Appendix to 'Countering violence against women through mass media'

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A Supplementary Information

A.1 Explanatory Note on Main Tables

Unless otherwise indicated, analyses use individual respondents from our household surveys as the unit of observation. Some analyses are conducted at the village level, after collapsing individual responses to the cluster level using cluster-level means. Where applicable, this is indicated in the row labeled "Analysis Level" in the respective tables. The sample on which analyses are conducted is usually indicated in the table caption if the same sample has been used for all analyses summarized in a table. Otherwise, the row "Sample" contains information about the sample used in each column. HH stands for all respondents from the household survey, $HH(P)$ stands for household respondents who are potential perpetrators (men in relationships), $HH(M)$ stands for male respondents from the household survey and VHT stands for our surveys with members of Village Health Teams.

For all individual-level analyses, standard errors are clustered at the level of the trading center (village). As specified in our pre-analysis plan, all analyses condition on the average audience size at the screenings and all analyses run on the individual level condition on an indicator for whether the respondent was included in follow-up sampling. Specifications with "Block FE" include an indicator variable for the cluster's block. No other covariates are included unless this is indicated in the table. Specifications with "Covariates" also include a set of covariates which are taken from the endline and selected through a lasso regression procedure as explained in our pre-analysis plan.

All p-values are calculated using the pre-registered randomization test in which the treatment is permuted 3000 times to simulate effects under the sharp null hypothesis of no effects for all units. The row labeled "Hypothesis" in each table indicates the direction of the hypothesis test (two-tailed, lower, upper) for each column. As pre-registered, outcome values that are missing at the respondent-level are imputed using the pre-registered multiple imputation throuch chained equations (MICE) approach, conditioning only on outcomes from the same family.

A.2 Estimation of Complier Average Causal Effects

We denote a vector of random assignments, $\mathbf{z}^m$, where the superscript indicates the message to which the respondent was assigned,

$$m \in \{\text{placebo}, \text{IPV}, \text{abortion}, \text{absenteeism}\},$$

$z_i^m = 1$ when individual i in village j was assigned to message m, 0 otherwise. We can then define a respondent-level compliance function, $d_i^m(z^m)$, where d_i^m indicates the actual treatment the respondent received. Let $d_i^m = 3$ when the respondent attended at least one film showing message m, $d_i^m = 2$ when a respondent assigned to treatment m did not attend but had friends or family who attended the screenings, $d_i^m = 1$ when a respondent assigned to treatment m did not attend and did not have friends and family who attended but heard about the films, and $d_i^m = 0$ when the respondent did not see or hear about the films. A "direct complier" is thus any respondent for whom $d_i^m(z^m = 1) = 3$, an "indirect complier" is any respondent for whom $d_i^m(z^m = 1) = 2$, an "apprised never-taker" is any respondent for whom $d_i^m(z^m = 1) = 1$ and a never-taker is any respondent for whom $d_i^m(z^m = 1) = 0$. For example, a direct complier assigned to the placebo will have the compliance function $d_i^{\text{placebo}}(z^{\text{placebo}} = 1) = 3$ and $d_i^{\text{IPV}}(z^{\text{IPV}} = 1) = 3$, but in practice, because they were assigned to and complied with the placebo, for that same respondent $d^{\text{IPV}} = 0$ and $d^{\text{placebo}} = 3$.

Since every trading center received the screening intervention it was assigned to (including screenings in the control condition, where films were shown with no treatment vignettes) we assume that these are the only compliance types in the population. We make two additional assumptions tested formally below. First, we assume $d^{m=k}(z^{m=k}) = d^{m=l}(z^{m=l})$, for all k and l. In other words, we assume that the specific treatment condition does not affect compliance. Given this assumption, the placebo "reveals" the same compliers as the other treatments. Second, we assume that $Y^{m=k}(z^{m\neq k} = 1) = Y^{m=k}(z^{m=k} = 0)$, for all k. In other words, we assume no cross-over effects: m-specific outcomes are unaffected by assignment to non-m treatments. Most importantly for the results presented in this paper, we assume that IPV-specific outcomes are unaffected by the absenteeism and abortion messages.

In our main specifications, we are interested in the following causal estimand

$$\tau_{\text{dir}} = E[(Y_i^{IPV}(d_i^{IPV}(z^{IPV} = 1))) - Y_i^{IPV}(d_i^{IPV}(z^{IPV} = 0))) \mid d_i(1) = 3], \tag{1}$$

which reveals the average causal effect of the IPV treatment messages on IPV-related outcomes

among direct compliers. Additionally, we will also estimate the following quantities

$$\tau_{\text{ind}} = E[(Y_i^{IPV}(d_i^{IPV}(z^{IPV} = 1))) - Y_i^{IPV}(d_i^{IPV}(z^{IPV} = 0))) \mid d_i(1) = 2] \tag{2}$$

$$\tau_{\text{app}} = E[(Y_i^{IPV}(d_i^{IPV}(z^{IPV} = 1))) - Y_i^{IPV}(d_i^{IPV}(z^{IPV} = 0))) \mid d_i(1) = 1] \tag{3}$$

$$\tau_{\text{nev}} = E[(Y_i^{IPV}(d_i^{IPV}(z^{IPV} = 1))) - Y_i^{IPV}(d_i^{IPV}(z^{IPV} = 0))) \mid d_i(1) = 0], \tag{4}$$

which correspond to the average causal effect of the IPV treatment messages among indirect compliers (equation 2), apprised never-takers (equation 3) and never-takers (equation 4), respectively.

We estimate τ_{dir}, τ_{ind}, τ_{app} and τ_{nev} by fitting the following linear model among subsets of our data containing only direct compliers, indirect compliers, apprised never-takers and never-takers, respectively:

$$Y_{ij}^{IPV} = \alpha + \tau z_j^{IPV} + \mathbf{X}_j^{\top}\boldsymbol{\gamma} + \delta r_{ij} + \epsilon_{ij}, \tag{5}$$

where Y_{ij}^{IPV} is the outcome of interest for individual i in trading center j, α is an intercept and z_j^{IPV} is a treatment assignment indicator which takes the value 1 if a respondent resides in a trading center which was assigned to the IPV treatment. $\mathbf{X}_j^{\top}$ is a vector containing block indicators and a the average audience size across all screenings that took place in a given trading center. r_{ij} is an indicator for whether respondent i was part of the second round of endline sampling. ϵ_{ij} is an individual-level error term which is adjusted for clustering at the trading center level. Consistent with the pre-analysis plan, we report one-sided p-values for most of our outcomes and two-tailed p-values for some. P-values are calculated through randomization inference by computing the sampling distribution of the estimator under the sharp null of no (positive) effect for all units.[1]

The above estimands capture the effects on attitudes and norms among household respondents. The effects of our treatment on IPV incidents (as reported by household respondents and VHTs) will be estimated on the cluster level using a specification similar to the one given in equation 5 excluding the resample indicator.

This estimation approach assumes no effect of treatment on compliance. Table 2 describes the

[1] We also ran all our analyses including covariates. As pre-specified in our pre-analysis plan, we used lasso regression to select the minimal number of covariates that best predict each outcome from a large set of covariates, and included only these in our estimation. The results do not change much both in terms of the size of our estimates and statistical significance.

distribution of compliance types in our sample and table 3 shows descriptive statistics of a set of covariates for adult respondents by compliance type. In some analyses we do not condition the analysis on attendance, and simply analyze effects among all randomly sampled respondents.

Subgroup	**Answer to 19.1)**	**Answer to 19.2)**
Compliers	1,2,3,4,5, or 6	anything
Indirect Compliers	0 but knew about screenings 0 did not know about the screenings Don't know Refuse to answer	Yes, friends and family Yes, friends Yes, family
Apprised Never-Takers	0 but knew about screenings	No Don't know Refuse to answer
Never-Takers	0 did not know about the screenings Don't know Refuse to answer	No Don't know Refuse to answer

Table 1: Definition of Compliance Types

Compliance Type	Adults	Teenagers
Complier	1156	180
Indirect Complier	2447	147
Apprised Never-Taker	953	37
Never-Taker	972	42
Total	5528	406

Table 2: Distribution of Compliance Types in Sample

A.3 Method for Extrapolating Main Effects

In order to estimate the number of households within which the anti-IPV messaging prevented violence from occuring, we take the following steps:

1. **Estimate the proportion of complier households in treated clusters** by taking the average number of respondents who report having seen at least one film when asked during the midline survey in clusters that had anti-IPV messaging in them.
2. **Estimate the number of complier and non-complier households in the sample frame of treated clusters** by summing the product of, on the one hand, the number of households listed in each cluster where anti-IPV messaging took place, and, on the other, the corresponding proportion of compliers and non-compliers as calculated in 1.
3. **Estimate the effect of the treatment on the probability of IPV in the household**

	Mean Compl.	Mean Ind. Compl.	Mean Appr. NT	Mean NT	Min	Max	N
Female	0.31	0.49	0.66	0.58	0	1	5534
Age (in yrs)	29.13	31.70	32.94	32.15	18	65	5534
Less than 8 yrs of education	0.67	0.66	0.63	0.65	0	1	5532
Married or living as married	0.71	0.75	0.77	0.75	0	1	5532
Ever been to big city	0.81	0.76	0.72	0.72	0	1	5531
Consumes news every day	0.73	0.69	0.65	0.64	0	1	5530
Uses mobile phone every day	0.71	0.72	0.69	0.68	0	1	5524
Main language is Luganda	0.87	0.86	0.86	0.84	0	1	5534
Catholic	0.47	0.44	0.44	0.43	0	1	5532
Protestant	0.16	0.17	0.13	0.11	0	1	5532
Muslim	0.15	0.15	0.16	0.15	0	1	5532
Prays at least once a day	0.79	0.83	0.85	0.85	0	1	5534
Number of rooms in house	2.47	2.74	2.76	2.69	1	14	5532
Mud wall	0.26	0.24	0.21	0.24	0	1	5528
Brick wall	0.59	0.60	0.61	0.57	0	1	5528
Owns radio	0.83	0.82	0.81	0.79	0	1	5533
Owns TV	0.19	0.26	0.31	0.31	0	1	5534
Owns cell phone	0.79	0.81	0.80	0.79	0	1	5532

Table 3: Characteristics of Adult Respondents by Compliance Type

over the past six months among both complier and non-complier women in the endline, by subsetting to the respective groups.

4. **Estimate the number of households that did not experience violence** among complier and non-complier households by multiplying the corresponding quantities calculated in 2 and 3. The total number of households in which violence was prevented is estimated by summing these two numbers.

Using these methods we estimate that IPV was prevented in a total of 48 households. We characterize statistical uncertainty around this estimate through bootstrapping. While the number of households in the sample frame is a known quantity, the proportion of complier households (estimated in step 1) and the effect of the treatment among complier and non-complier subgroups (step 3) are both subject to uncertainty generated by the sampling procedure. We conduct the following steps 1,000 times:

1. **Bootstrap the midline data** by resampling respondents within their clusters with replacement.
2. Repeat steps 1-2 as above.
3. **Bootstrap the endline data** by resampling respondents within their clusters with replacement.
4. Repeat steps 3-4 as above, and store results.

This procedure gives a bootstrap distribution for three statistics of interest: the number of complier households that did not experience IPV over the preceding six months due to the treatment, the number of non-complier households that did not experience IPV over the preceding six months due to the treatment, and the total number of households within which IPV was prevented over the six months preceding the endline. Table 4 presents the 95% confidence intervals generated by taking the 2.5th and 97.5th percentiles from the bootstrap distributions of the statistics.

	Complier households	Non-complier households	Total
2.5%	-276.6	-331.5	-521.2
97.5%	-68.1	97.3	-40.1

Table 4: Percentiles from distribution of bootstrapped extrapolations of treatment effect on household violence probability among treated villages.

A.4 A Model of IPV and Bystander Intervention

To fix ideas, we build a simple model that features a perpetrator (P) who commits violence against a victim (V) and a bystander (B) who can intervene at a cost to prevent future violence.[2] We assume that there is an initial level of violence $v_1 \in \mathbb{R}^+$ that the perpetrator inflicts on the victim. In order to focus on how a media campaign may decrease violence through its effect on various beliefs held by the perpetrator and the bystander, we abstract from the conditions that give rise to this pre-history of violence.[3] After observing v_1, the bystander chooses a level of intervention or reporting, $r \in \mathbb{R}^+$. Finally, the perpetrator chooses a subsequent level of violence $v_2 \in \mathbb{R}^+$. We think about these decisions as not necessarily taking place in quick succession, but instead over days or weeks.

The victim's utility function takes the following form,

$$U_V(v_1, v_2) = -\beta \frac{v_1^2 + v_2^2}{2}, \tag{6}$$

where $\beta \in \mathbb{R}$ is the extent to which the victim suffers due to violence, a parameter about which the two strategic actors in the game, the bystander and the perpetrator, are uncertain. We denote by $\tilde{\beta}_P$ the perpetrator's and by $\tilde{\beta}_B$ the bystander's mean posterior belief about β. Our intervention attempts to shift viewers' beliefs such that they become more aware of the suffering of victims, by depicting a causal connection between the perpetrator's violence and suffering on the part of the victim.

The perpetrator's utility function is given by

$$U_P(v_1, v_2, r) = v_2(b + \alpha v_1 - r) + E[U_V]. \tag{7}$$

The parameter b denotes the utility the perpetrator derives from violence toward his victim. We assume that the initial level of violence increases the marginal utility of subsequent violence. This is

[2] Elsewhere we have extended the model to allow for reporting by the victim. However, this exercise serves only to complicate the model without changing the core comparative statics. We therefore omit it here, and note simply that all wives are also bystanders.

[3] In a model in which the perpetrator strategically chooses initial violence, increased levels of intervention by the bystander decreases the initial level of violence. This reinforces the prediction that our intervention may result in lower levels of violence by encouraging bystanders to intervene, but introduces the added complication that the perpetrator's choice of initial violence level serves as a signal for the true value of α (see below).

captured by the parameter $\alpha \in \mathbb{R}^+$: the higher α, the higher the complementarity between violence yesterday and today. This feature of the model represents the risk that violence escalates through a positive feedback loop. While the perpetrator knows the extent to which his acts of violence today disinhibit violence tomorrow, the bystander is uncertain about this risk. We denote by $\tilde{\alpha}$ the mean of and by $\tilde{\sigma_\alpha^2}$ the variance of the bystander's beliefs about α. Our intervention depicts the causal link between minor and severe incidents of IPV, illustrating that even a 'good' and 'reasonable' man can form a spiralling habit of abuse. In this way, our intervention attempts to shift viewers' beliefs about the complementarity between initial and subsequent violence.

As explained above, the perpetrator forms beliefs about the extent to which his victim suffers from violence. We assume that the perpetrator cares about his victim: i.e. that if he believes she suffers then he suffers as well. The cost of violence incurred by the perpetrator is therefore equal to the loss of utility that he expects to inflict on his victim. We assume that r reporting or intervention by the bystander decreases the benefits of subsequent violence for the perpetrator. As explained in the main text, we see this as a reduced form model of the effects of the kind of bystander intervention that draws on village networks which is typical in the Ugandan context.

The bystander's utility function is as follows,

$$U_B(v_1, v_2, r) = E[U_V] - rk. \tag{8}$$

We assume a constant marginal cost k of reporting or intervention. We think of these costs mainly as social repercussions of intervention which result from being seen as someone who meddles in other people's affairs. Our pre-testing and ethnographic fieldwork in preparation for this study suggested that there is a relatively strong norm against outsider intervention into private affairs in many Ugandan villages.

Equilibrium Behavior

We solve this model by backward induction. In the last stage of the model, the perpetrator takes the bystander's intervention decision as given and chooses a level of violence v_2 to solve the following

maximization problem:

$$\max_{v_2} E[U_P] = v_2(b + \alpha v_1 - r) - \tilde{\beta}_P \frac{v_2^2}{2}.$$

Solving this problem results in the perpetrator's best response $v_2^*(r)$. The bystander anticipates the perpetrator's best response when choosing a level of intervention to maximize

$$\max_{r} E[U_B] = -\tilde{\beta}_B \frac{v_1^2 + v_2^*(r)^2}{2} - r\tilde{k}. \tag{9}$$

Proposition 1 summarizes the equilibrium and equilibrium outcomes of this game:

Proposition 1. *The perpetrator's best response to a level of intervention r chosen by the bystander is given by*

$$v_2^*(r) = \frac{b + \alpha v_1 - r}{\tilde{\beta}_P}.$$

The bystander's utility maximizing choice of the level of intervention is

$$r* = b + \tilde{\alpha} v_1 - \frac{\tilde{k}\tilde{\beta}_P^2}{\tilde{\beta}_B}.$$

In equilibrium, the perpetrator chooses the following level of violence

$$v_2^* = \frac{v_1(\alpha - \tilde{\alpha})}{\tilde{\beta}_P} + \frac{\tilde{k}\tilde{\beta}_P}{\tilde{\beta}_B}.$$

Proof. After the bystander has chosen a level of intervention r, the perpetrator chooses a level of violence v_2 to solve the following maximization problem:

$$\max_{v_2} E[U_P] = E\left[v_2(b + \alpha v_1 - r) - \beta_P \frac{v_2^2}{2}\right].$$

When taking the expectation, β, over which the perpetrator is uncertain, becomes the perpetrator's mean posterior belief $\tilde{\beta}_P$. Taking the derivative with respect to v_2 yields the following first order

condition

$$\frac{\partial E[U_P]}{\partial v_2} = b + \alpha v_1 - r - \tilde{\beta}_P v_2 = 0 \tag{10}$$

Solving this for v_2 gives us the perpetrator's best response to the level of intervention chosen by the bystander

$$v_2^*(r) = \frac{b + \alpha v_1 - r}{\tilde{\beta}_P}.$$

Anticipating the perpetrator's best response, the bystander solves the following problem

$$\max_r E[U_B] = E\left[-\beta \frac{v_1^2 + v_2^*(r)^2}{2} - rk\right]. \tag{11}$$

Taking the expectation results in β being replaced with $\tilde{\beta}_B$ and k being replaced with $\tilde{k}$. Plugging in $v_2^*(r)$ (taking into account that the bystander is uncertain about α) and taking the derivative with respect to v_2 yields the following first order condition

$$\frac{\partial E[U_B]}{\partial r} = \frac{\tilde{\beta}_B}{\tilde{\beta}_P^2}\left(b + \tilde{\alpha} v_1 - r\right) - \tilde{k} = 0 \tag{12}$$

Solving this for r gives us the optimal level of intervention chosen by the bystander

$$r* = b + \tilde{\alpha} v_1 - \frac{\tilde{k}\tilde{\beta}_P^2}{\tilde{\beta}_B}.$$

Plugging $r*$ back into the best response function of the perpetrator results in the equilibrium level of violence chosen by the perpetrator

$$v_2^* = \frac{v_1(\alpha - \tilde{\alpha})}{\tilde{\beta}_P} + \frac{\tilde{k}\tilde{\beta}_P}{\tilde{\beta}_B}.$$

□

We begin by briefly discussing the perpetrator's best response function given by the first equation in proposition 1. Intuitively, the perpetrator chooses a higher level of violence if his marginal benefit

of violence is higher. This marginal benefit consists of $b + \alpha v_1 - r$. As such, for a given level of intervention, a higher initial level of violence v_1 leads the perpetrator to choose a higher subsequent level of violence v_2. An increase in α amplifies this effect. This result captures the idea of a spiral of violence where a perpetrator commits more violence in the future due to a disinhibiting effect of violent behavior in the past. Since bystander intervention decreases the perpetrator's marginal benefit, it leads him to choose a lower level of violence. Finally, the perpetrator chooses a lower level of violence for a given level of intervention if he believes that violence inflicts a great deal of suffering on his victim (a high $\tilde{\beta}_P$).

Understanding how parameters of the model change the level of violence chosen by the perpetrator when holding constant the level of intervention provides intuitions for how the model works. Yet more interesting from the standpoint of our experiment is how the parameters affect the level of violence when taking changes in levels of intervention into account. As mentioned above, we expect our media campaign to affect the beliefs of both perpetrators and bystanders. Specifically, we expect that the campaign may strengthen the belief that victims suffer and that violence has a disinhibiting effect and reduce the perception that intervention is costly.

Effects on Perpetrators

First, we explore how our intervention may have resulted in a decrease in violence through its impact on the beliefs of perpetrators. The third equation in proposition 1 shows that the effect of an increase in $\tilde{\beta}_P$, the belief of the perpetrator about the extent of the victim's suffering, on the equilibrium level of violence chosen by the perpetrator is ambiguous. Specifically, the partial derivative of v_2^*, the equilibrium level of violence chosen by the perpetrator, with respect to $\tilde{\beta}_P$ is negative if

$$\frac{\tilde{k}}{\tilde{\beta}_B} < \frac{v_1(\alpha - \tilde{\alpha})}{\tilde{\beta}_P^2}. \tag{13}$$

In other words, an increase in perpetrator empathy decreases the level of subsequent violence if bystanders believe that violence causes intense suffering for victims, that intervention is relatively costless and that the disinhibiting effect of violence is small. A key intuition behind this result is that an increase in perpetrator empathy may lead bystanders to intervene less since they expect perpetrators to self-restrain. This temptation is particularly strong if bystanders perceive interven-

tion to be very costly and the suffering of victims to be small. Under these conditions, an increase in perpetrator empathy may be more than offset by the reduced willingness to intervene among bystanders such that the overall level of violence increases. Similarly, the higher the belief among bystanders that violence has a disinhibiting effect, the more they will intervene to offset this effect and the smaller will be the incentive for perpetrators to self-restrain if they become more empathetic. Overall, our model thus allows for the observed reduction in violence to be driven by an effect of our media campaign on the beliefs of (potential) perpetrators about the suffering of victims, but it does not uniquely predict that an increase in perpetrator empathy will have this effect.

Effects on Bystanders

Second, in the logic of the model, our media campaign may have reduced violence through its effects on the beliefs of bystanders. As can be seen from the best response function of the perpetrator (see the first equation in proposition 1), the perpetrator chooses a lower level of subsequent violence if bystanders intervene more. The second equation in proposition 1 shows that the bystander chooses a higher level of intervention if he perceives the costs of intervention to be low, i.e. as $\tilde{k}$ decreases. Correspondingly, a decrease in $\tilde{k}$ leads to a smaller equilibrium level of violence as can be seen from the third equation in proposition 1). In other words, the reduction in violence caused by our media campaign may be due to its negative effect on the perception that bystander intervention entails social costs.

The second equation in proposition 1 also implies that an increase in $\tilde{\beta}_B$ increases the level of intervention chosen by the bystander. Intuitively, the stronger the belief of the bystander in the suffering of the victim, the more she is willing to intervene. As such, the perpetrator also chooses a lower level of violence if $\tilde{\beta}_B$ increases (see the third equation in proposition 1). A second channel through which our media campaign may have reduced violence is thus by increasing the extent to which bystanders believe that victims of IPV suffer greatly.

Finally, the bystander chooses a higher level of intervention as the mean of his posterior beliefs $\tilde{\alpha}$ increases. In other words, as the bystander comes to believe in a stronger disinhibiting effect of violence, she anticipates that the perpetrator will choose a higher subsequent level of violence. Since the bystander cares about the victim's well being, she engages in a higher level of intervention. In line with this prediction, the third equation in proposition 1 shows that the equilibrium level

of violence decreases as $\tilde{\alpha}$ increases.[4] In other words, the negative effect of our media campaign on violence may be mediated through its effect on the belief that violence begets violence among bystanders.

A.5 Narrative for Anti-IPV Videos

The plot structure involves two parallel stories of domestic violence. Whereas one ends tragically, in the other community intervention prevents the continuation of violence. The first vignette revolves around Miriam, a middle-aged woman whom we see returning home from choir practice. As she begins to prepare dinner for her family, the focus shifts to her husband Richard, standing in line at the local mill. Having deposited his sack of maize at the mill, Richard overhears two other villagers discussing his inadequacy for a position on the local savings cooperative Richard had been seeking. Visibly upset, Richard returns home and orders his wife to make him tea. Quick thereafter, he demands a bath. Sensing her husband's tension, Miriam hurries to obey his commands. Yet, given the unavailability of a second kettle, she is forced to choose between preparing the tea and the bath and prioritizes the latter. Richard ignores her attempted explanation, becoming more and more upset until he begins to beat her. We see a neighbor emerge from her house, alerted by Miriam's cries. She sighs at Richard's actions, making clear this is not the first time that the neighbor has overheard Richard beating his wife. She pauses as if weighing what to do but ultimately takes no action. It is implied that the neighbor could have intervened at this point, even in the absence of a cry for help by the victim.

The second vignette is set in a hospital room. Miriam lies in bed breathing through an oxygen mask, surrounded by her family. The narrator explains that Richard's beating is responsible for Miriam's condition. We hear Richard's thoughts as he regrets his lack of self-restraint, and those of Miriam's parents, who wish that they had intervened when Miriam reached out. The video also depicts the emotional pain of Miriam's daughter who has witnessed Richard's attack. The vignette ends with Miriam's parents mourning her death.

[4]Note also that an increase in $\tilde{\alpha}$ has a stronger effect on the level of intervention the higher the initial level of violence v_1. Strengthening beliefs about the degree to which violence is disinhibiting should thus lead to particularly large increases in bystanderly intervention when bystanders are faced with severe incidents of violence. Additionally, a higher initial level of violence v_1 increases the level of subsequent violence only as long as the bystander underestimates the extent to which violence is inhibiting. If the bystander correctly anticipates this extent ($\tilde{\alpha} = \alpha$) or even overestimates it ($\tilde{\alpha} > \alpha$), subsequent violence will not change or decrease with initial violence. This suggests that bystanderly intervention can break or even reverse spirals of violence depending on the degree to which bystanders are aware of the problem.

At the beginning of the third vignette, we watch Miriam's funeral while the narrator recalls what happened. The story then shifts to a neighboring village where we encounter another family with a similar problem. Again, we are introduced to a wife who is beaten by her husband when he is frustrated for reasons beyond her control and in spite of her efforts to please him. This time, however, the wife receives help from her parents to whom she reaches out.[5]

Her parents arrive in the family's home, and we see the father talking to his son-in-law, giving him advice on how to find peaceful solutions when conflict arises. The mother consoles her daughter, reminding her domestic violence is unacceptable. The family consults the women representative of the village, who steps in and monitors the situation. The video closes with the situation improving.

At the end of each video, the narrator reaffirms the need for community members to take action when encountering domestic violence. Rather than on the moral status of domestic violence, the videos thus focus on the responsibility to take action once domestic violence occurs. They are designed to spark empathy with the plight of the victim. Additionally, they display both the way in which domestic violence can escalate and the effectiveness of community intervention in preventing this escalation.

[5]In principle, this may be construed as putting the onus on victims to solve their own problems, rather than portraying the society or the state as responsible for adopting a proactive stance against IPV. However, it is worth emphasizing that this narrative choice does not reflect a normative statement about victims' responsibilities, but a positive description on the part of the Ugandan scriptwriter to accurately reflect the difficulties such situations pose. In many cases, neighbors and family members cannot intervene in a couple's private affairs without some kind of invitation, and so it may indeed be necessary for victims to speak out. The question is how best to facilitate such behavior by increasing neighborly willingness to help.

B Sampling Strategy

B.1 Sampling Strategy for Clusters

To select the 112 trading centers included in our study, we first conducted a census of trading centers with video halls in the districts of Mubende, Mityana, Masaka and Lwengo, which led to the identification of 342 video halls in approximately 300 candidate trading centers. As illustrated in Figure 1, we identified and excluded potentially problematic sites according to a number of pragmatic criteria,[6] narrowing down the selection to 247 candidate trading centers.

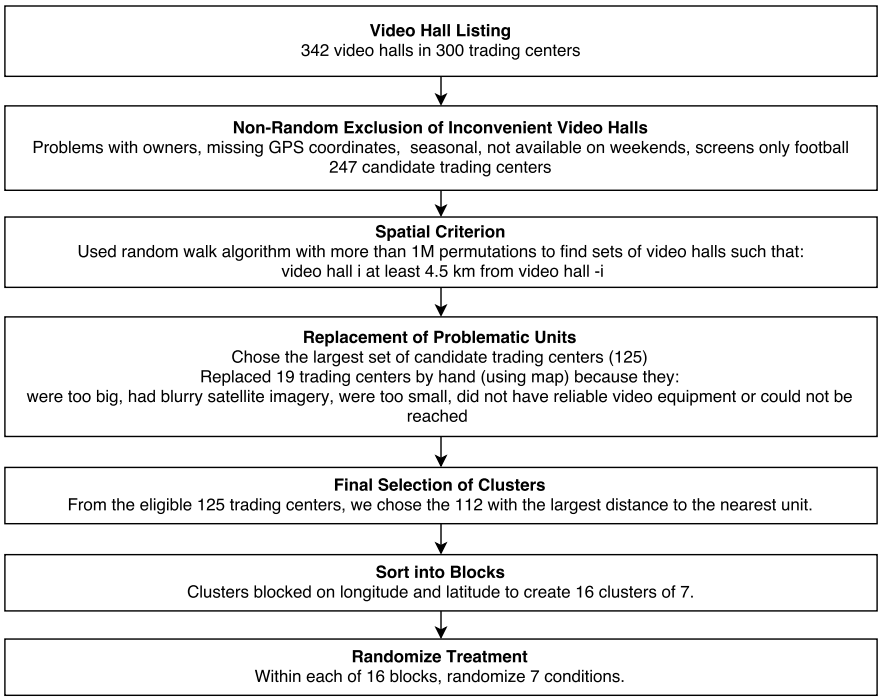

Figure 1: Method for Sampling Clusters from Mubende, Mityana, Masaka and Lwengo.

We then used a random walk algorithm to choose a set of 125 trading centers from the 247 candidate trading centers such that each trading center is at least 4.5 kilometers from its closest neighbor. We imposed this distance constraint in order to address concerns about spillovers. Due to various practical concerns (see Figure 1), we replaced 19 trading centers in the initially selected set by hand-selecting other clusters sufficiently distant from the remaining set. Among the eligible set of 125 trading centers, we then chose the 112 trading centers with the largest distance to the

[6] We excluded video halls that operated seasonally, could not be rented on weekends, for which the GPS coordinates were missing, that only screened football matches instead of movies, and where enumerators indicated it may be difficult to successfully screen movies.

nearest unit. The respondents in the clusters selected in this manner comprise our sample.

B.2 Sampling Strategy for Individuals

Within the trading centers in our study, we conducted a household survey among adults and teenagers as well as a survey with members of Village Health Teams (VHTs). Household respondents were sampled from a circular area around the video hall that was used to screen the treatment messages. Enumerators received a map for each trading center that depicted a circle around this video hall with a radius of between 200 and 800 meters. The radius was chosen based on the population density of the given trading center as judged from satellite images. Enumerators worked with village leaders (LC1 chairpersons) or other knowledgeable members of the community to produce a list of all households that reside within the circle indicated on the map. From this list, 50 households were randomly selected. Twenty-five of those were randomly chosen as households within which a female adult respondent would be interviewed by a female interviewer; in the remaining households male adult respondents were interviewed by male enumerators.

Upon meeting each household, enumerators listed all adult household members (aged 18-50) of the relevant gender and randomly selected one of them as the adult respondent. If no adult respondent of the relevant gender resided in the selected household, another household was randomly chosen from the list of households within the circle around the video hall. If a respondent could not be found during the first visit of the enumerators, two additional visits were conducted before the respondent was coded as a non-response. To ensure our sampling and surveying methods were appropriate to the local context and respectful of subjects' rights, we pre-tested the survey and the questionnaire in non-experimental villages. Interviewers were extensively trained and supervised to make sure that respondents were interviewed alone and out of earshot of others and that their responses were kept confidential.

As will be explained in more detail below, trading centers have been grouped into blocks of seven units. There was a slight change in the sampling strategy for adults after the survey had been completed in all trading centers belonging to the first block. Specifically, we narrowed the age range of adult respondents from 18-65 to 18-50 and increased the number of respondents per trading center from 40 to 50. The first change was made to oversample compliers and the second was due to additional capacities in our survey team that we had not anticipated. Since the same

sampling strategy was used among trading centers within the same block, there is no correlation between the sampling strategy and treatment assignment within block.[7]

In total, we planned to conduct 5530 interviews with adult respondents (40 respondents in the first 7 and 50 respondents in the other 105 trading centers). We successfully conducted 5344 of these in 110 of our 112 trading centers. Unfortunately, we were not able to conduct our household survey in two trading centers due to resistance from the local communities. We believe that our inability to work in these locations was unrelated to the treatment status of the trading center. The two locations are in an area known for suspicion towards outside groups. In both locations villagers were suspicious of the research team and in particular their motives for collecting head of household names (a component of the sampling procedure). There were fears related to land evictions and kidnapping. We deemed it unsafe to continue data collection in those areas. There was no indication from discussions with the residents of these trading centers that these difficulties were related to the specific treatment messages that were screened.

Preliminary analyses that we conducted after having completed the survey in the remaining 110 trading centers showed that some cluster-level samples had very few responses from adult respondents who had attended at least one film. Consequently, we undertook a second round of sampling in these 110 trading centers to target such compliers, aiming to survey 15 additional adult respondents in 14 clusters. To select the 14 clusters, we identified the two clusters in each of the 7 treatment conditions with the fewest compliers.[8] We conducted this sampling by continuing the same random sequence of households generated in the endline, so that the sampled units are the same units that would have been sampled had we continued endline data collection. In order to over-sample compliers, the sampling strategy within households was altered to target respondents between 18 - 35, aiming for a target of 2/3 men. This change in plan was reflected in an addendum to the pre-analysis plan submitted prior to revealing the second round of data collection.[9] Figure 2 summarizes the individual-level sample. Our response rate among adult respondents in the endline

[7]Note also that we will not be re-weighting the trading centers to account for the fact that some have more expected compliers than others due to sampling, since our estimand is the ATE among the compliers that we find. This applies to changes in beliefs and attitudes. Effects on the rate of IPV incidents and the reporting of incidents to village authorities will be estimated on the cluster level. This is in accordance with an addendum to our Pre-Analysis plan.

[8]In one such case, the two clusters with the second lowest number of compliers had the same number of compliers. We randomly selected one among the two.

[9]The original Pre-Analysis Plan and addendum may be found at http://egap.org/registration/2207.

survey (round 1 and 2 combined) is 96.4%.

In every household that we sampled, we also interviewed one randomly selected teenage respondent if at least one teenager between 15 and 17 years of age and of the relevant gender was residing there. The relevant gender of the teenager was linked to the gender of the enumerator visiting a given household (which, as explained above, corresponds to the gender of the adult household respondent): Female enumerators could interview both male and female teenagers; male enumerators were instructed to only conduct a teenage interview if at least one male teenager was residing in the household. As such, our sampling strategy resulted in more male than female teenage respondents. The reasoning behind this approach is that male teenagers are more likely to have attended the film festival. We interviewed a total number of 406 teenagers in 108 out of the 110 trading centers in which we were able to conduct our endline survey.[10]

Finally, we also conducted interviews with members of VHTs in the 112 trading centers in our sample. Members of VHTs are local volunteers whose task it is to provide advice on medical questions to the residents of the village. Each volunteer is responsible for a set of households that he or she is supposed to visit regularly. VHTs do receive compensation and do not typically provide medication. We managed to interview at least one VHT member in each of the trading centers in our sample. In total, we conducted 320 interviews with VHT members, an average of around 3 per trading center.

[10]Three of these 406 were interviewed during the Complier re-sampling described above.

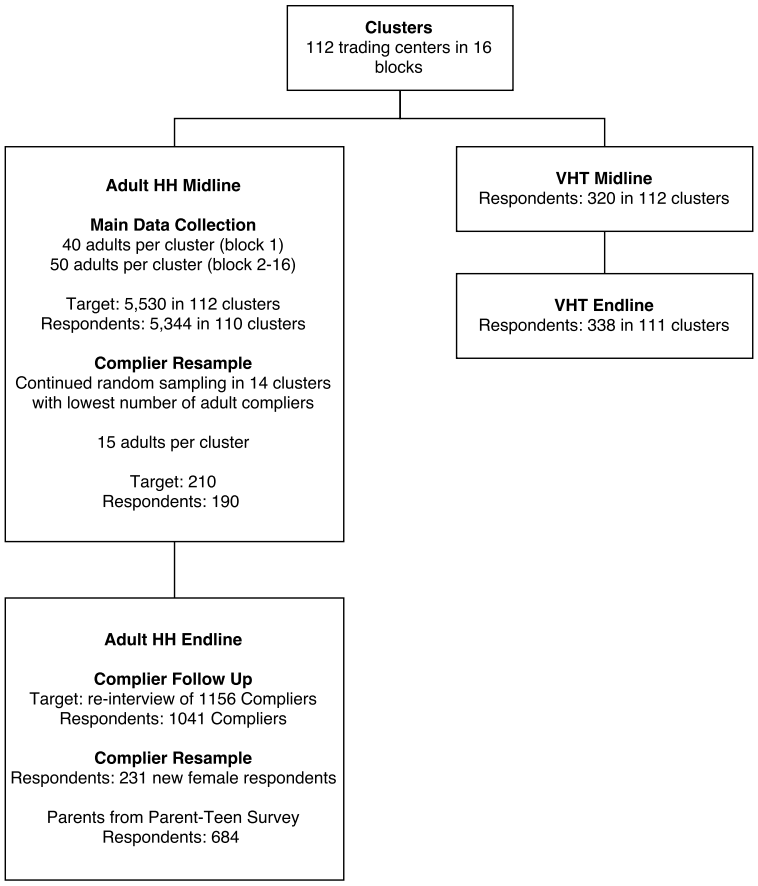

Figure 2: Sample from Individual Surveys

VHT refers to the Village Health Team. Clusters refer to trading centers.

C Identification Strategy

C.1 Crossover Effect Analysis

When designing the study, we expected each of the three messages to affect only views and perceived norms in that issue domain. In other words, we expect messages about domestic violence to affect views and perceived norms regarding domestic violence but not regarding abortion or absenteeism. Thus, our core model is one in which views or norms regarding a given topic are represented as a function of village-level exposure to messages on that topic and that topic only.

We use the term "crossover effects" to refer to the effects that videos on one substantive topic may have on outcomes associated with another substantive topic. For example, if the IPV videos were to affect attitudes about abortion, that would constitute a crossover effect.

The existence of crossover effects is not entirely implausible, because all our treatments convey the message that one should take action of some sort. We thus test for the existence of crossover and interaction effects. If crossover and interaction effects exist, we expect them to be positive. We also expect them to be strongest for the abortion and IPV treatments given that both are related to views on gender roles.

For each outcome we analyze, we run a two-step diagnosis for crossover effects.

1. The first step is only run if the outcome is abortion- or IPV-related; as specified above, these are two outcomes where we do see a positive interaction as plausible. We take the observed difference in F-statistics between the main model that only has the relevant treatment indicator and covariates on the right-hand side, and an augmented model that contains the other treatment indicator (IPV if the outcome is abortion-related, and vice versa) and its interaction with the main treatment indicator. We then permute the treatment assignment 1000 times, and obtain a p-value for the difference in F-statistics.

2. In the second step, which we carry out for all models, we will run the 'saturated crossover' model, which contains all treatment indicators and their pairwise interactions. We follow a similar F-test procedure using randomization inference as described in step 1, and obtain a p-value for the observed difference in F-statistics.

Table 5 reports the results for the first step under "abortion interaction p-value", and those for

the second step under "fully saturated p-value".

Outcome	Wave	Subset	Abortion interaction p-value	Fully saturated p-value
household_violence	endline	all women	0.292	0.336
any_violence	endline	all women	0.469	0.797
violence_disapproval	endline	complier potential perpetrators	0.491	0.420
violence_disapproval_el2	midline	complier potential perpetrators	0.197	0.228
empathy_pair	endline	complier potential perpetrators	0.904	0.394
empathy_husband	endline	all compliers	0.757	0.763
intervene_index	endline	complier men	0.120	0.048
involve_parents	endline	complier men	0.550	0.526
involve_nabakyala	endline	complier men	0.441	0.538
involve_lc1	endline	complier men	0.391	0.103
report_police	endline	complier men	0.111	0.278
intervene_index	endline	complier women	0.030	0.158
involve_parents	endline	complier women	0.012	0.079
involve_nabakyala	endline	complier women	0.019	0.137
involve_lc1	endline	complier women	0.538	0.571
report_police	endline	complier women	0.974	0.916
intervene_index_el2	midline	complier men	0.731	0.152
involve_parents_el2	midline	complier men	0.787	0.358
involve_nabakyala_el2	midline	complier men	0.464	0.618
involve_lc1_el2	midline	complier men	0.603	0.637
report_police_el2	midline	complier men	0.945	0.360
intervene_index_el2	midline	complier women	0.554	0.220
involve_parents_el2	midline	complier women	0.357	0.208
involve_nabakyala_el2	midline	complier women	0.391	0.544
involve_lc1_el2	midline	complier women	0.490	0.730
report_police_el2	midline	complier women	0.259	0.068
react_comm	endline	complier potential perpetrators	0.115	0.099
react_comm_el2	midline	complier potential perpetrators	0.394	0.161
react_comm	endline	all compliers	0.264	0.254
react_comm_el2	midline	all compliers	0.058	0.118
unreported_ipv_el3	endline	VHTs	0.682	0.953
unreported_ipv_el2	midline	VHTs	0.392	0.682
ipv_efficacy	endline	complier men	0.996	0.059
ipv_efficacy	endline	complier women	0.733	0.375
ipv_efficacy_el2	midline	complier men	0.379	0.507
ipv_efficacy_el2	midline	complier women	0.543	0.422
violence_disapproval	endline	complier men	0.365	0.183
violence_disapproval	endline	complier women	0.034	0.003
violence_disapproval_el2	midline	complier men	0.479	0.215
violence_disapproval_el2	midline	complier women	0.208	0.412
empathy_pair	endline	complier men	0.904	0.420
empathy_pair	endline	complier women	0.235	0.481
spiral_risk	endline	complier men	0.559	0.552
spiral_risk	endline	complier women	0.581	0.399

Table 5: F-tests for the presence of crossover effects.

C.2 Balance on Covariates

We first examine balance on observable covariates, both in general then specifically with respect to compliers. Table 6 reports balance on 96 covariates across all 7 arms of the treatment. For each covariate, we test for imbalance by first computing the observed likelihood ratio between a

'full' model that regresses the covariate on the treatment, block and resample indicators, and a 'restricted' model that regresses the covariates on block and resample indicators. We obtain 1000 simulated likelihood ratios by permuting treatment and compare these to the observed ratio in order to obtain a p-value. Approximately 10% of the estimated imbalances (8) are significant at the $\alpha = .1$ confidence level, which is consistent with a null hypothesis of no imbalance.

Tables 7, 8 and 9 indicate balance among all compliers, women compliers, and men compliers, respectively. The results of this exercise suggest that compliers with the IPV-abortion combination of videos appear to be more likely to be women. However, table 13 illustrates that the total and mean number of women attendees as recorded by enumerators is not statistically significantly imbalanced. Moreover, table 8 indicates there is no evidence women compliers have are statistically significantly different observable characteristics across the arms of the treatment.

	PLA	IPV	ABO	ABS	ABO_ABS	IPV_ABS	IPV_ABO	p-value
living_standard	1.10	1.01	1.03	1.15	1.04	0.93	1.00	0.01
education_work	0.06	0.04	0.03	0.05	0.02	0.04	0.04	0.02
english_christian	0.07	0.08	0.09	0.09	0.10	0.07	0.14	0.03
living_conditions	0.12	0.08	0.06	0.16	0.03	0.06	0.02	0.03
minority_tribe	0.06	0.09	0.05	0.06	0.05	0.03	0.07	0.04
misc_floor	0.08	0.08	0.15	0.13	0.14	0.11	0.16	0.06
minority_lang	0.03	0.02	0.09	0.02	0.06	0.03	0.03	0.07
mutooro	0.02	0.01	0.04	0.01	0.01	0.01	0.02	0.07
not_married	0.15	0.16	0.15	0.17	0.14	0.18	0.12	0.10
highest_grade	7.47	7.43	6.90	7.00	6.34	6.71	6.77	0.15
living_standard_children	1.56	1.49	1.52	1.52	1.49	1.42	1.50	0.16
catholic	0.40	0.42	0.42	0.47	0.46	0.51	0.40	0.17
luganda_lang	0.92	0.93	0.82	0.84	0.82	0.80	0.90	0.17
job_kampala	0.94	0.93	0.96	0.93	0.94	0.95	0.95	0.18
cement_floor	0.69	0.62	0.55	0.57	0.45	0.54	0.54	0.18
muslim	0.20	0.20	0.15	0.15	0.14	0.09	0.16	0.20
mukiga	0.04	0.03	0.05	0.02	0.08	0.05	0.03	0.21
radius	364.05	431.10	433.88	505.94	488.61	387.15	405.71	0.21
minority_religion	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.22
rooms	2.65	2.66	2.60	2.92	2.73	2.59	2.59	0.23
stone_wall	0.03	0.03	0.04	0.03	0.03	0.06	0.03	0.23
chair	0.88	0.87	0.85	0.90	0.88	0.85	0.85	0.24
age	31.25	31.11	30.73	31.66	32.05	31.90	31.49	0.24
sofa	0.33	0.27	0.23	0.27	0.22	0.23	0.26	0.25
female	0.50	0.50	0.50	0.50	0.49	0.49	0.49	0.25
living_as_married	0.39	0.35	0.44	0.36	0.35	0.39	0.43	0.25

munyoro	0.09	0.05	0.08	0.07	0.05	0.03	0.06	0.25
living_conditions_compared	2.17	2.18	2.09	2.21	2.07	2.11	2.09	0.26
earth_floor	0.23	0.30	0.30	0.30	0.40	0.35	0.30	0.27
tv	0.33	0.29	0.23	0.31	0.21	0.24	0.22	0.30
illiterate	0.10	0.09	0.13	0.11	0.15	0.13	0.11	0.31
electric_light	0.29	0.25	0.17	0.26	0.13	0.17	0.16	0.32
cement_wall	0.11	0.07	0.09	0.10	0.06	0.10	0.10	0.34
write_and_read	0.82	0.85	0.79	0.81	0.77	0.79	0.82	0.36
pray_private	8.03	8.10	7.99	8.19	8.09	8.03	7.99	0.38
brick_wall	0.63	0.67	0.57	0.61	0.58	0.54	0.57	0.38
runyannkole_lang	0.02	0.03	0.07	0.07	0.07	0.12	0.06	0.38
other_work	0.05	0.06	0.04	0.04	0.03	0.04	0.03	0.39
separated	0.09	0.10	0.08	0.12	0.11	0.12	0.10	0.44
married	0.36	0.39	0.33	0.36	0.40	0.32	0.35	0.45
members	4.53	4.61	4.39	4.72	4.58	4.31	4.54	0.45
close_relatives	0.89	0.89	0.86	0.89	0.87	0.83	0.88	0.46
household_younger	3.03	3.11	2.92	3.22	3.11	2.88	3.07	0.48
household_children	2.40	2.41	2.28	2.52	2.49	2.25	2.41	0.49
kerosene_light	0.20	0.25	0.30	0.24	0.29	0.24	0.28	0.51
manual_work	0.09	0.06	0.07	0.06	0.08	0.07	0.07	0.51
charcoal_fuel	0.51	0.47	0.43	0.38	0.37	0.38	0.41	0.52
transport_work	0.03	0.03	0.03	0.03	0.02	0.04	0.03	0.52
several_huts	0.09	0.08	0.09	0.12	0.08	0.10	0.09	0.54
cellphone	0.83	0.82	0.78	0.81	0.77	0.80	0.78	0.54
share_house	0.30	0.34	0.29	0.26	0.24	0.31	0.28	0.55
household_other	0.08	0.09	0.07	0.08	0.06	0.07	0.05	0.55
single_hut	0.61	0.58	0.62	0.62	0.68	0.59	0.62	0.57
other_person	0.10	0.09	0.08	0.11	0.08	0.07	0.08	0.58
household_spouse	0.36	0.35	0.37	0.35	0.36	0.34	0.38	0.58
fumbira_lang	0.03	0.02	0.02	0.07	0.05	0.05	0.01	0.58
munyankole	0.08	0.10	0.14	0.11	0.13	0.17	0.13	0.59
household_older	0.50	0.51	0.47	0.50	0.46	0.43	0.47	0.61
university	0.08	0.06	0.06	0.06	0.05	0.06	0.05	0.61
living_conditions_tribe	-0.08	-0.08	0.00	-0.06	-0.08	-0.09	-0.10	0.61
protestant	0.16	0.16	0.17	0.12	0.14	0.15	0.15	0.62
misc_wall	0.01	0.02	0.06	0.02	0.04	0.04	0.05	0.67
domestic_work	0.04	0.05	0.05	0.03	0.04	0.04	0.05	0.67
mufumbira_tribe	0.03	0.02	0.02	0.06	0.05	0.05	0.02	0.68
firewood_fuel	0.47	0.51	0.55	0.59	0.60	0.59	0.56	0.69
misc_fuel	0.02	0.02	0.03	0.03	0.03	0.03	0.02	0.71
mobile_phone_use	3.33	3.34	3.17	3.28	3.16	3.29	3.19	0.71
atheist	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.74

witchcraft	1.26	1.18	1.25	1.22	1.22	1.24	1.23	0.74
munyarwanda	0.11	0.10	0.10	0.12	0.12	0.13	0.09	0.74
misc_light	0.08	0.08	0.07	0.06	0.07	0.09	0.09	0.75
village_official	0.07	0.06	0.08	0.06	0.07	0.06	0.07	0.75
solar_light	0.29	0.28	0.34	0.32	0.37	0.36	0.32	0.77
frequency_discussion	1.80	1.73	1.84	1.79	1.80	1.80	1.78	0.77
dist_to_video_hall	597.44	928.31	587.04	1021.47	1078.82	1531.30	561.07	0.77
mud_wall	0.21	0.20	0.25	0.23	0.29	0.25	0.25	0.78
day	1.25	1.22	1.24	1.25	1.27	1.26	1.21	0.78
travel_big_city	0.75	0.77	0.75	0.73	0.75	0.79	0.76	0.78
christian_only	0.02	0.02	0.03	0.02	0.02	0.02	0.01	0.80
agriculture_work	0.52	0.53	0.60	0.59	0.62	0.57	0.60	0.80
men_beaten	2.02	2.03	1.98	1.94	1.85	2.03	1.84	0.81
number_children	3.80	3.89	3.88	4.03	4.21	3.96	4.01	0.81
muganda_tribe	0.56	0.59	0.52	0.54	0.50	0.53	0.58	0.82
write_only	0.04	0.04	0.05	0.05	0.05	0.05	0.04	0.84
holy_spirit	0.15	0.13	0.14	0.16	0.14	0.15	0.12	0.87
radio	0.81	0.83	0.81	0.83	0.81	0.80	0.82	0.87
same_village	0.40	0.37	0.35	0.40	0.38	0.36	0.39	0.87
read_only	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.92
household_head	0.56	0.57	0.56	0.57	0.58	0.59	0.56	0.93
retail_work	0.14	0.16	0.13	0.13	0.13	0.14	0.13	0.97
motor_cycle	0.27	0.27	0.25	0.27	0.26	0.25	0.26	0.98
hospitality_work	0.05	0.06	0.06	0.06	0.06	0.06	0.05	0.98
no_work	0.05	0.06	0.06	0.06	0.06	0.06	0.05	0.98

Table 6: Balance on covariates among all respondents in the midline with all combinations of treatment conditions. First seven columns show means of covariate under respective treatment conditions. Last column shows the p-value from a likelihood ratio test. The 'full' model regresses the covariate on the six treatment indicators, controlling for block and resample fixed effects. The restricted model regresses the covariate on block and resample fixed effects only. The observed likelihood ratio is compared to 1000 likelihood ratios simulated under the null of no effect of treatment on the covariate for all units by re-permuting the treatment assignment. The p-value is equal to the proportion of such simulations at least as great as the observed likelihood ratio.

	PLA	IPV	ABO	ABS	ABO_ABS	IPV_ABS	IPV_ABO	p-value
female	0.28	0.29	0.31	0.27	0.31	0.38	0.30	0.00
atheist	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01
living_standard_children	1.53	1.32	1.49	1.56	1.62	1.32	1.51	0.02
english_christian	0.03	0.06	0.06	0.08	0.07	0.06	0.19	0.08
motor_cycle	0.22	0.20	0.21	0.32	0.21	0.21	0.16	0.14
age	28.70	28.51	27.96	28.59	30.10	30.44	28.83	0.14
minority_tribe	0.07	0.14	0.08	0.04	0.07	0.03	0.04	0.16
men_beaten	2.37	2.08	2.33	1.76	1.76	2.04	1.79	0.20
write_only	0.05	0.02	0.06	0.04	0.02	0.05	0.02	0.31
education_work	0.08	0.06	0.02	0.02	0.01	0.03	0.04	0.31
living_standard	1.05	0.97	0.98	1.19	1.00	0.91	0.92	0.32
read_only	0.05	0.02	0.03	0.02	0.01	0.01	0.02	0.32
cellphone	0.87	0.74	0.72	0.86	0.80	0.76	0.80	0.42
university	0.07	0.05	0.03	0.04	0.06	0.01	0.02	0.42
living_conditions	0.12	-0.02	0.00	0.10	0.05	0.03	-0.10	0.43
protestant	0.21	0.23	0.15	0.10	0.16	0.14	0.16	0.44
frequency_discussion	1.88	1.68	1.94	1.73	1.94	1.79	1.82	0.52
living_conditions_tribe	-0.03	-0.14	-0.01	-0.07	-0.14	-0.10	-0.26	0.53
minority_religion	0.00	0.00	0.01	0.01	0.01	0.00	0.01	0.54
domestic_work	0.02	0.01	0.03	0.01	0.03	0.01	0.04	0.56
pray_private	7.71	8.09	8.01	7.92	8.00	7.88	7.71	0.57
munyarwanda	0.08	0.04	0.16	0.12	0.10	0.16	0.09	0.57
misc_floor	0.09	0.09	0.21	0.14	0.19	0.12	0.20	0.60
christian_only	0.02	0.02	0.04	0.02	0.01	0.03	0.01	0.61
rooms	2.49	2.34	2.25	2.54	2.72	2.54	2.33	0.66
highest_grade	7.37	7.66	6.45	7.09	7.06	6.18	6.92	0.68
transport_work	0.04	0.04	0.04	0.06	0.03	0.06	0.08	0.68
holy_spirit	0.09	0.06	0.12	0.14	0.12	0.13	0.08	0.69
kerosene_light	0.16	0.33	0.35	0.24	0.31	0.30	0.37	0.69
other_work	0.05	0.07	0.05	0.03	0.01	0.03	0.02	0.69
mukiga	0.03	0.02	0.04	0.02	0.10	0.04	0.03	0.70
misc_light	0.10	0.08	0.09	0.05	0.10	0.10	0.09	0.71
mobile_phone_use	3.49	3.12	3.04	3.43	3.28	3.12	3.32	0.71
married	0.33	0.36	0.34	0.37	0.41	0.30	0.25	0.72
dist_to_video_hall	429.16	254.09	297.65	240.31	1224.57	218.51	232.31	0.72
witchcraft	1.37	1.24	1.29	1.33	1.20	1.33	1.23	0.73
other_person	0.05	0.08	0.08	0.09	0.05	0.03	0.07	0.73
number_children	2.98	3.17	3.23	3.08	3.63	3.63	3.20	0.73
job_kampala	0.94	0.95	0.94	0.92	0.96	0.96	0.95	0.75
write_and_read	0.81	0.88	0.79	0.88	0.85	0.81	0.87	0.76

chair	0.84	0.86	0.82	0.89	0.87	0.82	0.87	0.77
living_as_married	0.37	0.31	0.40	0.35	0.33	0.37	0.47	0.79
stone_wall	0.02	0.01	0.04	0.04	0.03	0.06	0.03	0.81
munyankole	0.07	0.10	0.09	0.04	0.10	0.18	0.13	0.81
radio	0.82	0.85	0.77	0.84	0.85	0.83	0.83	0.83
brick_wall	0.71	0.64	0.54	0.65	0.57	0.54	0.56	0.84
separated	0.06	0.09	0.08	0.06	0.07	0.09	0.08	0.84
illiterate	0.10	0.07	0.13	0.06	0.12	0.13	0.08	0.84
munyoro	0.09	0.03	0.06	0.08	0.02	0.03	0.07	0.84
manual_work	0.10	0.06	0.07	0.06	0.09	0.09	0.06	0.84
household_spouse	0.22	0.21	0.25	0.27	0.23	0.26	0.22	0.86
household_older	0.39	0.34	0.42	0.41	0.34	0.37	0.45	0.86
not_married	0.23	0.24	0.18	0.22	0.19	0.24	0.20	0.87
catholic	0.44	0.44	0.48	0.49	0.45	0.55	0.39	0.88
tv	0.29	0.14	0.14	0.24	0.18	0.15	0.20	0.88
radius	373.64	459.71	470.44	547.50	502.48	386.76	441.10	0.88
misc_wall	0.01	0.04	0.09	0.01	0.02	0.07	0.07	0.89
cement_floor	0.69	0.51	0.43	0.56	0.44	0.49	0.50	0.89
sofa	0.26	0.14	0.13	0.21	0.15	0.19	0.17	0.89
several_huts	0.12	0.09	0.08	0.09	0.06	0.10	0.09	0.90
single_hut	0.57	0.58	0.62	0.65	0.69	0.65	0.60	0.90
day	1.24	1.16	1.17	1.22	1.25	1.25	1.25	0.91
muslim	0.22	0.18	0.13	0.17	0.16	0.08	0.17	0.92
electric_light	0.26	0.12	0.11	0.14	0.07	0.07	0.11	0.92
charcoal_fuel	0.53	0.50	0.35	0.36	0.38	0.32	0.42	0.92
living_conditions_compared	2.02	1.94	1.89	2.06	2.01	2.02	1.91	0.92
household_other	0.12	0.11	0.09	0.08	0.07	0.08	0.10	0.92
same_village	0.51	0.42	0.46	0.49	0.53	0.45	0.46	0.92
luganda_lang	0.91	0.93	0.86	0.86	0.84	0.80	0.94	0.92
misc_fuel	0.04	0.04	0.04	0.05	0.03	0.03	0.02	0.93
firewood_fuel	0.43	0.46	0.62	0.59	0.59	0.65	0.55	0.93
earth_floor	0.22	0.40	0.36	0.31	0.37	0.39	0.31	0.94
solar_light	0.32	0.31	0.31	0.42	0.40	0.36	0.26	0.94
household_head	0.65	0.68	0.65	0.65	0.70	0.66	0.68	0.94
share_house	0.32	0.33	0.31	0.26	0.25	0.25	0.32	0.95
mud_wall	0.21	0.24	0.26	0.22	0.32	0.25	0.28	0.96
travel_big_city	0.81	0.80	0.80	0.78	0.82	0.84	0.80	0.96
fumbira_lang	0.03	0.01	0.01	0.09	0.05	0.04	0.01	0.96
runyannkole_lang	0.02	0.02	0.05	0.03	0.05	0.13	0.04	0.97
mufumbira_tribe	0.02	0.02	0.02	0.09	0.04	0.04	0.01	0.97
hospitality_work	0.05	0.08	0.04	0.04	0.04	0.06	0.05	0.97
no_work	0.05	0.08	0.04	0.04	0.04	0.06	0.05	0.97

household_children	2.00	1.99	1.94	2.12	2.15	2.19	2.00	0.98
close_relatives	0.86	0.91	0.89	0.89	0.87	0.87	0.90	0.98
minority_lang	0.03	0.04	0.08	0.02	0.05	0.03	0.01	0.98
muganda_tribe	0.62	0.59	0.52	0.56	0.53	0.50	0.60	0.98
agriculture_work	0.54	0.56	0.61	0.66	0.68	0.62	0.64	0.98
retail_work	0.13	0.10	0.11	0.09	0.09	0.09	0.07	0.98
cement_wall	0.06	0.06	0.07	0.08	0.05	0.08	0.06	0.99
village_official	0.10	0.09	0.10	0.08	0.08	0.07	0.09	0.99
members	4.03	4.00	4.06	4.16	4.18	4.21	4.07	1.00
household_younger	2.64	2.66	2.64	2.76	2.84	2.84	2.61	1.00
mutooro	0.02	0.03	0.02	0.01	0.02	0.01	0.02	1.00

Table 7: Balance on covariates among compliers in the midline with all combinations of treatment conditions. First seven columns show means of covariate under respective treatment conditions. Last column shows the p-value from a likelihood ratio test. The 'full' model regresses the covariate on the six treatment indicators, controlling for block and resample fixed effects. The restricted model regresses the covariate on block and resample fixed effects only. The observed likelihood ratio is compared to 1000 likelihood ratios simulated under the null of no effect of treatment on the covariate for all units by re-permuting the treatment assignment. The p-value is equal to the proportion of such simulations at least as great as the observed likelihood ratio.

	PLA	IPV	ABO	ABS	ABO_ABS	IPV_ABS	IPV_ABO	p-value
frequency_discussion	2.42	1.54	2.08	1.70	1.97	2.01	1.98	0.06
age	29.75	26.22	27.06	28.81	29.73	30.67	29.02	0.14
men_beaten	2.58	1.80	1.98	1.14	1.73	1.74	1.29	0.17
household_head	0.11	0.24	0.18	0.09	0.21	0.27	0.20	0.19
pray_private	7.94	8.29	8.16	8.19	8.65	8.22	8.08	0.24
other_person	0.11	0.24	0.16	0.26	0.15	0.05	0.12	0.27
christian_only	0.06	0.07	0.00	0.02	0.02	0.03	0.00	0.34
english_christian	0.08	0.07	0.12	0.09	0.11	0.04	0.24	0.34
household_older	0.97	0.73	0.86	0.91	0.77	0.71	0.84	0.34
job_kampala	0.92	0.98	0.98	0.93	0.98	0.96	0.98	0.38
household_spouse	0.78	0.68	0.74	0.86	0.74	0.67	0.69	0.38
living_standard_children	1.58	1.44	1.58	1.51	1.71	1.36	1.59	0.42
misc_fuel	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.42
motor_cycle	0.28	0.24	0.22	0.35	0.27	0.17	0.10	0.42
domestic_work	0.06	0.05	0.10	0.05	0.10	0.03	0.10	0.42
day	1.25	1.37	1.24	1.28	1.55	1.27	1.33	0.43
illiterate	0.14	0.10	0.26	0.05	0.19	0.18	0.08	0.44
cellphone	0.69	0.49	0.52	0.77	0.73	0.73	0.65	0.45
brick_wall	0.75	0.80	0.34	0.67	0.58	0.56	0.41	0.53
household_children	2.61	2.46	2.10	2.86	2.71	2.58	2.04	0.55
separated	0.08	0.22	0.14	0.07	0.15	0.19	0.16	0.56
living_conditions	0.22	-0.02	0.04	0.30	0.05	-0.10	0.12	0.56
read_only	0.03	0.02	0.04	0.00	0.03	0.00	0.02	0.57
several_huts	0.06	0.02	0.12	0.02	0.03	0.03	0.02	0.60
radio	0.67	0.76	0.70	0.72	0.84	0.65	0.69	0.60
write_and_read	0.81	0.83	0.64	0.88	0.77	0.78	0.84	0.62
write_only	0.03	0.05	0.06	0.07	0.00	0.04	0.06	0.63
cement_wall	0.06	0.00	0.12	0.00	0.08	0.06	0.10	0.65
catholic	0.50	0.46	0.56	0.47	0.39	0.63	0.43	0.66
stone_wall	0.00	0.00	0.12	0.09	0.03	0.10	0.08	0.66
holy_spirit	0.06	0.07	0.12	0.12	0.23	0.12	0.08	0.67
education_work	0.08	0.05	0.00	0.02	0.02	0.04	0.02	0.70
household_younger	2.92	2.68	2.46	3.09	2.92	2.82	2.27	0.74
same_village	0.28	0.22	0.34	0.21	0.32	0.27	0.14	0.74
manual_work	0.03	0.02	0.02	0.00	0.03	0.05	0.04	0.74
members	4.89	4.41	4.32	5.00	4.69	4.53	4.10	0.75
village_official	0.03	0.05	0.02	0.05	0.00	0.06	0.06	0.76
number_children	3.67	3.20	3.84	3.65	4.26	4.00	3.43	0.78
university	0.03	0.02	0.00	0.05	0.05	0.01	0.00	0.78
not_married	0.08	0.12	0.06	0.02	0.10	0.12	0.10	0.79

minority_tribe	0.00	0.07	0.08	0.02	0.10	0.04	0.04	0.79
living_conditions_tribe	0.00	-0.05	0.22	0.12	0.05	-0.10	-0.08	0.79
other_work	0.00	0.02	0.00	0.05	0.02	0.00	0.02	0.80
dist_to_video_hall	206.65	287.15	189.70	191.84	396.84	133.62	183.69	0.81
misc_light	0.11	0.10	0.14	0.07	0.05	0.10	0.06	0.83
protestant	0.11	0.20	0.08	0.07	0.13	0.08	0.10	0.84
married	0.42	0.27	0.30	0.40	0.40	0.27	0.20	0.84
highest_grade	6.89	6.78	5.08	6.63	5.95	5.55	6.02	0.86
mobile_phone_use	2.67	2.44	2.16	2.91	2.85	2.90	2.76	0.86
mukiga	0.00	0.05	0.02	0.05	0.08	0.01	0.00	0.87
munyoro	0.14	0.02	0.06	0.02	0.00	0.04	0.08	0.87
single_hut	0.56	0.66	0.46	0.67	0.63	0.65	0.61	0.89
travel_big_city	0.75	0.73	0.74	0.58	0.77	0.81	0.76	0.91
close_relatives	0.81	0.98	0.86	0.88	0.87	0.86	0.84	0.91
misc_floor	0.06	0.05	0.10	0.09	0.15	0.06	0.18	0.93
charcoal_fuel	0.58	0.56	0.36	0.28	0.39	0.31	0.51	0.93
firewood_fuel	0.42	0.44	0.64	0.70	0.61	0.69	0.49	0.94
living_standard	1.03	1.12	0.92	1.16	0.98	0.94	0.88	0.95
rooms	2.47	2.41	2.18	2.33	2.68	2.47	2.24	0.96
sofa	0.25	0.17	0.14	0.26	0.15	0.17	0.31	0.96
living_as_married	0.42	0.39	0.50	0.51	0.35	0.42	0.53	0.96
munyankole	0.03	0.12	0.14	0.05	0.15	0.17	0.18	0.96
retail_work	0.14	0.20	0.10	0.07	0.15	0.14	0.12	0.96
misc_wall	0.00	0.02	0.10	0.02	0.00	0.01	0.10	0.97
solar_light	0.31	0.27	0.32	0.40	0.42	0.27	0.14	0.97
chair	0.72	0.78	0.76	0.86	0.81	0.78	0.76	0.97
radius	352.78	485.37	478.00	581.40	511.29	379.49	446.94	0.97
earth_floor	0.31	0.49	0.52	0.44	0.44	0.54	0.37	0.98
living_conditions_compared	2.14	2.02	1.92	2.19	2.15	2.10	2.12	0.98
household_other	0.11	0.07	0.08	0.05	0.05	0.06	0.10	0.98
luganda_lang	0.92	0.98	0.90	0.81	0.79	0.82	0.96	0.98
muslim	0.19	0.12	0.12	0.23	0.13	0.12	0.14	0.99
share_house	0.39	0.32	0.42	0.30	0.34	0.32	0.37	0.99
kerosene_light	0.22	0.39	0.36	0.33	0.34	0.42	0.43	0.99
tv	0.17	0.12	0.14	0.16	0.10	0.09	0.18	0.99
agriculture_work	0.61	0.56	0.70	0.72	0.61	0.67	0.55	0.99
witchcraft	1.31	1.24	1.22	1.30	1.19	1.27	1.16	1.00
mud_wall	0.19	0.17	0.32	0.21	0.31	0.26	0.31	1.00
cement_floor	0.64	0.46	0.38	0.47	0.42	0.40	0.45	1.00
electric_light	0.19	0.05	0.10	0.05	0.06	0.05	0.16	1.00
fumbira_lang	0.06	0.00	0.00	0.14	0.05	0.06	0.00	1.00
runyannkole_lang	0.03	0.00	0.06	0.02	0.08	0.12	0.04	1.00

minority_lang	0.00	0.02	0.04	0.02	0.08	0.00	0.00	1.00
muganda_tribe	0.67	0.56	0.54	0.58	0.47	0.50	0.53	1.00
mufumbira_tribe	0.03	0.00	0.02	0.12	0.05	0.08	0.00	1.00
munyarwanda	0.08	0.10	0.10	0.14	0.13	0.15	0.10	1.00
mutooro	0.06	0.05	0.02	0.00	0.02	0.01	0.06	1.00
hospitality_work	0.08	0.10	0.06	0.07	0.08	0.08	0.14	1.00
no_work	0.08	0.10	0.06	0.07	0.08	0.08	0.14	1.00
atheist	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
minority_religion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
transport_work	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Table 8: Balance on covariates among women compliers in the midline with all combinations of treatment conditions. First seven columns show means of covariate under respective treatment conditions. Last column shows the p-value from a likelihood ratio test. The 'full' model regresses the covariate on the six treatment indicators, controlling for block and resample fixed effects. The restricted model regresses the covariate on block and resample fixed effects only. The observed likelihood ratio is compared to 1000 likelihood ratios simulated under the null of no effect of treatment on the covariate for all units by re-permuting the treatment assignment. The p-value is equal to the proportion of such simulations at least as great as the observed likelihood ratio.

	PLA	IPV	ABO	ABS	ABO_ABS	IPV_ABS	IPV_ABO	p-value
atheist	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.02
living_standard_children	1.52	1.28	1.45	1.57	1.58	1.30	1.47	0.09
minority_tribe	0.10	0.17	0.08	0.05	0.06	0.03	0.04	0.11
christian_only	0.00	0.00	0.06	0.02	0.01	0.04	0.01	0.14
living_conditions	0.09	-0.02	-0.02	0.03	0.05	0.12	-0.19	0.15
write_only	0.05	0.01	0.06	0.03	0.03	0.06	0.01	0.17
english_christian	0.01	0.06	0.04	0.07	0.06	0.08	0.17	0.19
household_spouse	0.01	0.01	0.03	0.05	0.01	0.02	0.02	0.22
read_only	0.05	0.02	0.02	0.03	0.01	0.02	0.03	0.30
motor_cycle	0.19	0.18	0.21	0.31	0.19	0.24	0.18	0.37
munyarwanda	0.08	0.02	0.18	0.12	0.09	0.17	0.08	0.38
radio	0.88	0.89	0.81	0.88	0.86	0.94	0.89	0.41
living_standard	1.06	0.91	1.01	1.21	1.00	0.90	0.94	0.42
men_beaten	2.29	2.19	2.49	1.99	1.78	2.22	2.01	0.45
misc_light	0.10	0.07	0.07	0.04	0.13	0.10	0.10	0.46
age	28.29	29.47	28.38	28.51	30.26	30.30	28.75	0.50
transport_work	0.05	0.06	0.06	0.09	0.04	0.10	0.11	0.50
other_work	0.06	0.09	0.07	0.03	0.01	0.06	0.03	0.52
minority_religion	0.00	0.00	0.01	0.01	0.01	0.00	0.01	0.55
education_work	0.08	0.07	0.03	0.03	0.01	0.02	0.04	0.56
cellphone	0.94	0.85	0.81	0.90	0.83	0.79	0.87	0.58
frequency_discussion	1.67	1.73	1.88	1.74	1.93	1.66	1.75	0.58
several_huts	0.14	0.11	0.06	0.11	0.07	0.15	0.11	0.59
day	1.24	1.07	1.14	1.20	1.11	1.23	1.22	0.60
university	0.09	0.06	0.05	0.04	0.07	0.02	0.03	0.60
domestic_work	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.61
living_conditions_tribe	-0.04	-0.18	-0.11	-0.14	-0.22	-0.10	-0.33	0.63
protestant	0.25	0.24	0.18	0.11	0.18	0.17	0.18	0.66
mobile_phone_use	3.81	3.41	3.45	3.62	3.47	3.26	3.56	0.67
holy_spirit	0.10	0.06	0.12	0.15	0.08	0.14	0.08	0.69
household_head	0.86	0.87	0.87	0.85	0.91	0.90	0.89	0.69
pray_private	7.62	8.00	7.94	7.82	7.72	7.67	7.55	0.72
misc_floor	0.10	0.11	0.26	0.15	0.21	0.16	0.20	0.72
witchcraft	1.40	1.23	1.32	1.34	1.21	1.37	1.26	0.74
kerosene_light	0.13	0.31	0.35	0.21	0.29	0.23	0.34	0.74
cement_wall	0.06	0.09	0.05	0.11	0.04	0.09	0.04	0.76
single_hut	0.57	0.55	0.69	0.64	0.71	0.65	0.59	0.79
rooms	2.49	2.31	2.28	2.62	2.74	2.58	2.36	0.79
mukiga	0.04	0.01	0.06	0.02	0.11	0.06	0.04	0.79
dist_to_video_hall	515.29	240.25	347.17	258.12	1591.13	271.06	253.20	0.79

chair	0.89	0.90	0.85	0.90	0.90	0.85	0.92	0.81
not_married	0.29	0.29	0.24	0.30	0.23	0.31	0.25	0.82
hospitality_work	0.03	0.07	0.03	0.03	0.03	0.06	0.01	0.83
no_work	0.03	0.07	0.03	0.03	0.03	0.06	0.01	0.83
retail_work	0.13	0.06	0.12	0.10	0.07	0.06	0.05	0.84
sofa	0.26	0.12	0.13	0.19	0.15	0.20	0.11	0.86
married	0.30	0.40	0.36	0.36	0.41	0.33	0.26	0.88
household_older	0.16	0.17	0.22	0.22	0.14	0.16	0.29	0.88
write_and_read	0.81	0.91	0.86	0.88	0.88	0.83	0.89	0.88
share_house	0.29	0.34	0.26	0.25	0.21	0.20	0.30	0.89
stone_wall	0.02	0.02	0.00	0.02	0.03	0.04	0.01	0.89
manual_work	0.13	0.08	0.09	0.09	0.12	0.12	0.07	0.89
muslim	0.23	0.20	0.14	0.15	0.17	0.06	0.18	0.90
tv	0.34	0.15	0.15	0.27	0.21	0.18	0.20	0.90
other_person	0.02	0.01	0.04	0.03	0.01	0.02	0.04	0.90
living_as_married	0.35	0.28	0.35	0.29	0.31	0.33	0.45	0.90
munyankole	0.09	0.09	0.07	0.04	0.08	0.19	0.11	0.91
living_conditions_compared	1.98	1.91	1.88	2.02	1.96	1.97	1.82	0.92
same_village	0.60	0.51	0.51	0.59	0.62	0.56	0.60	0.92
highest_grade	7.56	8.03	7.07	7.26	7.56	6.56	7.31	0.92
number_children	2.71	3.15	2.95	2.86	3.36	3.40	3.10	0.93
job_kampala	0.95	0.94	0.93	0.92	0.95	0.96	0.94	0.94
misc_wall	0.01	0.05	0.08	0.01	0.04	0.10	0.05	0.94
electric_light	0.29	0.15	0.11	0.18	0.07	0.09	0.09	0.94
village_official	0.13	0.10	0.14	0.09	0.11	0.08	0.11	0.94
munyoro	0.06	0.03	0.06	0.09	0.04	0.02	0.07	0.94
brick_wall	0.69	0.57	0.63	0.64	0.56	0.52	0.63	0.95
household_other	0.13	0.12	0.10	0.09	0.08	0.09	0.10	0.95
agriculture_work	0.52	0.56	0.57	0.64	0.71	0.59	0.68	0.95
catholic	0.42	0.43	0.44	0.50	0.48	0.51	0.38	0.96
cement_floor	0.71	0.53	0.45	0.59	0.45	0.54	0.52	0.96
radius	381.72	448.98	466.97	535.04	498.57	391.27	438.60	0.97
earth_floor	0.19	0.36	0.29	0.26	0.34	0.30	0.28	0.98
solar_light	0.32	0.33	0.30	0.44	0.39	0.41	0.32	0.98
luganda_lang	0.91	0.91	0.83	0.88	0.86	0.79	0.94	0.98
muganda_tribe	0.60	0.60	0.50	0.56	0.56	0.51	0.63	0.98
mud_wall	0.22	0.27	0.24	0.22	0.33	0.25	0.26	0.99
charcoal_fuel	0.52	0.47	0.34	0.39	0.38	0.33	0.39	0.99
firewood_fuel	0.43	0.47	0.61	0.55	0.58	0.62	0.58	0.99
separated	0.05	0.04	0.06	0.05	0.04	0.03	0.04	0.99
runyannkole_lang	0.02	0.03	0.05	0.03	0.04	0.13	0.04	0.99
mufumbira_tribe	0.01	0.03	0.02	0.09	0.04	0.02	0.02	0.99

misc_fuel	0.05	0.06	0.06	0.06	0.04	0.05	0.04	1.00
members	3.70	3.83	3.94	3.85	3.95	4.01	4.05	1.00
household_children	1.76	1.79	1.87	1.85	1.91	1.94	1.98	1.00
household_younger	2.54	2.65	2.72	2.63	2.81	2.85	2.76	1.00
travel_big_city	0.84	0.83	0.83	0.85	0.84	0.87	0.82	1.00
close_relatives	0.88	0.88	0.90	0.89	0.86	0.88	0.93	1.00
illiterate	0.09	0.06	0.06	0.07	0.09	0.10	0.08	1.00
fumbira_lang	0.02	0.01	0.02	0.07	0.05	0.02	0.01	1.00
minority_lang	0.04	0.05	0.10	0.02	0.04	0.05	0.01	1.00
mutooro	0.00	0.02	0.02	0.01	0.02	0.01	0.00	1.00

Table 9: Balance on covariates among men compliers in the midline with all combinations of treatment conditions. First seven columns show means of covariate under respective treatment conditions. Last column shows the p-value from a likelihood ratio test. The 'full' model regresses the covariate on the six treatment indicators, controlling for block and resample fixed effects. The restricted model regresses the covariate on block and resample fixed effects only. The observed likelihood ratio is compared to 1000 likelihood ratios simulated under the null of no effect of treatment on the covariate for all units by re-permuting the treatment assignment. The p-value is equal to the proportion of such simulations at least as great as the observed likelihood ratio.

	PLA	IPV	ABO	ABS	ABO_ABS	IPV_ABS	IPV_ABO	p-value
it_doesnt_matter	0.02	0.05	0.02	0.01	0.04	0.02	0.00	0.01
minority_tribe	0.05	0.12	0.08	0.04	0.10	0.04	0.05	0.02
english_christian	0.02	0.04	0.03	0.04	0.05	0.03	0.09	0.04
holy_spirit	0.12	0.08	0.14	0.19	0.13	0.17	0.09	0.07
radius	376.77	432.35	448.73	529.10	504.78	380.82	417.56	0.14
principal	0.31	0.26	0.22	0.21	0.22	0.21	0.26	0.17
village_official	0.14	0.11	0.07	0.07	0.11	0.07	0.09	0.19
illiterate	0.11	0.08	0.16	0.12	0.16	0.16	0.10	0.19
grandchildren	4.14	4.01	4.31	4.05	3.95	4.05	4.13	0.19
mukiga	0.05	0.03	0.03	0.03	0.09	0.03	0.04	0.22
day	1.30	1.24	1.26	1.32	1.25	1.34	1.24	0.23
minority_lang	0.03	0.03	0.08	0.02	0.06	0.03	0.01	0.23
doctor	0.34	0.37	0.35	0.31	0.30	0.31	0.41	0.23
household_head	0.51	0.59	0.56	0.56	0.63	0.60	0.56	0.24
luganda_lang	0.92	0.93	0.83	0.86	0.81	0.82	0.92	0.24
munyoro	0.08	0.06	0.07	0.07	0.03	0.02	0.08	0.24
mutooro	0.02	0.02	0.04	0.03	0.03	0.00	0.04	0.26
survey_luganda	0.98	1.00	0.98	0.99	0.98	0.97	0.99	0.26
female	0.59	0.53	0.54	0.54	0.46	0.55	0.51	0.28
muslim	0.20	0.20	0.14	0.15	0.15	0.07	0.17	0.30
teacher	0.60	0.64	0.58	0.59	0.53	0.51	0.58	0.30
highest_grade	6.97	7.09	6.21	6.25	6.22	6.08	6.47	0.31
munyankole	0.08	0.10	0.11	0.07	0.10	0.17	0.10	0.34
domestic_work	0.07	0.06	0.05	0.03	0.04	0.03	0.05	0.36
write_and_read	0.83	0.87	0.76	0.82	0.80	0.78	0.85	0.37
roughly_equal	0.64	0.61	0.66	0.60	0.58	0.61	0.61	0.37
atheist	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.40
age	35.16	34.61	33.91	34.79	35.16	35.44	34.14	0.43
write_only	0.03	0.03	0.04	0.05	0.03	0.05	0.03	0.44
catholic	0.40	0.41	0.42	0.44	0.43	0.52	0.38	0.45
cooperative	2.72	2.75	2.71	2.72	2.63	2.73	2.73	0.45
christian_only	0.18	0.13	0.16	0.12	0.12	0.11	0.16	0.47
university	0.07	0.04	0.04	0.03	0.04	0.03	0.03	0.50
all_girls	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.50
mufumbira_tribe	0.03	0.01	0.03	0.09	0.05	0.07	0.01	0.52
other_work	0.04	0.05	0.07	0.04	0.04	0.06	0.04	0.53
mobile_phone_use	3.41	3.33	3.19	3.34	3.29	3.42	3.46	0.53
education_work	0.04	0.03	0.01	0.01	0.02	0.02	0.01	0.54
manual_work	0.09	0.08	0.04	0.08	0.08	0.08	0.08	0.55
all_boys	0.01	0.03	0.01	0.02	0.01	0.02	0.02	0.58

read_only	0.04	0.03	0.03	0.01	0.02	0.02	0.03	0.60
fumbira_lang	0.03	0.01	0.03	0.08	0.06	0.06	0.02	0.60
police	0.26	0.28	0.28	0.22	0.24	0.22	0.23	0.64
runyannkole_lang	0.02	0.03	0.07	0.03	0.06	0.10	0.04	0.65
more_boys_than_girls	0.21	0.19	0.20	0.22	0.24	0.24	0.23	0.68
idntcraslngasonisaby	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70
not_married	0.13	0.17	0.15	0.14	0.13	0.16	0.12	0.71
religious_service	1.82	1.84	1.42	1.35	1.61	1.22	1.39	0.71
judge	0.13	0.09	0.10	0.09	0.12	0.10	0.11	0.72
munyarwanda	0.09	0.09	0.16	0.11	0.09	0.13	0.11	0.74
more_girls_than_boys	0.11	0.11	0.11	0.14	0.12	0.10	0.14	0.76
official	0.20	0.21	0.20	0.16	0.17	0.18	0.18	0.77
muganda_tribe	0.60	0.57	0.48	0.56	0.50	0.53	0.57	0.78
married	0.54	0.53	0.55	0.53	0.58	0.48	0.54	0.80
separated	0.13	0.14	0.13	0.13	0.12	0.17	0.13	0.83
transport_work	0.03	0.03	0.04	0.03	0.02	0.03	0.04	0.86
idntcraslngasonisagr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.86
retail_work	0.09	0.09	0.10	0.11	0.06	0.11	0.10	0.89
other_person	0.09	0.08	0.08	0.06	0.06	0.08	0.07	0.89
living_as_married	0.20	0.16	0.17	0.20	0.17	0.19	0.21	0.93
agriculture_work	0.60	0.60	0.62	0.64	0.66	0.61	0.62	0.98
hospitality_work	0.05	0.05	0.05	0.06	0.06	0.06	0.05	0.98
no_work	0.05	0.05	0.05	0.06	0.06	0.06	0.05	0.98
living_conditions_compared	2.19	2.14	2.12	2.13	2.16	2.14	2.15	0.98
clergy	0.50	0.53	0.49	0.52	0.52	0.52	0.52	0.98
frequency_discussion	1.45	1.43	1.52	1.45	1.51	1.46	1.46	0.99

Table 10: Balance on covariates with all combinations of treatment conditions among all respondents in Endline. First seven columns show means of covariate under respective treatment conditions. Last column shows the p-value from a likelihood ratio test. The 'full' model regresses the covariate on the six treatment indicators, controlling for block and resample fixed effects. The restricted model regresses the covariate on block and resample fixed effects only. The observed likelihood ratio is compared to 1000 likelihood ratios simulated under the null of no effect of treatment on the covariate for all units by re-permuting the treatment assignment. The p-value is equal to the proportion of such simulations at least as great as the observed likelihood ratio.

	PLA	IPV	ABO	ABS	ABO_ABS	IPV_ABS	IPV_ABO	p-value
read_only	0.03	0.05	0.04	0.00	0.04	0.01	0.02	0.09
illiterate	0.11	0.09	0.24	0.16	0.22	0.21	0.09	0.09
minority_tribe	0.05	0.09	0.09	0.03	0.09	0.05	0.06	0.09
village_official	0.17	0.13	0.08	0.05	0.10	0.07	0.06	0.10
grandchildren	4.19	4.20	4.49	4.08	4.10	4.08	4.27	0.12
highest_grade	6.83	6.57	5.73	5.66	5.02	5.90	6.18	0.14
atheist	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.15
it_doesnt_matter	0.03	0.06	0.03	0.02	0.04	0.03	0.01	0.18
radius	369.80	425.20	433.11	521.88	503.68	381.61	415.49	0.19
write_and_read	0.84	0.83	0.68	0.78	0.73	0.75	0.84	0.23
munyankole	0.09	0.09	0.09	0.07	0.10	0.18	0.09	0.23
write_only	0.01	0.03	0.04	0.06	0.01	0.02	0.05	0.25
munyoro	0.11	0.06	0.07	0.08	0.03	0.02	0.07	0.27
mufumbira_tribe	0.04	0.01	0.02	0.09	0.06	0.06	0.01	0.33
english_christian	0.02	0.02	0.03	0.02	0.05	0.02	0.06	0.33
muslim	0.18	0.18	0.13	0.16	0.11	0.08	0.15	0.33
age	36.46	35.71	34.61	35.95	36.26	35.61	34.56	0.34
mobile_phone_use	3.25	3.17	2.85	3.06	3.02	3.24	3.27	0.34
holy_spirit	0.14	0.10	0.14	0.19	0.16	0.19	0.11	0.38
household_head	0.23	0.32	0.26	0.28	0.26	0.33	0.21	0.39
domestic_work	0.10	0.12	0.09	0.05	0.10	0.06	0.09	0.41
all_girls	0.01	0.01	0.01	0.02	0.00	0.01	0.00	0.42
university	0.06	0.02	0.04	0.02	0.02	0.04	0.01	0.43
mutooro	0.03	0.02	0.05	0.04	0.04	0.01	0.06	0.43
education_work	0.04	0.02	0.01	0.01	0.01	0.02	0.01	0.44
retail_work	0.09	0.13	0.09	0.13	0.06	0.16	0.12	0.49
luganda_lang	0.91	0.94	0.82	0.84	0.79	0.83	0.92	0.50
more_girls_than_boys	0.13	0.15	0.16	0.17	0.16	0.11	0.20	0.51
married	0.52	0.47	0.52	0.51	0.52	0.41	0.52	0.52
manual_work	0.08	0.04	0.03	0.05	0.04	0.07	0.05	0.52
minority_lang	0.03	0.02	0.08	0.04	0.07	0.02	0.01	0.53
mukiga	0.05	0.02	0.03	0.01	0.07	0.03	0.01	0.53
religious_service	1.43	1.28	1.30	1.31	1.40	1.33	1.12	0.54
survey_luganda	0.97	1.00	0.97	0.99	0.96	0.97	0.99	0.55
not_married	0.10	0.13	0.09	0.11	0.08	0.11	0.06	0.57
fumbira_lang	0.04	0.02	0.03	0.10	0.07	0.06	0.03	0.58
official	0.15	0.17	0.15	0.10	0.17	0.17	0.15	0.58
all_boys	0.01	0.02	0.00	0.02	0.01	0.02	0.01	0.61
doctor	0.34	0.35	0.34	0.34	0.28	0.35	0.43	0.65
other_work	0.03	0.04	0.05	0.04	0.01	0.03	0.02	0.66

catholic	0.41	0.43	0.43	0.44	0.40	0.52	0.40	0.66
separated	0.19	0.23	0.22	0.21	0.21	0.28	0.18	0.69
principal	0.29	0.28	0.20	0.22	0.24	0.22	0.27	0.75
day	1.34	1.28	1.34	1.37	1.26	1.36	1.38	0.77
teacher	0.60	0.60	0.55	0.61	0.50	0.52	0.55	0.78
runyannkole_lang	0.02	0.02	0.07	0.02	0.07	0.09	0.04	0.80
christian_only	0.22	0.20	0.22	0.16	0.19	0.16	0.23	0.82
roughly_equal	0.69	0.65	0.70	0.65	0.65	0.70	0.63	0.83
idntcraslngasonisagr	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.84
judge	0.13	0.08	0.11	0.08	0.12	0.11	0.12	0.84
idntcraslngasonisaby	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.87
other_person	0.13	0.11	0.11	0.11	0.07	0.12	0.11	0.88
living_as_married	0.19	0.16	0.17	0.18	0.18	0.20	0.23	0.91
muganda_tribe	0.54	0.58	0.51	0.56	0.49	0.51	0.56	0.91
frequency_discussion	1.34	1.24	1.32	1.30	1.35	1.22	1.31	0.93
agriculture_work	0.59	0.57	0.61	0.63	0.66	0.57	0.63	0.94
hospitality_work	0.06	0.07	0.09	0.09	0.10	0.09	0.08	0.95
no_work	0.06	0.07	0.09	0.09	0.10	0.09	0.08	0.95
more_boys_than_girls	0.12	0.10	0.10	0.12	0.13	0.13	0.14	0.95
munyarwanda	0.09	0.12	0.12	0.12	0.12	0.14	0.13	0.96
female	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98
living_conditions_compared	2.16	2.13	2.14	2.06	2.12	2.10	2.15	0.98
police	0.26	0.24	0.25	0.22	0.21	0.23	0.25	0.98
clergy	0.50	0.54	0.49	0.53	0.54	0.52	0.54	0.98
cooperative	2.70	2.70	2.69	2.68	2.62	2.68	2.69	0.98
transport_work	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Table 11: Balance on covariates with all combinations of treatment conditions among all women respondents in Endline. First seven columns show means of covariate under respective treatment conditions. Last column shows the p-value from a likelihood ratio test. The 'full' model regresses the covariate on the six treatment indicators, controlling for block and resample fixed effects. The restricted model regresses the covariate on block and resample fixed effects only. The observed likelihood ratio is compared to 1000 likelihood ratios simulated under the null of no effect of treatment on the covariate for all units by re-permuting the treatment assignment. The p-value is equal to the proportion of such simulations at least as great as the observed likelihood ratio.

	PLA	IPV	ABO	ABS	ABO_ABS	IPV_ABS	IPV_ABO	p-value
age	29.95	29.49	28.92	30.03	31.28	31.82	29.95	0.00
minority_tribe	0.05	0.15	0.08	0.04	0.13	0.03	0.03	0.00
english_christian	0.03	0.07	0.06	0.08	0.08	0.06	0.17	0.03
atheist	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.06
all_girls	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.06
doctor	0.37	0.32	0.36	0.31	0.34	0.25	0.43	0.08
police	0.31	0.32	0.36	0.24	0.28	0.23	0.21	0.18
separated	0.08	0.09	0.04	0.05	0.08	0.10	0.09	0.20
other_person	0.04	0.08	0.08	0.03	0.05	0.08	0.08	0.20
education_work	0.05	0.05	0.01	0.01	0.02	0.02	0.01	0.22
it_doesnt_matter	0.00	0.03	0.01	0.01	0.03	0.02	0.00	0.22
principal	0.36	0.23	0.21	0.22	0.21	0.21	0.23	0.22
cooperative	2.77	2.83	2.74	2.79	2.67	2.78	2.80	0.24
minority_lang	0.03	0.04	0.09	0.02	0.05	0.03	0.00	0.28
university	0.06	0.05	0.03	0.04	0.07	0.01	0.02	0.31
munyoro	0.07	0.05	0.09	0.07	0.02	0.02	0.08	0.31
grandchildren	3.75	3.69	4.08	3.91	3.74	3.96	3.91	0.31
write_only	0.05	0.02	0.06	0.04	0.02	0.05	0.02	0.32
munyarwanda	0.07	0.09	0.19	0.11	0.08	0.15	0.10	0.32
radius	379.82	457.81	471.23	554.79	512.57	374.30	439.31	0.34
day	1.24	1.26	1.20	1.30	1.30	1.36	1.22	0.35
teacher	0.63	0.65	0.57	0.62	0.54	0.50	0.62	0.36
mobile_phone_use	3.55	3.27	3.26	3.53	3.45	3.46	3.59	0.37
religious_service	2.25	2.30	1.23	1.05	1.77	1.22	1.22	0.39
highest_grade	7.15	7.59	6.45	7.00	7.07	6.16	6.94	0.41
catholic	0.46	0.43	0.47	0.49	0.44	0.58	0.39	0.43
official	0.26	0.26	0.24	0.24	0.17	0.18	0.20	0.44
munyankole	0.09	0.10	0.12	0.06	0.08	0.19	0.11	0.47
manual_work	0.09	0.11	0.04	0.10	0.09	0.09	0.11	0.48
other_work	0.04	0.07	0.07	0.04	0.05	0.08	0.07	0.48
not_married	0.18	0.23	0.22	0.17	0.16	0.25	0.20	0.50
survey_luganda	0.99	0.99	0.99	0.99	0.99	0.97	1.00	0.50
transport_work	0.07	0.05	0.07	0.06	0.04	0.05	0.08	0.53
married	0.48	0.50	0.54	0.53	0.57	0.44	0.50	0.54
mukiga	0.04	0.03	0.02	0.05	0.09	0.03	0.03	0.54
holy_spirit	0.08	0.06	0.11	0.13	0.13	0.10	0.08	0.58
write_and_read	0.80	0.88	0.79	0.88	0.84	0.80	0.88	0.59
domestic_work	0.05	0.03	0.05	0.01	0.04	0.02	0.04	0.59
luganda_lang	0.91	0.93	0.85	0.86	0.86	0.82	0.96	0.60
more_girls_than_boys	0.11	0.05	0.08	0.12	0.10	0.07	0.10	0.63

village_official	0.12	0.09	0.06	0.05	0.11	0.08	0.11	0.64
idntcraslngasonisaby	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.65
runyannkole_lang	0.03	0.02	0.05	0.02	0.04	0.12	0.03	0.69
roughly_equal	0.62	0.62	0.63	0.58	0.57	0.59	0.60	0.69
female	0.31	0.30	0.29	0.27	0.30	0.38	0.30	0.72
fumbira_lang	0.04	0.01	0.01	0.10	0.05	0.03	0.01	0.73
hospitality_work	0.04	0.06	0.03	0.03	0.06	0.04	0.06	0.74
no_work	0.04	0.06	0.03	0.03	0.06	0.04	0.06	0.74
muslim	0.23	0.19	0.14	0.16	0.16	0.07	0.17	0.75
illiterate	0.11	0.08	0.12	0.07	0.13	0.14	0.08	0.76
mufumbira_tribe	0.03	0.02	0.02	0.11	0.04	0.04	0.01	0.76
living_conditions_compared	2.18	2.04	2.08	2.16	2.16	2.09	2.10	0.76
christian_only	0.02	0.02	0.04	0.02	0.02	0.03	0.01	0.77
judge	0.12	0.09	0.08	0.10	0.13	0.09	0.09	0.77
muganda_tribe	0.64	0.53	0.46	0.55	0.54	0.53	0.61	0.78
read_only	0.04	0.02	0.03	0.01	0.02	0.01	0.02	0.80
living_as_married	0.26	0.19	0.20	0.25	0.19	0.21	0.21	0.82
mutooro	0.01	0.03	0.03	0.01	0.02	0.01	0.03	0.84
clergy	0.57	0.53	0.47	0.49	0.52	0.53	0.49	0.84
agriculture_work	0.57	0.55	0.60	0.65	0.62	0.62	0.53	0.89
household_head	0.65	0.68	0.67	0.66	0.72	0.67	0.70	0.93
frequency_discussion	1.61	1.48	1.65	1.49	1.60	1.63	1.55	0.93
more_boys_than_girls	0.25	0.26	0.27	0.29	0.28	0.30	0.27	0.96
retail_work	0.09	0.06	0.11	0.09	0.08	0.08	0.10	0.98
all_boys	0.02	0.02	0.01	0.01	0.01	0.02	0.03	0.98
idntcraslngasonisagr	0.00	0.00	0.00	0.00	0.01	0.01	0.00	1.00

Table 12: Balance on covariates with all combinations of treatment conditions among all respondents in Endline. First seven columns show means of covariate under respective treatment conditions. Last column shows the p-value from a likelihood ratio test. The 'full' model regresses the covariate on the six treatment indicators, controlling for block and resample fixed effects. The restricted model regresses the covariate on block and resample fixed effects only. The observed likelihood ratio is compared to 1000 likelihood ratios simulated under the null of no effect of treatment on the covariate for all units by re-permuting the treatment assignment. The p-value is equal to the proportion of such simulations at least as great as the observed likelihood ratio.

C.3 Orthogonality of Compliance and Treatment

C.4 Identification Assumptions

In a placebo-controlled design, the average treatment affect among compliers can be identified by subsetting to those who complied in each condition, provided that respondents who comply have the same potential outcomes distributions in expectation. In our study, this implies the treatment

did not affect *who* attended the treatment. We show here that this assumption is robust to several validation tests reported in the appendix.

We test whether the distribution of respondents among the four compliance strata is affected by the treatment by computing a likelihood ratio permutation test, this time modeling the compliance status of the respondent as the outcome of a multinomial logit data-generating process. The results are displayed on Figure 3. The lefthand panel reports results from the most principled test of the null of no effect of the treatment on compliance status, insofar as it uses all 7 arms of the treatment and does not require the assumption that compliance is unaffected by combinations of the treatment. The righthand panel uses marginalized treatment categories. In both cases, we cannot reject at the $\alpha = .1$ level the null that the treatment does not affect compliance status.

Taken together, these tests support the contention that our design is able to recover the complier average treatment effect (CATE) by subsetting analysis to compliers.

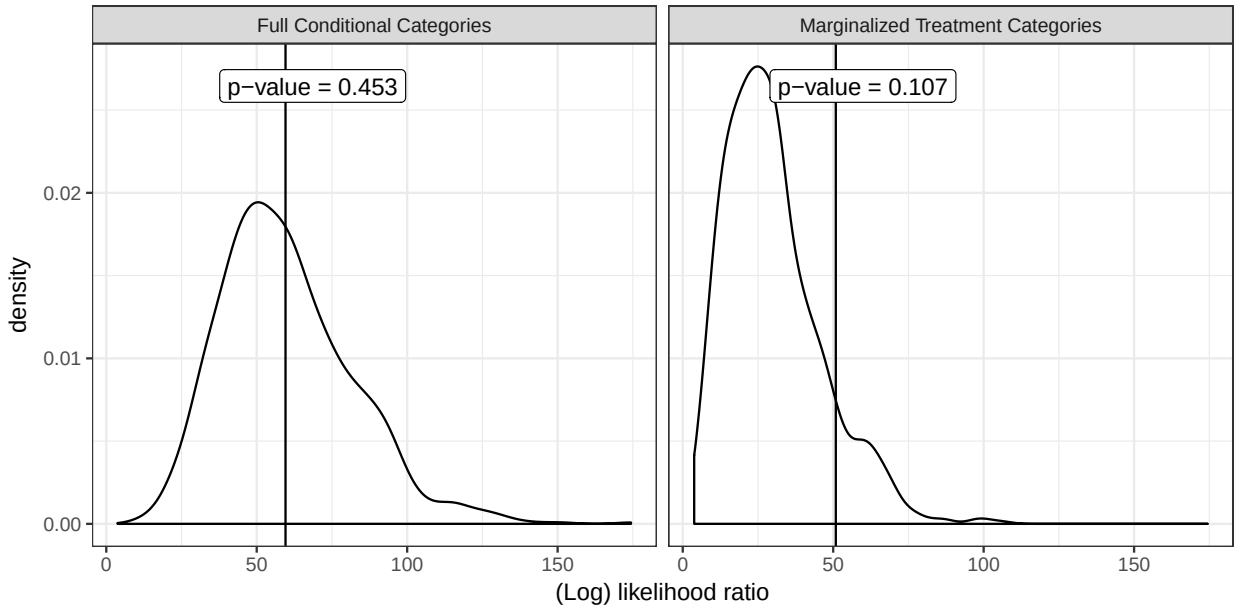

Figure 3: Likelihood ratio tests for joint effect of treatment on compliance status. The y-axis plots the density of 1000 log likelihood ratios simulated by re-permuting the treatment assignment. Vertical lines show the observed likelihood ratio, with the *p*-value indicating what proportion of simulated likelihood ratios that were at least as large as that observed. The nested model in both the left and the right panel is calculated by regressing compliance status (complier, indirect-complier, apprised never-taker, never-taker) on block and resample indicators using a multinomial logit model. The unnested model whose log likelihood is estimated to compute ratios displayed on the lefthand panel ('Full Conditional Categories') regresses compliance status on all 7 possible categories of treatment in addition to the block and resample fixed effects. The unnested model whose log likelihood is estimated to compute ratios displayed on the righthand panel ('Marginilized Treatment Categories') regresses compliance status on the three 'pure' treatment statuses, in addition to the block and resample fixed effects.

	PLA	IPV	ABO	ABS	ABO_ABS	IPV_ABS	IPV_ABO	p-value
n_women_end_total	69.75	65.94	61.38	64.25	74.75	88.69	68.31	0.51
n_women_end_mean	11.59	10.99	10.22	10.74	12.32	14.78	11.46	0.53
n_end_mean	35.46	35.58	32.73	35.83	32.96	41.31	32.40	0.73
n_end_total	212.94	213.50	195.81	214.44	198.62	247.88	193.62	0.73
n_men_end_mean	23.87	24.59	22.51	25.08	20.64	26.53	20.94	0.75
n_men_end_total	143.19	147.56	134.44	150.19	123.88	159.19	125.31	0.75

Table 13: Balance of reported attendance across all conditional treatment conditions.

D Robustness Checks

D.1 Extreme Value Bounds

As mentioned in section B, we were unable to conduct our midline and endline household surveys in two out of the 112 villages in our sample. As we explain above, our failure to conduct the surveys seemed to be unrelated to the treatment status of these villages. We therefore simply exclude these villages from our analyses in the main part of the paper. In this section, we report extreme value bounds for our main estimates as a robustness check.

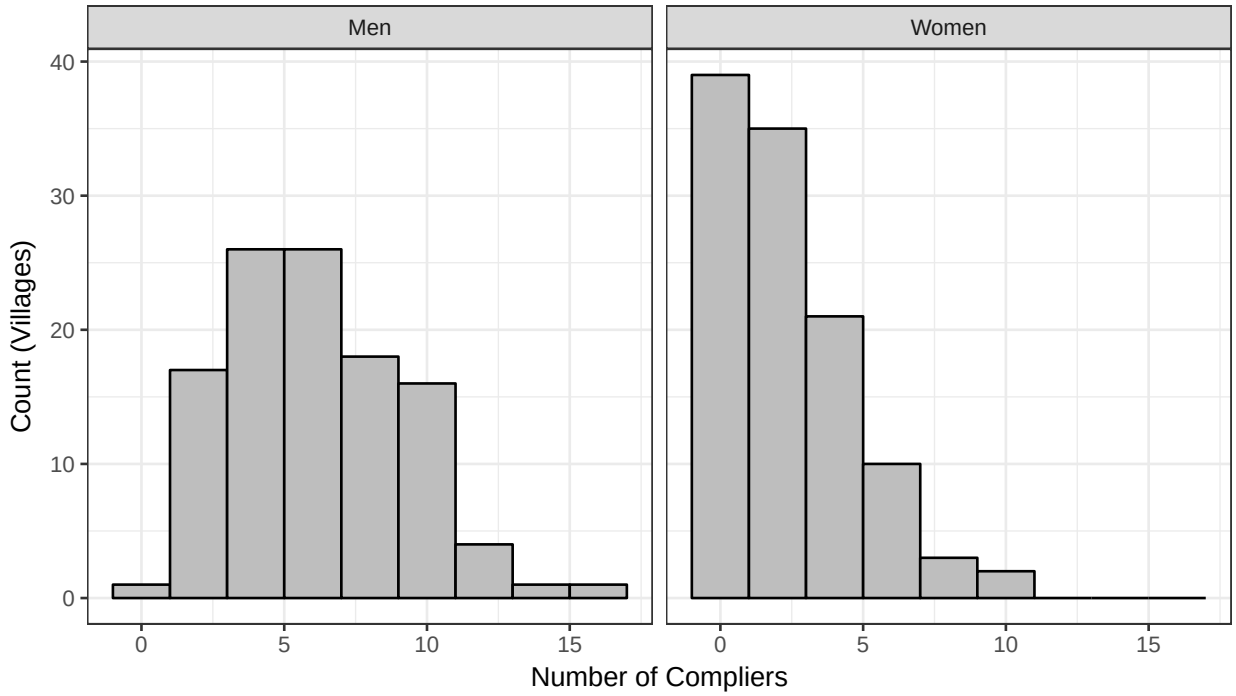

Figure 4: Distribution of the number of male and female compliers across villages.

To obtain bounds of complier average causal effects, we first predict the number of female and male compliers in the attrited villages. In line with our pre-analysis plan, we rely on a negative binomial model with the following predictors to model the number of female and male compliers per village in our midline sample: average attendance of women and, respectively, men during our screenings, the length of the radius from which respondents were sampled, block fixed effects as well as latitude and longitude of the village (video hall). We obtain the predicted number of male and female compliers for the two attrited villages in the midline. Subsequently, we multiply this number by the average of the cluster-level response rates for male and female compliers in the endline (.89

and .90 respectively). This procedure predicts 5 male and 2 female compliers for one and 7 male and 2 female compliers for the other attrited village.[11] See Figure 4 on how this compares to the distribution of compliance across villages.

Tables 14 and 15 report estimates among female and male compliers, respectively. Both of the attrited villages have received the IPV treatment. Upper bounds are thus obtained by imputing the highest (lowest) possible values of the outcome for the compliers in the attrited clusters for positive (negative) effects. Conversely, lower bounds are obtained by imputing the lowest (highest) possible value of the outcome variable for the compliers in the attrited clusters for positive (negative) effects. All estimates are based on our usual specification that controls for block fixed effects, average attendance and an indicator for whether the respondent has been sampled during the re-sampling round. The latter has been set to zero for the hypothetical respondents in the attrited clusters.

Overall, our results are remarkably robust to the extreme value bounds approach. The estimates in table 14 suggest that the lower bound of the effect of our media intervention on the proportion of households that experienced any violence in the six months preceding our survey is a reduction of ten percentage points among compliers. In other words, our evidence suggests that our media intervention caused a substantial reduction in violence experienced by female compliers even if we presume that all complier households that would have been sampled in the attrited clusters had experienced violence in the six months preceding our household survey. Similarly, even according to the lower bounds in table 14, our media intervention substantially increased the willingness to intervene in hypothetical cases of IPV among female compliers and reduced the perception among female compliers that they would be scolded for gossiping were they to report a husband for beating his wife. The corresponding effects among male compliers were not as strong to begin with, but the lower bounds still point in the expected directions.

Finally, we further assess the robustness of our findings on violence reduction by estimating extreme value bounds for effects on the cluster level. The analyses in table 16 use the village as the unit of analyses after collapsing individual-level responses using cluster-level means. Upper and lower Bounds are obtained by imputing the empirically observed minimum and maximum on

[11] When using all compliers and overall attendance, the models predict a total number of 7 and 9 compliers, respectively. For male compliers, the negative bimodial model does not converge, but a poisson model gives the same prediction. When directly predicting the number of compliers in the endline, we obtain almost the same results (1 predicted complier more in one case and 1 complier less in another).

the cluster-level for the attrited clusters. These analyses include all endline respondents, not only compliers. Again, even the lower bounds suggest that our media campaign caused a substantial reduction in victimization.

	Any Incidents (EL)	Intervene Index (ML)	Intervene Index (EL)	Social Repercussions (EL)
Observed effect	-0.131	0.085	0.126	-0.114
RI p-value observed	0.011	0.008	0.002	0.039
Upper Bound	-0.138	0.101	0.140	-0.127
RI p-value upper bound	0.003	0.003	0.000	0.020
Lower Bound	-0.104	0.066	0.106	-0.093
RI p-value lower bound	0.052	0.042	0.011	0.066

Table 14: Extreme value bounds for estimates among female compliers.

All analyses use individual respondents as the unit of observation. See table 17 in the appendix and tables 3 and 7 in the main text for the same estimates. Bounds are obtained by imputing the lowest (0) and highest (1) possible values of all outcome variables for the predicted number of female compliers in the two attrited villages. The resample indicator is set to 0 for all respondents in the attrited villages. See section A.1 of the appendix for details on model specifications and section E for question wording.

	Intervene Index (ML)	Intervene Index (EL)	Social Repercussions (EL)
Observed effect	0.021	0.043	-0.034
RI p-value observed	0.173	0.056	0.210
Upper Bound	0.043	0.066	-0.050
RI p-value upper bound	0.048	0.012	0.110
Lower Bound	0.005	0.027	-0.012
RI p-value lower bound	0.422	0.168	0.382

Table 15: Extreme value bounds for estimates among male compliers.

All analyses use individual respondents as the unit of observation. See tables 4 and 8 in the main text for the same estimates. Bounds are obtained by imputing the lowest (0) and highest (1) possible values of all outcome variables for the predicted number of male compliers in the two attrited villages. The resample indicator is set to 0 for all respondents in the attrited villages. See section A.1 of the appendix for details on model specifications and section E for question wording.

	Any Incidents	Number Of Incidents	Violence Frequency
Observed effect	-0.071	-0.183	-0.135
RI p-value observed	0.007	0.116	0.033
Upper Bound	-0.079	-0.209	-0.156
RI p-value upper bound	0.005	0.063	0.011
Lower Bound	-0.054	-0.082	-0.101
RI p-value lower bound	0.055	0.515	0.110
Maximum	0.600	3.000	1.300
Minimum	0.000	0.000	0.000

Table 16: Extreme value bounds for estimates among all female endline respondents collapsed to the village level.

All outcomes were measured during the endline survey. The analyses are based on responses from all women in the endline survey (not only compliers). Analyses are conducted at the village level, after collapsing individual responses to the cluster-level using cluster-level means. See table 1 in the main text and table 18 in the appendix for the same estimates. Bounds are obtained by imputing the lowest (see row *Minimum*) and highest (see row *Maximum*) value observed for a given outcome after taking cluster-level means for the two attrited clusters. See section A.1 of the appendix for details on model specifications and section E of the appendix for details on question wording.

D.2 Alternative Measures of Violence Reduction

In this section we report the effects of the anti-IPV campaign among other measures and among other subsets of the sample group to that reported in the main results table 1.

Table 17 reports the same analyses as presented in table 1, but instead of estimating effects among all respondents it subsets to only women who complied. The effects are much larger in magnitude, militating against the notion that our treatment simply caused respondents to be more sensitive to the issue of IPV.

	Number of Incidents			Any Incidents		
	(1)	(2)	(3)	(4)	(5)	(6)
Anti-IPV Media	−0.346	−0.712*	−0.375	−0.132**	−0.165**	−0.140**
	(0.226)	(0.453)	(0.433)	(0.049)	(0.064)	(0.064)
Control Mean	0.92	1.19	1.19	0.19	0.35	0.35
RI p-values	0.143	0.073	0.448	0.01	0.011	0.025
Hypothesis	two	two	two	two	two	two
Block FE	Yes	Yes	Yes	Yes	Yes	Yes
Covariates	No	No	Yes	No	No	Yes
Analysis Level	Ind.	Clus.	Clus.	Ind.	Clus.	Clus.
Observations	356	101	101	356	101	101
Adjusted R^2	−0.006	−0.035	0.098	0.026	0.006	0.028

*p<0.1; **p<0.05; ***p<0.01

Table 17: The effect among compliers of anti-IPV mass media on incidents of violence against women over the preceding nine-month period (endline).

The analyses are based on responses by women compliers in the endline survey. Analyses in columns 1 and 4 use individual respondents as the unit of observation. Analyses in columns 2,3,5 and 6 are conducted at the village level, after collapsing individual responses to the cluster-level using cluster-level means. See section A.1 of the appendix for details on model specifications and section E of the appendix for details on question wording.

Table 18 reports the effects of the anti-IPV media on an alternative coding of victimization. Rather than ask the respondent how many times IPV occurred, the 'Violence Frequency' measure asked those who reported more than 0 incidents whether violence occurred: almost every day (coded 4), around once a week (coded 3), about once a month (coded 2), less than once a month (coded 1), or almost never (coded 0). The results in columns 1-3 indicate a relative reduction in the frequency of violence of 22-29%, which is significant at the $\alpha = 10\%$ level in a two-tailed test. The results indicate that the finding of a reduction in violence is robust to alternative scalings of the outcome.

	Violence Frequency		
	(1)	(2)	(3)
Anti-IPV Media	−0.089	−0.127**	−0.112*
	(0.050)	(0.061)	(0.061)
Control Mean	0.42	0.45	0.45
RI p-values	0.12	0.037	0.064
Hypothesis	two	two	two
Block FE	Yes	Yes	Yes
Covariates	No	No	Yes
Analysis Level	Ind.	Clus.	Clus.
Observations	1,036	110	110
Adjusted R^2	0.018	0.109	0.119

*p<0.1; **p<0.05; ***p<0.01

Table 18: The effect of anti-IPV mass media on the frequency of incidents of violence against women over the preceding nine-month period (endline).

All analyses are based on responses from all women in the endline survey (not only compliers). The analysis in column 1 uses individual respondents as the unit of observation. The analyses in columns 2-3 are conducted at the village level, after collapsing individual responses to the cluster-level using cluster-level means. See section A.1 of the appendix for details on model specifications and section E of the appendix for details on question wording.

Table 19 reports the effects of the anti-IPV campaign on community-level perceptions of the prevalence of IPV. Columns 1-2 record whether respondents believe women in their community are beaten: almost every day (coded 4), around once a week (coded 3), about once a month (coded 2), less than once a month (coded 1), or almost never (coded 0). Columns 3-6 record the number of times that respondents believe women in their community were beaten over the preceding 9 months. There is no statistically significant effect on any outcome, among any of the subsets (see caption for explanation of subsetting).

	Number of Incidents (Comm.)		Any Incidents (Comm.)		Viol. Freq. (Comm.)		Number of Incidents (Comm.)	
	Midline	Endline	Midline	Endline	Midline	Endline	Midline	Endline
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Anti-IPV Media	−0.062	−0.036	0.008	−0.005	0.037	−0.059	−0.088	0.921
	(0.076)	(0.120)	(0.023)	(0.028)	(0.058)	(0.118)	(0.544)	(2.237)
0.66	1.02	0.31	0.45	1.37	1.57	3.09	9.79	
RI p-values	0.438	0.78	0.714	0.857	0.517	0.612	0.867	0.701
Hypothesis	two	two	two	two	two	two	two	two
Block FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample	HH	HH	HH	HH	HH	HH (M)	VHT	VHT
Observations	110	110	110	110	110	110	112	111
Adjusted R^2	−0.083	0.006	−0.090	0.128	0.108	−0.033	0.055	−0.026

*p<0.1; **p<0.05; ***p<0.01

Table 19: The effect of anti-IPV mass media on perceptions of the prevalence of violence against women.

Analyses in columns 1 to 5 are run on reports from all household respondents (not only compliers). Estimates in columns 6 are based on all male household respondents. Estimates in columns 7 and 8 are based on reports by members of Village Health Teams. All analyses are conducted at the village level, after collapsing individual responses to the cluster level using cluster-level means. See section A.1 of the appendix for details on model specifications and section E of the appendix for details on question wording.

While the results presented in Table 19 would appear to undercut the main results presented in Table 1 of section 3, we believe that the community-level measures simply do not present a reliable measure of the true underlying rate of violence, perhaps due in part to the private nature of IPV. Table 20 illustrates the unreliability of these measures, indicating the low correlation between reports at the village-level. While correlations are reasonably high among the same groups (men, women, VHTs) at different times or across different questions, correlations among these groups are typically very low, rarely exceeding .2. Thus, we are more inclined to believe results on individuals' self-reported victimization than on community-wide estimates, which appear exhibit a high degree of measurement error.

	N EL W	Frq EL W	Frq EL M	Cnt EL M	Frq ML M	Frq ML W	Cnt ML M	Cnt ML W	Cnt ML VHT	Cnt EL VHT
N EL W	1.00	0.18	0.23	0.28	0.15	0.18	0.18	0.11	0.05	-0.03
Frq EL W	0.18	1.00	0.04	0.07	-0.06	0.03	0.19	0.09	0.17	-0.04
Frq EL M	0.23	0.04	1.00	0.47	0.44	0.03	0.28	0.06	-0.05	0.18
Cnt EL M	0.28	0.07	0.47	1.00	0.41	0.24	0.40	0.13	-0.09	0.26
Frq ML M	0.15	-0.06	0.44	0.41	1.00	0.26	0.48	0.24	0.07	0.12
Frq ML W	0.18	0.03	0.03	0.24	0.26	1.00	0.26	0.38	0.03	0.14
Cnt ML M	0.18	0.19	0.28	0.40	0.48	0.26	1.00	0.10	0.08	0.06
Cnt ML W	0.11	0.09	0.06	0.13	0.24	0.38	0.10	1.00	-0.04	0.09
Cnt ML VHT	0.05	0.17	-0.05	-0.09	0.07	0.03	0.08	-0.04	1.00	0.21
Cnt EL VHT	-0.03	-0.04	0.18	0.26	0.12	0.14	0.06	0.09	0.21	1.00

Table 20: Correlation between perceptions of the prevalence of violence against women, across genders, survey rounds and samples.
All correlations are across clusters, calculated by first collapsing to the cluster level by taking the mean. 'N EL W' is the number of times that women in the endline recall a woman in their household, including themselves, having been beaten over the preceding 9 months; 'Frq EL W' and 'Frq EL M' are the perceived frequency with which women and men respondents in the endline believe women in their community were beaten over the preceding 9 months, respectively, with 'Frq ML W' and 'Frq ML M' measuring the same outcomes at midline; 'Cnt EL M', 'Cnt ML M' and 'Cnt ML W' measure the number of times men in the endline, men in the midline, and women in the midline can recall a woman in their community having been beaten over the preceding 9 months; 'Cnt ML VHT' and 'Cnt EL VHT' measure responses to the same question given by members of the village health team.

D.3 Heterogeneous Effects by Socioeconomic Status and Presence of Others

	Any Incidents		
	(1)	(2)	(3)
Anti-IPV Media	−0.130***	−0.118**	−0.059**
	(0.052)	(0.051)	(0.022)
Socioeconomic Status x Anti-IPV Media	−0.002		
	(0.065)		
Others Present x Anti-IPV Media		−0.115	0.084
		(0.156)	(0.072)
Control Mean	0.31	0.31	0.19
RI p-values IPV	0.01	0.016	0.016
RI p-values Interaction	0.982	0.477	0.271
Sample	Compliers	Compliers	All
Hypothesis	two	two	two
Block FE	Yes	Yes	Yes
Observations	321	321	1,036
Adjusted R^2	0.018	0.013	0.015

*p<0.1; **p<0.05; ***p<0.01

Table 21: Heterogeneous effects of anti-IPV mass media on incidents of violence against women (endline).

The outcome is measured during the endline survey. The analyses in columns 1 and 2 are based on responses from female compliers in the endline survey. The analysis in column 3 is based on all female respondents in the endline survey (not only compliers). All analyses use individual respondents as the unit of observation. See section A.1 of the appendix for details on model specifications and section E of the appendix for details on question wording. *Socioeconomic Status* is a latent measure of a respondent's socioeconomic status which summarizes the following five covariates and has been obtained through factor analysis: *Illiterate* is an indicator for whether the respondent says that she cannot read or write (endline). *Living Conditions* reflects the enumerator's assessment (endline) of how the respondent's living conditions compare to those of others in the village (0 = Much Worse, 1 = Worse, 2 = Same, 3 = better, 4 = much better). *Highest Grade* measures the highest education level attained by the respondent (endline) ranging from 0 (No education) to 16 (university). *N children HH* measures the number of children living in the household (midline). *Asset Index* is an additive index of five items that ask whether the respondent's household owns a TV, a radio, a chair, a sofa or a motorcycle and an indicator for whether the walls of the respondent's house are made of a material other than mud (midline). The index ranges from 0 to 1. *Others Present* is an indicator variable for whether another person apart from the enumerator and the respondent was present during the interview (endline).

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