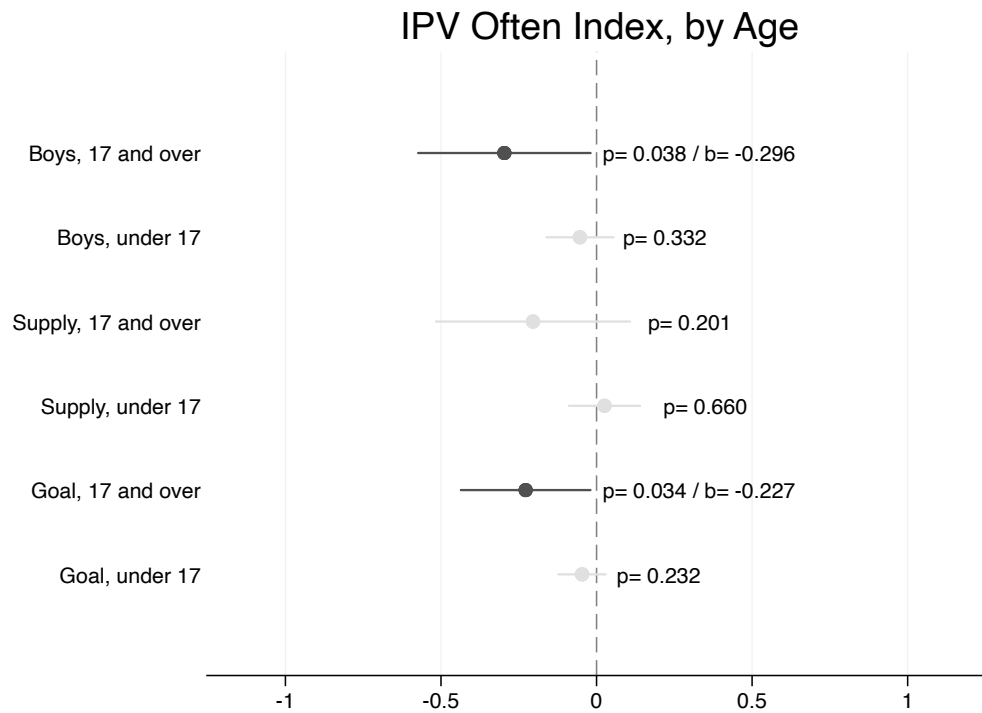


Figure A2 IPV Often Index: Age at Baseline

Notes. This figure presents treatment effect estimates from an equation similar to 3, except that instead of interacting the treatment indicators with an indicator for having already had sex at baseline, the interaction is with an indicator for being 17 years old or older at baseline. These are estimates of this specification with the IPV Often Index outcome. As in Table 6, the 17 and over rows are the sum of the coefficient on the treatment indicator and the treatment effect interacted with an indicator for being at least 17 years old to give the total treatment effect for females aged 17 and older.

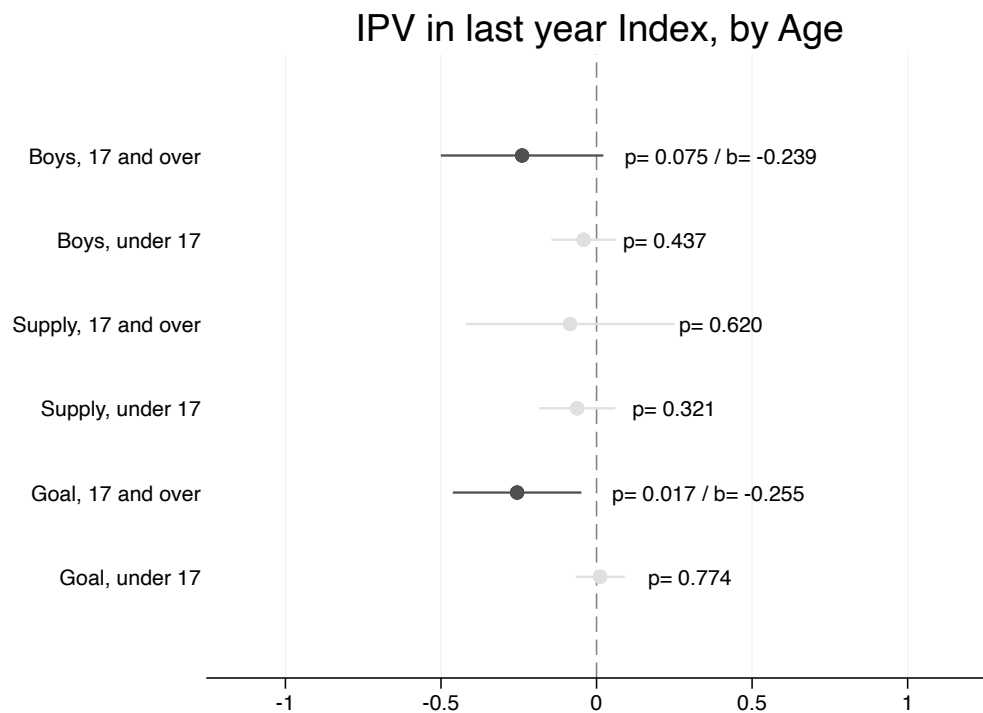


Figure A3 IPV in last year Index: Age at Baseline

Notes. This figure replicates Figure A2 for the IPV in last year Index outcome.

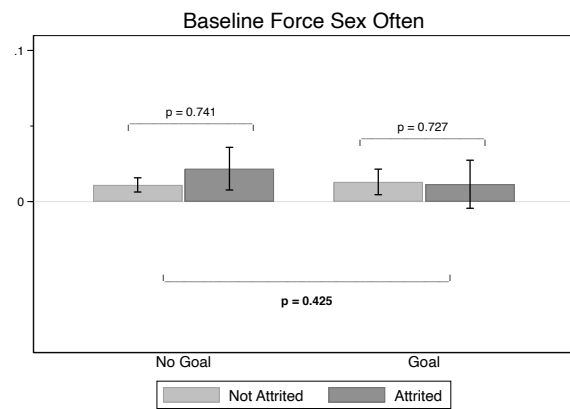
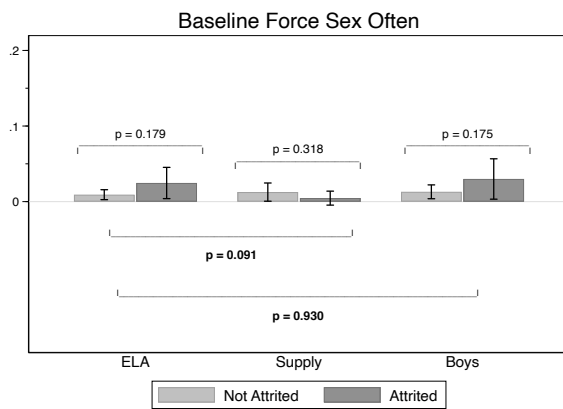
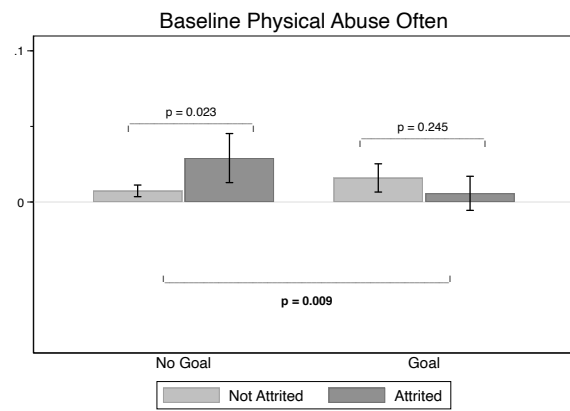
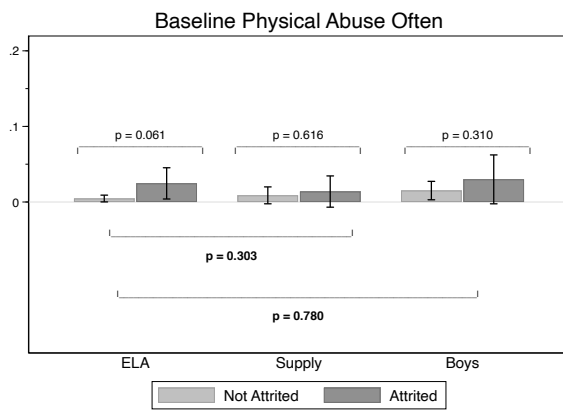
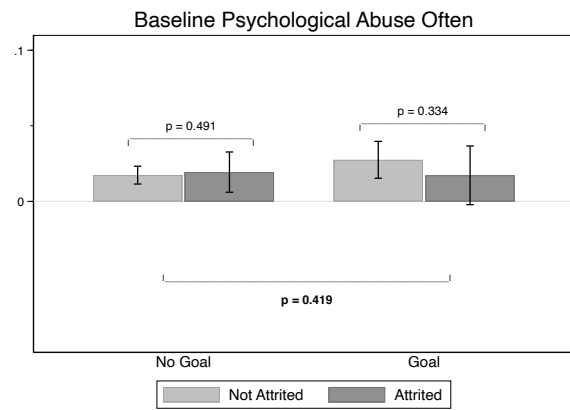
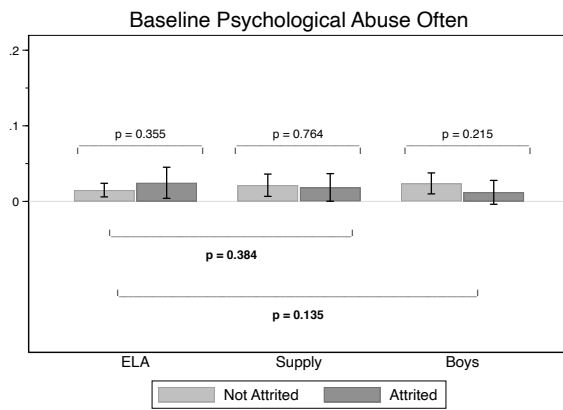
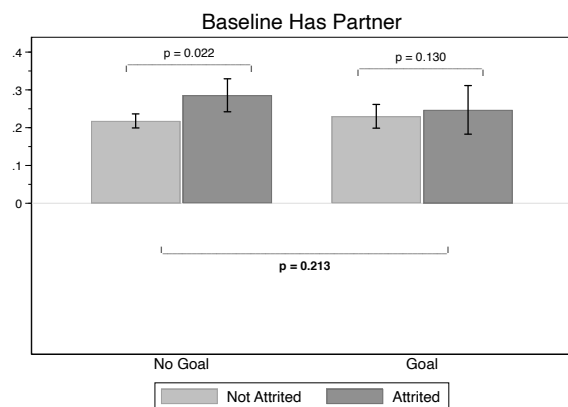
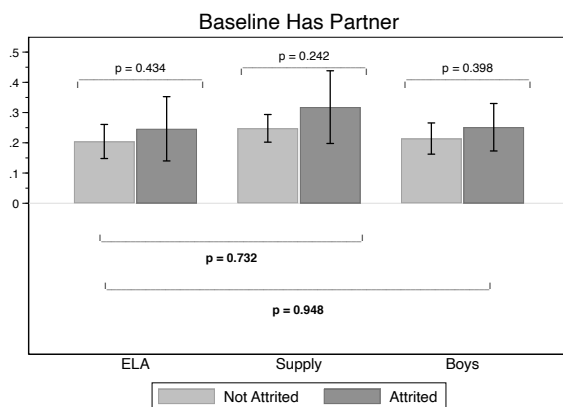
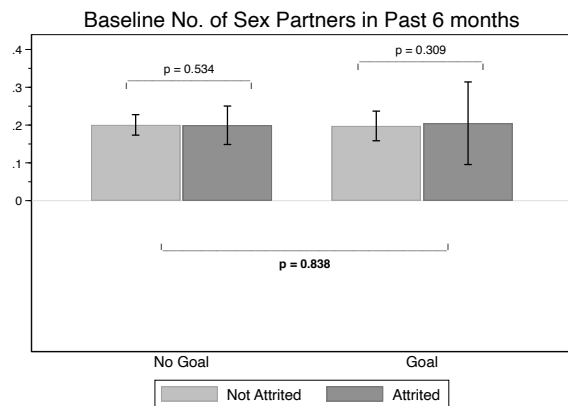
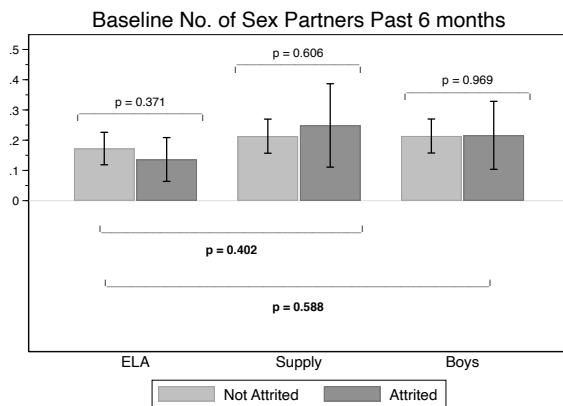
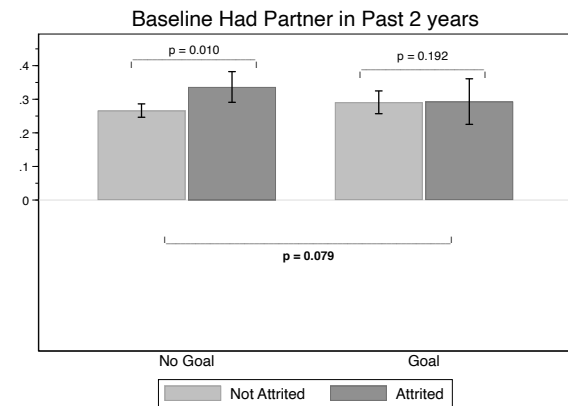
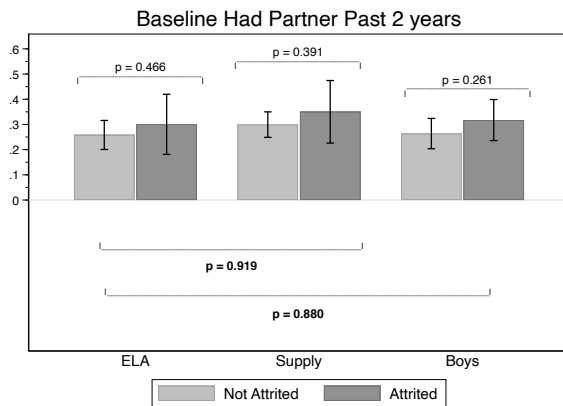
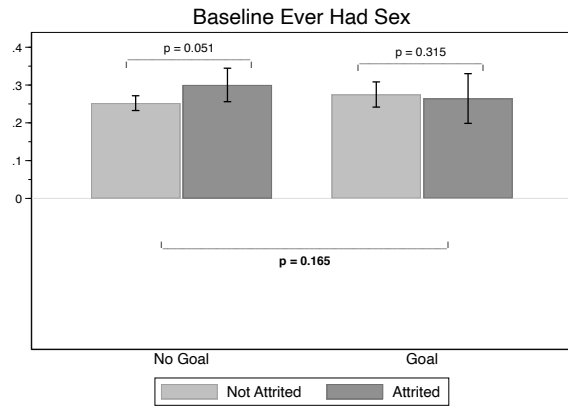
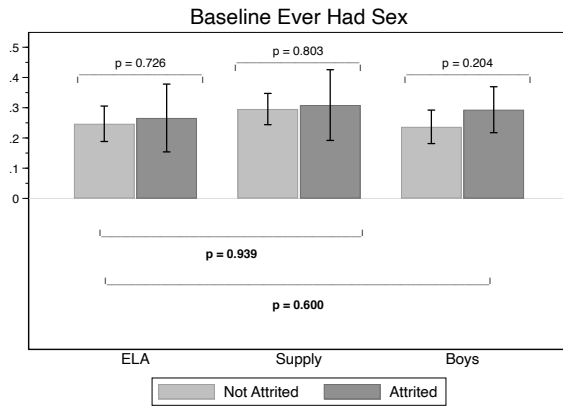


Figure A4 Attrition



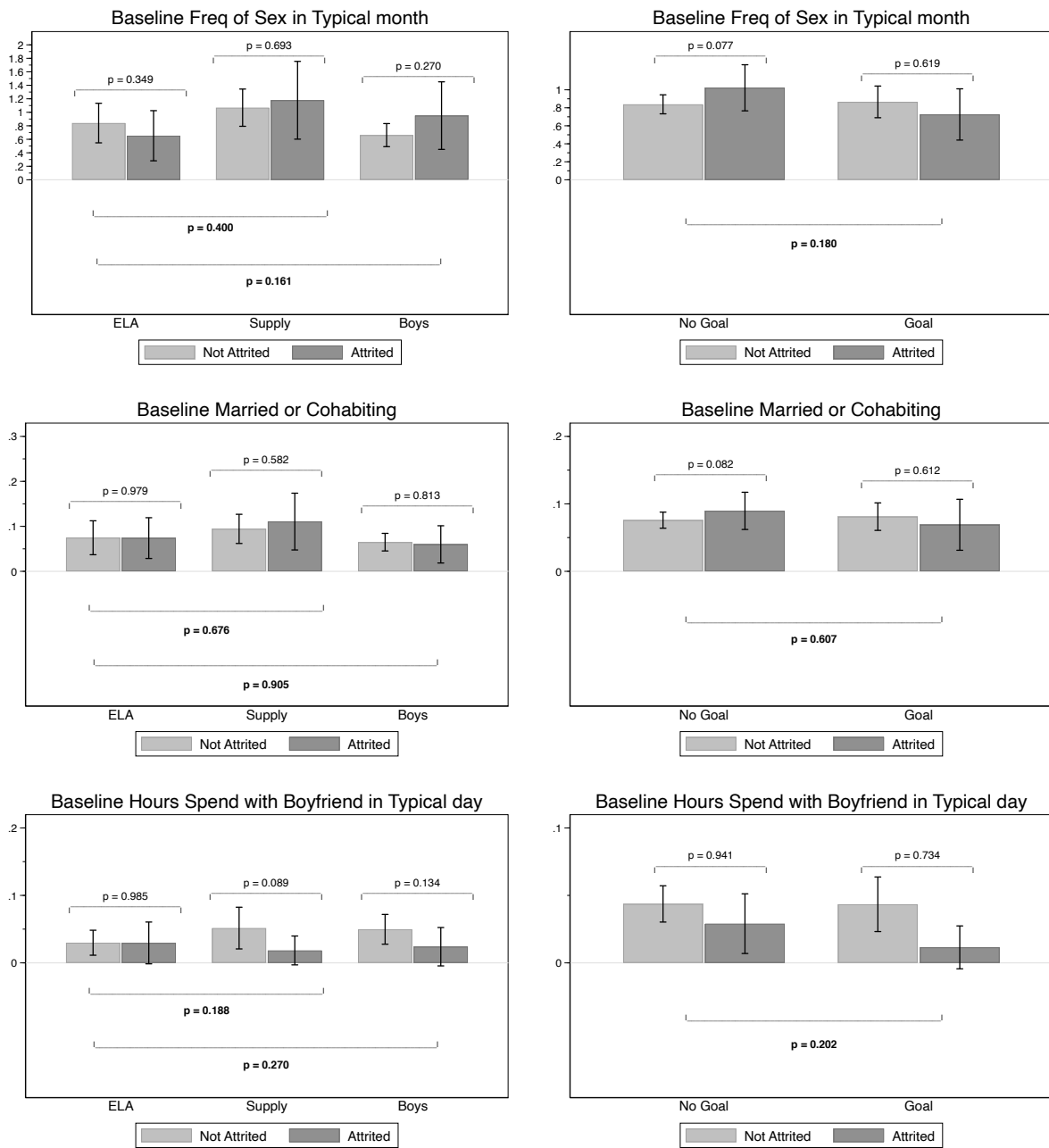


Figure A6 Attrition

Table A1 External Validity: Comparison of our sample to random sample of females in the same communities

	(1)	(2)	(3)	(4)	(5)
	Baseline Mean	Buehren et al. (2017) Baseline Mean	Buehren et al. (2017) Baseline Control Mean	(1)-(2) p-value	(1)-(3) p-value
Age	16.355 (2.676)	16.676 (2.445)	16.621 (2.460)	0.023	0.097
Married	0.044 (0.206)	0.022 (0.147)	0.024 (0.155)	0.024	0.052
Own House	0.605 (0.489)	0.606 (0.489)	0.626 (0.484)	0.951	0.560
Has Child	0.089 (0.285)	0.068 (0.252)	0.073 (0.260)	0.115	0.283
Had Sex	0.241 (0.428)	0.228 (0.420)	0.242 (0.429)	0.557	0.948
Use Condom 1	0.131 (0.337)	0.143 (0.351)	0.144 (0.351)	0.389	0.439
Use Condom	0.182 (0.386)	0.188 (0.391)	0.189 (0.391)	0.739	0.765
Highest Grade	8.273 (2.743)	8.342 (2.431)	8.239 (2.474)	0.648	0.835
Dropout	0.236 (0.425)	0.212 (0.409)	0.217 (0.412)	0.243	0.438
Never enrolled	0.012 (0.110)	0.015 (0.120)	0.019 (0.135)	0.518	0.234
Observations	1,621	4,954	1,708	6,575	3,329

Notes. 0.01 ***, 0.05**, 0.10*. This table compares the baseline mean of females living in Dodoma and Iringa in the current study sample at baseline (collected in 2016) in column 1 to the baseline means among females in the Buehren et al. (2017) study (collected in 2009) in columns 2 and 3. The current study sample in column 1 is restricted to Dodoma and Iringa because these are the two regions that align with the Buehren et al. (2017) study. The means in column 2 use the entire baseline sample from Buehren et al. (2017), which comprises a random sample of females from the same communities included in the current study sample, as well as a sample of females from communities neighboring those that recieved ELA clubs that did not receive clubs. In column 3, the Buehren et al. (2017) sample is restricted only to communities that never received ELA clubs that are near to communities that did receive ELA, so are not in the current study sample, to alleviate concern that communities that receive clubs are different than those that do not. In al samples, we restrict the sample to be aged 13-22 so that the ages in the two samples align.

Table A2 Predictors of achieving goal

	(1)	(2)
	Number of Strategies Set	Number of Strategies Achieved
Major depressive disorder likely	-0.235* (0.121)	-0.219* (0.127)
Self-efficacy	0.103*** (0.036)	0.102*** (0.035)
Will take risk (top quintile)	0.055 (0.057)	-0.002 (0.067)
Impatient now and patient later	-0.028 (0.076)	-0.018 (0.082)
Age	-0.002 (0.009)	0.008 (0.013)
Currently enrolled in school	-0.185 (0.114)	-0.168 (0.135)
Completed school	-0.093 (0.106)	-0.054 (0.125)
Household has electricity	-0.044 (0.051)	0.021 (0.055)
Household has earthen floor	-0.232*** (0.065)	-0.121 (0.088)
Outcome mean	1.772	1.640
Observations	789	644

Notes. This table uses data from the female sample. The sample in column (1) is all females that participated in the goal-setting activity in August 2017, and the sample in column (2) is all females who participated in the goal-setting activity who were followed to the endline survey. The outcome in column (1) is the number of strategies the female named measured at the time of the goal-setting activity, ranging from 0 to 3 strategies, and the outcome in column (2) is the number of strategies that the female reports she achieved during the endline survey. The covariates labeling the rows are from the baseline survey (age, currently enrolled in school, completed school, household has electricity, household has earthen floor) or the goal-setting activity (major depressive disorder likely, self-efficacy, will take risk). Major depressive disorder likely is a binary indicator measured using the Patient Health Questionnaire-2 (PHQ-2), where a score of 3 or higher is indicative of depression. Self-efficacy is measured using the General Self-Efficacy Scale developed by Schwarzer and Jerusalem (1995). This scale generates a total self-efficacy score that rates from 10-40, which we standardized using the mean and standard deviation among females in control communities. Will take risk is measured based on a question that asked females how willing they were to take risks on a scale from 1 to 10. We generate a binary indicator equal to one if the female gave an answer in the top quintile of responses. Age is age in years at the time of baseline, and currently enrolled in school, completed school, household has electricity and household has earthen floor are all binary indicators for the corresponding metric. Standard errors, clustered at the club level, are presented in parentheses. 0.01***, 0.05**, 0.10*.

Table A3 Impact of Treatments on Intimate Partner Violence (IPV), Separating goal treatment into high and low strategies

	(1)	(2)	(3)	(4)	(5)
	Boys Treatment	2-3 strategy Treatment	1 strategy Treatment	Endline Control Mean	Observations
IPV Often Index	-0.160** (0.077)	-0.203*** (0.077)	-0.024 (0.045)	0.000	5182
IPV in last year Index	-0.119* (0.070)	-0.152** (0.074)	-0.058 (0.061)	0.000	5182
Psych. Abuse Often	-0.018* (0.011)	-0.028** (0.011)	-0.011 (0.009)	0.022	5182
Physical Abuse Often	-0.017** (0.008)	-0.022** (0.010)	-0.001 (0.005)	0.016	5182
Force Sex Often	-0.019* (0.010)	-0.010 (0.008)	-0.006 (0.008)	0.019	5182
Psych. Abuse in last year	-0.034* (0.020)	-0.045** (0.021)	-0.017 (0.019)	0.080	5182
Physical Abuse in last year	-0.035** (0.017)	-0.021 (0.018)	-0.018 (0.016)	0.063	5182
Force Sex in last year	-0.013 (0.016)	-0.029* (0.016)	-0.009 (0.015)	0.040	5182

Notes: This table uses data from the female sample to estimate a modified specification of equation 1 that splits the goal treatment indicator into two mutually exclusive and complete indicators for the goal-setting participant setting 2 or 3 strategies and for the goal-setting participant setting 1 or 0 strategies. Each row is a separate regression with the outcome defined at the start of the row and coefficient estimates are presented in columns (1)–(3), with the outcome mean at endline in control communities in column (4) and number of observations in column (5). See notes for Table 3 for detail on outcome definitions and control variables. 0.01 ***, 0.05 **, 0.10 *.

Table A4 Impacts of Grassroot Soccer and Goal Setting on Males: IPV Attitudes and Perpetration, heterogeneity by had sex at baseline (Male Data)

	(1)	(4)	(3)	(4)
	Boys Treatment	Goal Treatment	Endline Control Mean	Observations
Violence Attitudes Index				
treatment x post	-0.055 (0.072)	0.045 (0.085)	-0.068	2314
treatment x post x had sex	-0.273** (0.122)	-0.013 (0.139)	0.072	
Tolerate violence from husband/partner				
treatment x post	-0.016 (0.021)	0.069* (0.041)	0.071	2314
treatment x post x had sex	-0.168*** (0.061)	-0.088 (0.060)	0.100	
Men can beat women in certain circumstances				
treatment x post	-0.020 (0.049)	-0.014 (0.055)	0.134	2314
treatment x post x had sex	-0.031 (0.074)	0.051 (0.089)	0.200	
IPV Often Index				
treatment x post	0.050 (0.038)	0.009 (0.042)	-0.097	2314
treatment x post x had sex	-0.139 (0.169)	-0.218* (0.132)	0.103	
IPV in last year Index				
treatment x post	0.121** (0.053)	0.015 (0.062)	-0.168	2314
treatment x post x had sex	-0.006 (0.203)	-0.015 (0.158)	0.177	
Hurt girlfriend under the influence of drugs/alcohol				
treatment x post	-0.022* (0.012)	0.004 (0.012)	0.024	2314
treatment x post x had sex	-0.046 (0.031)	0.010 (0.040)	0.025	

Notes: This table uses data from the male sample and presents coefficients from a modified specification of equation 8 that includes interactions between the *Boys* treatment indicator and the *Goal* treatment indicator and an indicator for having had sex at the time of the baseline survey. See notes from Table 6 for detail on table structure and notes from Table 5 on outcome definitions. 0.01 ***, 0.05 **, 0.10 *.

Table A5 Impact of Treatments on Quality of Sexual Partners (Male Data)

	(1)	(2)	(3)	(4)
	Boys Treatment	Goal Treatment	Endline Control Mean	Observations
A. Ever Sexual Partner				
Quality Index	0.063 (0.049)	0.033 (0.043)	-0.108	857
Her Age	-0.076 (0.237)	-0.028 (0.212)	22.541	857
Dropout/Never enroll	-0.000 (0.015)	-0.003 (0.012)	0.047	857
Use contraceptive	0.060* (0.034)	0.037 (0.041)	0.734	857
B. Current Sexual Partners				
Quality Index	0.032 (0.071)	0.045 (0.064)	-0.095	692
Her Age	0.016 (0.216)	0.007 (0.269)	22.652	692
Dropout/Never enroll	0.014 (0.025)	-0.011 (0.018)	0.029	692
Use contraceptive	0.082 (0.054)	0.032 (0.058)	0.754	692

Notes: This table uses data from the male sample and presents estimates of β_1 and β_3 from equation 8. See notes in Table 5 for detail on table structure and control variables. In Panel A, the sample is restricted to males who named female partners at baseline and also had partners at endline and in Panel B, the sample is restricted to males who named female partners they are currently having sex with at baseline and also had partners at endline. See notes for Table 7 for outcome definitions, defined here in relation to males and their female partners. 0.01 ***, 0.05**, 0.10*.

Table A6 Impacts of Grassroot Soccer and Goal Setting on Time use

	(1)	(2)	(3)	(4)
	Boys Treatment	Goal Treatment	Endline Control Mean	Observations
A. Female Time Use (Female Data)				
In the past day, hours spent...				
Sleeping	-0.391* (0.209)	-0.013 (0.112)	8.950	5182
In School	0.487 (0.313)	-0.154 (0.172)	3.924	5182
Studying	0.327*** (0.116)	-0.086 (0.075)	0.712	5182
Sports/Leisure	0.080 (0.139)	0.092 (0.087)	1.268	5182
Domestic Tasks	-0.301 (0.218)	0.271** (0.120)	3.390	5182
Working on family farm	-0.046 (0.060)	-0.045 (0.030)	0.153	5182
Income generating activities	0.066 (0.213)	-0.244** (0.121)	0.844	5182
Praying	0.053 (0.175)	-0.264** (0.112)	0.653	5182
B. Male Time Use (Male Data)				
In the past day, hours spent...				
Sleeping	-0.325 (0.240)	0.158 (0.179)	8.457	2314
In School	-0.119 (0.318)	-0.257 (0.206)	2.939	2314
Studying	0.149 (0.145)	0.041 (0.093)	0.870	2314
Sports/Leisure	0.492** (0.207)	0.120 (0.185)	2.401	2314
Domestic Tasks	-0.093 (0.207)	0.365*** (0.121)	1.040	2314
Working on family farm	0.053 (0.123)	0.222** (0.109)	0.364	2314
Income generating activities	0.101 (0.377)	-0.621** (0.282)	4.036	2314
Praying	-0.009 (0.422)	-0.676** (0.297)	3.911	2314

Notes: Panel A of this table uses data from the female sample and presents estimates of β_1 and β_3 from equation 1. Panel B of this table uses data from the male sample and presents estimates of β_1 and β_3 from equation 8. In the outcomes are the hours the male reports spending in each category on the day prior to survey. 0.01 ***, 0.05 **, 0.10 *.

Table A7 Change in sexual partnerships

	(1)	(2)	(3)	(4)
	Boys Treatment	Goal Treatment	Endline Control Mean	Observations
A. Base specification				
Partners ↑	-0.021 (0.022)	0.010 (0.015)	0.185	2591
Partners ↓	0.031** (0.012)	-0.004 (0.009)	0.045	2591
Only new partners	0.012 (0.024)	0.021 (0.017)	0.188	2591
Only old partner	-0.005 (0.018)	-0.003 (0.014)	0.109	2591
Sex for money or gifts	-0.002 (0.004)	-0.006* (0.003)	0.010	2591
B. Fully Interacted				
Partners ↑ treatment	-0.033 (0.025)	-0.013 (0.028)	0.187	2591
treatment x Goal	0.043 (0.036)			
Partners ↓ treatment	0.030** (0.013)	0.000 (0.013)	0.044	2591
treatment x Goal	0.001 (0.023)			
Only New Partners treatment	0.015 (0.027)	0.041 (0.028)	0.176	2591
treatment x Goal	-0.015 (0.044)			
Only Old Partners treatment	-0.020 (0.021)	-0.039* (0.021)	0.117	2591
treatment x Goal	0.057* (0.031)			
Sex for money or gifts treatment	-0.003 (0.005)	-0.008 (0.005)	0.012	2591
treatment x Goal	0.003 (0.008)			

Notes: This table uses endline female data to look at changes in partnerships from baseline to endline. In Panel A reported coefficients are from the following model: $Y_{ic} = \alpha + \beta_1 Boys_c + \beta_2 Supply_c + \beta_3 Goal_{ic} + X'_i \xi + \alpha_c + \epsilon_{ic}$. Each row is a separate regression with the outcome defined at the start of each row. Column (1) presents the coefficient estimate for β_1 and column (2) presents the coefficient estimate for β_3 . Partners ↑ is a binary indicator that the adolescent reports more current sexual partners at endline than at baseline; Partners ↓ is a binary indicator that the adolescent reports fewer current sexual partners at endline than baseline; and Only New and Only Old partners are binary indicators for reporting only new sexual partners (different partners from baseline) at endline or only old sexual partners (the same partners as baseline) at endline. Sex for money or gifts is a binary indicator for receiving money or gifts from any of the last three sexual interactions (could be same partner or 3 different partners); females who do not report sexual activity are assigned zeros. X'_i is a vector of baseline measures of the control variables defined in Table 3, and α_c are region fixed effects. Panel B presents the coefficients from estimating the previously described equation, interacting the Supply and Boys treatment with the goal-setting treatment indicator. Regression coefficients are now split into two rows per outcome, with the coefficient estimates on the levels of the treatment indicators in the first of the two rows, labeled *treatment*, and the Boys treatment indicator interacted with the Goal treatment indicator in the second of the two rows, labeled *treatment* × *Goal*. Outcomes are as defined in Panel A. Standard errors, clustered at the club level, are presented in parentheses. 0.01 ***, 0.05 **, 0.10 *.

Table A8 Secular Trends in IPV outcomes in ELA Communities

	(1)	(2)	(3)	(4)
	IPV Often Index		IPV in last year Index	
	Non-Goal	Goal	Non-Goal	Goal
Post	0.028 (0.057)	-0.199** (0.073)	-0.016 (0.058)	-0.215** (0.092)
Observations	1285	458	1285	458

Notes. The sample in this table is restricted to females in the control communities. Each column in this table presents coefficient estimates of θ_1 from a separate estimation of the following specification: $Y_{ic} = \alpha + \theta_1 Post_t + \psi age_i + \epsilon_{ic}$. In columns (1) and (3), the sample is restricted to non-goal-setting participants in ELA communities. In columns (2) and (4), the sample is restricted to goal-setting participants in ELA communities. The outcome in columns (1) and (2) is the IPV Often Index and the outcome in Columns (3) and (4) is the IPV in last year Index. Standard errors are clustered at the club level. 0.01 ***, 0.05 **, 0.10 *.

Table A9 Impacts of Treatments on Female Attitudes and Male Locus of Control, Discount Behavior, and Domestic Roles Attitudes

	(1)	(2)	(3)	(4)
	Boys Treatment	Goal Treatment	Endline Control Mean	Observations
A. Female Attitudes (Female Data)				
Violence Attitudes Index	0.147 (0.091)	0.070 (0.050)	0.000	5182
Tolerate violence from husb/partner	0.095** (0.037)	0.030 (0.022)	0.084	5182
Men can beat women in certain circumstances	0.007 (0.052)	0.011 (0.026)	0.180	5182
Domestic Roles Attitudes Index	0.036 (0.064)	0.042 (0.034)	0.000	5182
No equal say in relationships	-0.030 (0.042)	0.032 (0.023)	0.170	5182
Female's primary role in home	0.071 (0.053)	0.004 (0.024)	0.814	5182
Wife Housework	-0.009 (0.039)	0.008 (0.022)	0.811	5182
B. Male Locus of Control, Discount Behavior, and Domestic Attitudes (Male Data)				
Locus of Control	-0.173 (0.162)	-0.090 (0.111)	0.000	2314
Very confident can complete task	-0.078 (0.089)	0.006 (0.046)	0.704	2314
Discount Factor	-0.035 (0.046)	0.057** (0.027)	0.181	2310
Choose riskiest option	0.042 (0.037)	0.022 (0.028)	0.046	2217
Domestic Roles Attitudes Index	-0.087 (0.089)	-0.031 (0.054)	-0.000	2314
No equal say in relationships	-0.129* (0.067)	0.059 (0.040)	0.247	2314
Female's primary role in home	0.025 (0.092)	-0.025 (0.037)	0.858	2314
Wife Housework	-0.013 (0.056)	-0.081* (0.045)	0.777	2314

Notes: Panel A of this table uses data from the female sample. See notes from Table 3 for detail on table structure and specification. The attitudes are binary indicators for the adolescent agreeing that women should tolerate violence from her husband/partner, disagreeing that men should not beat women under any circumstance, disagreeing that women and men should have equal say in relationships, agreeing that a woman's primary role is in the household even if she is educated, and saying that, between a husband and wife, the wife is responsible for washing, cleaning, and cooking. The Violence Attitudes Index and Domestic Roles Attitudes Index are generated by standardizing each individual indicator that follows to the mean and standard deviation among females in control communities at baseline and at endline separately and taking the unweighted mean of the standardized indicators, where higher values of the index indicate more gendered attitudes. Panel B uses data from the male sample and presents estimates of β_1 and β_3 from equation 8. See notes for Table 5 for detail on the table structure and specification. Locus of Control is an index measured in standard deviation units, generated by standardizing the raw Locus of Control score to the mean and standard deviation among males in control communities at baseline and endline separately. Very confident can complete task is a binary indicator for the male reporting being very confident he can complete any task he starts, Discount Factor measures the extent to which respondents discount the future and ranges from .1 to 1, and Chose Riskiest Option is a binary indicator for the male selecting the riskiest option in a risk game implemented in the field. The domestic roles attitudes are defined as in Panel A. 0.01 ***, 0.05 **, 0.10 *.

Table A10 Implementation of goal-setting strategies

	(1)	(2)	(3)	(4)	(5)	(6)
	Ever Had Sex	No Sex	Freq. of Sex	No Sex Partners	No. of Sex Partners	Use Condom last partner
Goal to abstain	-0.085* (0.045)	0.075* (0.045)	-0.312 (0.340)	0.072* (0.042)	-0.056 (0.071)	-0.036 (0.038)
Goal to use condom	0.108*** (0.033)	-0.115*** (0.034)	0.414* (0.230)	-0.063** (0.030)	0.049 (0.038)	0.089*** (0.030)
Other goal	0.024 (0.030)	-0.021 (0.030)	0.217 (0.205)	-0.009 (0.027)	-0.006 (0.034)	-0.007 (0.025)
Outcome mean among non-goal-setting	0.284	0.746	1.107	0.784	0.252	0.144
Observations	2591	2452	2452	2496	2496	2591

Notes. The sample for these regressions is restricted to endline female data. Each column in this table is an estimation for a separate regression given by the following specification: $Y_{ic} = \alpha + \beta_1 \times \text{Abstain}_{ic} + \beta_2 \times \text{Condom}_{ic} + \beta_3 \times \text{Other}_{ic} + \alpha_c + \epsilon_{ic}$, where Abstain (Goal to abstain) is a binary indicator for setting a strategy to abstain from sex during the goal-setting activity, Condom (Goal to use condom) is a binary indicator for setting a strategy to use a condom during sex during the goal-setting activity, and Other (Other goal) is a binary indicator for setting any other strategy (see Figure 3), and α_c is branch fixed effects. Standard errors, clustered at the club level, are presented in parentheses. Outcomes in columns 1–5 are defined as in Table 6, and Use condom last partner is a binary indicator for reporting using a condom with the last partner. 0.01 ***, 0.05 **, 0.10 *.

Table A11 Intimate Partner Violence, fully-interacted model

	(1)	(2)	(3)	(4)
	Boys Treatment	Goal Treatment	Endline Control Mean	Observations
IPV Often Index				
treatment x post	-0.175** (0.079)	-0.213** (0.084)	0.027	5182
treatment x post x Goal	0.051 (0.130)			
IPV in last year Index				
treatment x post	-0.143* (0.074)	-0.175* (0.104)	0.014	5182
treatment x post x Goal	0.088 (0.131)			
Psych. Abuse Often				
treatment x post	-0.011 (0.012)	-0.012 (0.013)	0.026	5182
treatment x post x Goal	-0.024 (0.020)			
Physical Abuse Often				
treatment x post	-0.018** (0.008)	-0.020* (0.011)	0.019	5182
treatment x post x Goal	0.003 (0.018)			
Force Sex Often				
treatment x post	-0.028** (0.011)	-0.035*** (0.013)	0.023	5182
treatment x post x Goal	0.035** (0.014)			
Psych. Abuse in last year				
treatment x post	-0.029 (0.024)	-0.024 (0.030)	0.086	5182
treatment x post x Goal	-0.020 (0.042)			
Physical Abuse in last year				
treatment x post	-0.037* (0.019)	-0.019 (0.026)	0.062	5182
treatment x post x Goal	0.007 (0.034)			
Force Sex in last year				
treatment x post	-0.028* (0.017)	-0.059** (0.024)	0.045	5182
treatment x post x Goal	0.057** (0.028)			

Notes: This table uses female data and presents estimates of β_1 , γ_1 , and β_3 from estimating equation 2. For each outcome defined at the start of the rows, the coefficients from a single regression are into two sub-rows, with estimates of β_1 in column (1) and β_3 in column (2) in the first of the two rows, labeled *treatment x post*, and the estimate of γ_1 in the second of the two rows, labeled *treatment x post x Goal*. See notes from Table 3 for outcome definitions and control variables. Standard errors, clustered at the club level, are presented in parentheses. 0.01 ***, 0.05 **, 0.10 *.

Table A12 Intimate Partner Violence, fully-interacted model, restricted to had sex at baseline

	(1)	(2)	(3)	(4)
	Boys Treatment	Goal Treatment	Endline Control Mean	Observations
IPV Often Index				
treatment x post	-0.539* (0.282)	-0.429** (0.217)	0.143	1274
treatment x post x Goal	0.118 (0.477)			
IPV in last year Index				
treatment x post	-0.386 (0.244)	-0.583** (0.269)	0.254	1274
treatment x post x Goal	0.337 (0.421)			
Psych. Abuse Often				
treatment x post	-0.017 (0.040)	-0.032 (0.041)	0.048	1274
treatment x post x Goal	-0.065 (0.076)			
Physical Abuse Often				
treatment x post	-0.058** (0.029)	-0.044* (0.026)	0.034	1274
treatment x post x Goal	0.009 (0.063)			
Force Sex Often				
treatment x post	-0.077** (0.032)	-0.073** (0.030)	0.034	1274
treatment x post x Goal	0.116*** (0.044)			
Psych. Abuse in last year				
treatment x post	-0.039 (0.076)	-0.061 (0.071)	0.171	1274
treatment x post x Goal	-0.129 (0.132)			
Physical Abuse in last year				
treatment x post	-0.101 (0.066)	-0.116 (0.071)	0.123	1274
treatment x post x Goal	0.085 (0.107)			
Force Sex in last year				
treatment x post	-0.080 (0.054)	-0.175*** (0.067)	0.075	1274
treatment x post x Goal	0.207** (0.091)			

Notes: This table uses female data and presents estimates of β_1 , γ_1 and β_3 from estimating equation 2 of the balanced panel of females who reported having had sex at baseline. See notes from Table A11 for detail on table structure and from Table 3 for details on outcome definitions and control variables. Standard errors, clustered at the club level, are presented in parentheses. 0.01 ***, 0.05 **, 0.10 *.

Table A13 Sexual Activity, fully-interacted model

	(1)	(2)	(3)	(4)
	Boys Treatment	Goal Treatment	Endline Control Mean	Observations
Partner Index				
treatment x post	-0.167*** (0.062)	0.034 (0.073)	-0.016	4912
treatment x post x Goal	0.034 (0.088)			
Had Sex x Post	-0.047 (0.031)	0.046 (0.031)	0.372	5182
treatment x post x Goal	-0.009 (0.041)			
Currently has partner				
treatment x post	-0.110*** (0.036)	0.000 (0.044)	0.337	5182
treatment x post Goal	-0.009 (0.041)			
Had partner past 2yrs				
treatment x post	-0.084** (0.034)	0.009 (0.039)	0.381	5182
treatment x post x Goal	0.050 (0.049)			
No. of sex partners past 6 mnths				
treatment x post	-0.092* (0.048)	0.003 (0.049)	0.315	5030
treatment x post x Goal	0.056 (0.069)			
Total Boys				
treatment x post	-0.032 (0.040)	0.079* (0.042)	0.453	5182
treatment x post x Goal	-0.046 (0.056)			
Frequency of sex in typical month				
treatment x postt	-0.417* (0.242)	0.150 (0.339)	1.403	4990
treatment x post x Goal	0.301 (0.393)			
Time with boyfriend				
treatment x post	-0.147*** (0.055)	-0.015 (0.049)	0.212	5182
treatment x post x Goal	0.059 (0.057)			

Notes: This table uses female data and presents the estimates of β_1 , γ_1 , and β_3 from equation 2. See notes from Table A11 for detail on table structure and from Table 6 for outcome definitions. Standard errors, clustered at the club level, are presented in parentheses. 0.01 ***, 0.05**, 0.10*.

Table A14 Quality of Sexual Partners, fully-interacted model

	(1)	(2)	(3)	(4)
	Boys Treatment	Goal Treatment	Endline Control Mean	Observations
A. Ever Sexual Partners				
Quality Index				
treatment x post	-0.102 (0.074)	0.119 (0.079)	-0.008	1634
treatment x post x Goal	0.052 (0.122)			
His Age				
treatment x post	0.385 (0.641)	-0.882 (0.586)	25.365	1636
treatment x post x Goal	0.302 (0.779)			
Dropout/Never enroll				
treatment x post	-0.012 (0.031)	-0.041* (0.023)	0.050	1634
treatment x post x Goal	0.017 (0.039)			
Use Contraceptive				
treatment x post	-0.166** (0.085)	0.032 (0.084)	0.649	1634
treatment x post x Goal	0.119 (0.118)			
B. Current Sexual Partners				
Quality Index				
treatment x post	-0.006 (0.115)	0.212 (0.142)	-0.039	1239
treatment x post x Goal	-0.051 (0.225)			
His Age				
treatment x post	-0.225 (0.772)	-1.141 (1.012)	25.431	1239
treatment x post x Goal	1.377 (1.381)			
Dropout/Never enroll				
treatment x post	-0.027 (0.035)	-0.022 (0.039)	0.049	1239
treatment x post x Goal	0.015 (0.060)			
Use Contraceptive				
treatment x post	-0.148 (0.122)	0.124 (0.110)	0.633	1239
treatment x post x Goal	0.064 (0.167)			

Notes: This table uses female data and presents estimates of β_1 , γ_1 , and β_3 from equation 2. See notes from Table A11 for detail on table structure and from Table 7 for details on the sample, outcomes, and control variables. Standard errors, clustered at the club level, are presented in parentheses. 0.01 ***, 0.05**, 0.10*.

Table A15 Impacts of Treatments by Baseline Locus of Control Terciles

	(1)	(2)	(3)	(4)
	Boys Treatment	Goal Treatment	Endline Control Mean	Observations
Panel A: Impact on IPV, bottom tercile of Locus of control score at baseline				
IPV Often Index	-0.249 (0.161)	-0.082 (0.144)	0.042	1596
IPV in last year Index	-0.160 (0.150)	-0.067 (0.114)	0.034	1596
Psych Abuse Often	-0.037 (0.023)	-0.006 (0.026)	0.031	1596
Physical Abuse Often	-0.021 (0.015)	-0.014 (0.019)	0.017	1596
Force Sex Often	-0.017 (0.024)	0.006 (0.018)	0.027	1596
Psych. Abuse in last year	-0.054 (0.038)	0.002 (0.036)	0.092	1596
Physical Abuse in last year	-0.044 (0.036)	-0.027 (0.029)	0.072	1596
Force Sex in last year	-0.010 (0.032)	-0.010 (0.026)	0.044	1596
Panel B: Impact on IPV, middle tercile of Locus of control score at baseline				
IPV Often Index	-0.044 (0.086)	-0.137** (0.060)	-0.033	1967
IPV in last year Index	-0.064 (0.112)	-0.126* (0.071)	0.012	1967
Psych. Abuse Often	0.001 (0.016)	-0.028*** (0.010)	0.020	1967
Physical Abuse Often	-0.006 (0.009)	-0.017** (0.008)	0.013	1967
Force Sex Often	-0.009 (0.010)	-0.009 (0.006)	0.010	1967
Psych. Abuse in last year	-0.008 (0.037)	-0.036 (0.024)	0.081	1967
Physical Abuse in last year	-0.034 (0.029)	-0.037** (0.017)	0.067	1967
Force Sex in last year	-0.009 (0.024)	-0.018 (0.017)	0.044	1967
Panel C: Impact on IPV, top tercile of Locus of control score at baseline				
IPV Often Index	-0.067 (0.073)	-0.161** (0.069)	-0.008	1619
IPV in last year Index	-0.050 (0.090)	-0.143* (0.085)	-0.047	1619
Psych. Abuse Often	-0.011 (0.013)	-0.025* (0.013)	0.014	1619
Physical Abuse Often	-0.017 (0.012)	-0.012 (0.010)	0.018	1619
Force Sex Often	0.004 (0.012)	-0.023** (0.010)	0.021	1619
Psych. Abuse in last year	-0.036 (0.033)	-0.054* (0.029)	0.068	1619
Physical Abuse in last year	-0.012 (0.028)	0.002 (0.023)	0.050	1619
Force Sex in last year	0.007 (0.022)	-0.046** (0.018)	0.032	1619

Notes: This table uses female data and presents the coefficients from equation 1 estimated over three subsamples: (1) females with Baseline Locus of Control scores in the bottom tercile in Panel A; (2) females with Baseline Locus of Control scores in the middle tercile in Panel B; and (3) females with Baseline Locus of Control scores in the top tercile in Panel C. Standard errors, clustered at the club level, are presented in parentheses. See notes from Table 3 for details on the outcome definitions, and control variables. 0.01 ***, 0.05**, 0.10*.

Balance Tables

Table B1 Treatment-Control Balance at Baseline, balanced panel sample

	(1)	(2)	(3)	(4)	(5)
Outcome	ELA Control Mean	Boys-ELA	Supply-ELA	No Goal Control Mean	Goal - No Goal
A Pregnancy and Contraception use with last partner					
Ever Pregnant	0.125	0.014 (0.030)	0.008 (0.030)	0.124	0.029* (0.016)
Use Female Condom	0.005	-0.002 (0.003)	-0.002 (0.003)	0.004	-0.002 (0.002)
Use Injectable	0.020	-0.008 (0.009)	0.007 (0.009)	0.017	0.006 (0.006)
Use Implant	0.008	0.001 (0.004)	0.002 (0.005)	0.007	0.008 (0.005)
Use IUC	0.007	-0.004 (0.003)	-0.003 (0.004)	0.005	-0.004 (0.002)
Use Condom	0.123	0.006 (0.024)	0.035 (0.027)	0.129	0.025 (0.016)
Use Family Planning	0.017	0.004 (0.008)	0.022* (0.012)	0.026	-0.004 (0.006)
B. Intimate Partner Violence					
Psychological Abuse Often	0.015	0.009 (0.008)	0.006 (0.009)	0.017	0.009 (0.007)
Physical Abuse Often	0.005	0.011* (0.007)	0.004 (0.006)	0.007	0.008* (0.004)
Forced Sex Often	0.009	0.004 (0.006)	0.003 (0.007)	0.011	0.002 (0.004)
Psychological Abuse (in last year)	0.053	0.014 (0.016)	0.013 (0.019)	0.057	0.018 (0.011)
Physical Abuse (in last year)	0.040	0.010 (0.015)	0.011 (0.017)	0.044	0.013 (0.010)
Forced Sex (in last year)	0.032	0.001 (0.011)	0.008 (0.014)	0.033	0.007 (0.008)
C. Sexual Activity					
Had sex	0.247	-0.006 (0.038)	0.048 (0.037)	0.252	0.026 (0.019)
Has partner	0.204	0.013 (0.036)	0.043 (0.035)	0.218	0.014 (0.019)
Had partner past 2 years	0.258	0.009 (0.040)	0.040 (0.037)	0.266	0.027 (0.020)
Number of Sex Partners past 6 months	0.172	0.042 (0.039)	0.040 (0.038)	0.200	0.000 (0.023)
Total sexual partners ever	0.299	0.033 (0.057)	0.065 (0.050)	0.321	0.031 (0.028)
Frequency of sex typical month	0.841	-0.156 (0.154)	0.224 (0.181)	0.839	0.036 (0.094)
Hours with boyfriend in the past day	0.030	0.019 (0.014)	0.022 (0.018)	0.044	0.002 (0.012)
HIV Positive	0.015	-0.001 (0.007)	-0.001 (0.008)	0.014	-0.000 (0.007)
STI Positive	0.011	-0.006 (0.005)	-0.004 (0.006)	0.007	0.003 (0.005)
Observations	871	2591		1900	2591

Notes: This table presents the baseline balance for the sub-sample of females who were tracked to the endline survey. See notes for Table 1 for all other definitions. 0.01 ***, 0.05 **, 0.10 *.

Table B2 Treatment-Control Balance at Baseline: Demographic Characteristics

	(1)	(2)	(3)	(4)	(5)
Outcome	ELA Control Mean	Boys-ELA	Supply-ELA	No Goal Control Mean	Goal - No Goal
Panel A. Whole Sample					
Never talk to mom about SRH	0.839	-0.004 (0.022)	-0.019 (0.025)	0.830	0.001 (0.015)
Respondent Age	16.45	-0.625* (0.336)	-0.045 (0.340)	16.18	0.131 (0.123)
Highest grade	8.01	-0.182 (0.283)	0.272 (0.276)	8.04	-0.028 (0.115)
Dropout	0.256	-0.006 (0.033)	-0.024 (0.035)	0.249	-0.005 (0.019)
Enrolled	0.737	0.003 (0.034)	0.024 (0.035)	0.745	0.756 (0.019)
Married or cohabiting	0.074	-0.010 (0.019)	0.023 (0.022)	0.078	0.004 (0.010)
Own house	0.674	-0.002 (0.039)	-0.071* (0.042)	0.653	-0.017 (0.018)
House has electricity	0.619	-0.012 (0.045)	0.059 (0.041)	0.641	0.059 (0.019)
Number of Household Members	3.28	-0.023 (0.130)	0.024 (0.146)	3.27	-0.053 (0.047)
Observations	1074	3178		2313	3178
Panel B. Balanced Panel					
Don't talk to mom about sex	0.844	-0.011 (0.023)	-0.043 (0.027)	0.824	0.006 (0.017)
Respondent Age	16.44	-0.715** (0.358)	-0.095 (0.357)	16.09	0.171 (0.141)
Highest Grade	7.99	-0.194 (0.301)	0.259 (0.280)	8.02	-0.094 (0.124)
Dropout	0.256	-0.008 (0.037)	-0.019 (0.038)	0.250	-0.009 (0.021)
Enrolled	0.738	0.012 (0.037)	0.019 (0.038)	0.748	0.002 (0.021)
Married or Cohabiting	0.075	-0.009 (0.022)	0.020 (0.024)	0.076	0.007 (0.012)
Own House	0.665	0.015 (0.040)	-0.067 (0.045)	0.651	-0.015 (0.020)
House has electricity	0.618	0.006 (0.046)	0.078* (0.041)	0.650	-0.001 (0.022)
Number of Household Members	3.24	0.009 (0.135)	0.038 (0.150)	3.25	-0.040 (0.053)
Observations	871	2591		1900	2591

Notes: This table uses data from the female sample. See notes from Table 1 on table structure. Never talk to mom about SRH is a binary indicator for the adolescent reporting never talking to her mom about sexual reproductive health topics, age is age in years, highest grade is the highest grade the respondent has attended, Dropout and Enrolled are binary indicators for the respondent being enrolled in school and having dropped out of school, Married or cohabiting is an indicator for being married or living with a partner, Own house is a binary indicator that the female's household owns the house she lives in, House has electricity is a binary indicator that the house the adolescent lives in has electricity, and number of household members is the number of household members. 0.01 ***, 0.05 **, 0.10 *.

Table B3 Treatment-Control Balance at Baseline: Education and Economic Empowerment

	(1)	(2)	(3)	(4)	(5)
Outcome	ELA Control Mean	Boys-ELA	Supply-ELA	No Goal Control Mean	Goal - No Goal
Panel A. Whole Sample					
Time spent studying	1.01	-0.140* (0.078)	0.037 (0.101)	0.970	0.009 (0.056)
Education aspiration	0.828	-0.002 (0.029)	-0.022 (0.030)	0.817	0.014 (0.015)
Income generating activity	0.161	-0.026 (0.027)	-0.026 (0.028)	0.135	0.027* (0.014)
Personal business	0.134	-0.012 (0.025)	-0.018 (0.027)	0.116	0.025* (0.013)
Has savings	0.218	-0.060** (0.028)	-0.027 (0.028)	0.186	0.015 (0.015)
Has loan	0.034	-0.007 (0.013)	0.025 (0.019)	0.038	0.002 (0.009)
Observations	1074	3178		2313	3178
Panel B. Balanced Sample					
Time spent studying	1.015	-0.124 (0.081)	0.064 (0.108)	0.991	0.008 (0.061)
Education aspiration	0.821	0.001 (0.033)	-0.013 (0.033)	0.815	0.011 (0.017)
Income generating activity	0.149	-0.013 (0.027)	-0.017 (0.029)	0.129	0.031** (0.016)
Personal business	0.125	-0.004 (0.026)	-0.013 (0.029)	0.111	0.029** (0.014)
Has savings	0.226	-0.069** (0.030)	-0.030 (0.031)	0.189	0.016 (0.017)
Has loan	0.033	-0.010 (0.013)	0.017 (0.018)	0.036	-0.005 (0.009)
Observations	871	2591		1900	2591

Notes: This table uses data from the female sample. See notes from Table 1 on table structure. Time spent studying is hours spent studying in the past day, Education aspiration is a binary indicator that the respondent aspires to a post-baccalaureate degree, Income Generating Activity is a binary indicator of being involved in an income generating activity in the past year, Personal Business is a binary indicator that the respondent owns her own business, Has Savings is a binary indicator that the respondent has savings. Has Loan is a binary indicator that the respondent has taken out a loan. 0.01 ***, 0.05 **, 0.10 *.

Table B4 Treatment-Control Balance at Baseline: Locus of Control and Discount Behavior

	(1)	(2)	(3)	(4)	(5)
Outcome	ELA Control Mean	Boys-ELA	Supply-ELA	No Goal Control Mean	Goal - No Goal
Panel A. Whole Sample					
Locus of Control	-0.000	0.008 (0.093)	0.018 (0.102)	0.025	-0.053 (0.039)
Very confident can complete task	0.439	-0.019 (0.050)	0.035 (0.054)	0.459	-0.043** (0.018)
Discount Factor	0.397	0.052 (0.035)	0.012 (0.035)	0.423	-0.012 (0.015)
Chose Riskiest Option	0.127	0.008 (0.021)	0.024 (0.022)	0.137	-0.006 (0.015)
Observations	1074	3178		2313	3178
Panel B. Balanced Sample					
Locus of Control	-0.000	0.050 (0.094)	0.027 (0.110)	0.042	-0.055 (0.041)
Very confident can complete task	0.439	-0.009 (0.053)	0.063 (0.059)	0.470	-0.044** (0.021)
Discount Factor	0.406	0.043 (0.037)	0.002 (0.035)	0.427	-0.015 (0.016)
Chose Riskiest Option	0.114	0.015 (0.022)	0.037 (0.023)	0.130	-0.004 (0.016)
Observations	871	2591		1900	2591

Notes: This table uses data from the female sample. See notes from Table 1 on table structure and Table 8 for outcome definitions. 0.01 ***, 0.05 **, 0.10 *.

Table B5 Treatment-Control Balance at Baseline: Intimate Partner Violence, Had Sex

	(1)	(2)	(3)	(4)	(5)
Outcome	ELA Control Mean	Boys-ELA	Supply-ELA	No Goal Control Mean	Goal - No Goal
Panel A. Balanced Panel					
Psych. Abuse Often	0.060	0.032 (0.033)	-0.009 (0.024)	0.059	0.036 (0.024)
Physical Abuse Often	0.010	0.054** (0.026)	0.010 (0.014)	0.026	0.024 (0.016)
Force Sex Often	0.020	0.032 (0.020)	0.011 (0.020)	0.037	-0.009 (0.014)
Psych. Abuse in last year	0.169	0.095* (0.052)	0.017 (0.054)	0.196	0.040 (0.038)
Physical Abuse in last year	0.109	0.089* (0.049)	0.041 (0.049)	0.148	0.020 (0.032)
Force Sex in last year	0.085	0.037 (0.041)	0.017 (0.041)	0.102	0.005 (0.026)
Observations	201	637		459	637

Notes: This table uses data from the female sample restricted to females who reported having had sex in the baseline survey. See notes from Table 1 on table structure and Table 3 for outcome definitions. 0.01 ***, 0.05 **, 0.10 *.