- **Trial Title**: The impact of an entertainment education TV series, *'C'est la vie!'* on Gender-based Violence and Sexual and Reproductive Health

GENERAL INFORMATION

- **Country**: Senegal
- **Status**: On-going

Principal Investigator(s) (affiliation): Amber Peterman (University of North Carolina – submitting author), Melissa Hidrobo (International Food Policy Research Institute), Agnes le Port (Independent Consultant), Moustapha Seye, (University Cheikh Anta Diop)

- **Keyword (At least one)**: Edutainment, Gender-based violence, sexual and reproductive health, social norms
- **JEL codes**: J12, O12, I15, J13

- **Abstract:**

Mass media campaigns can be an effective way of producing positive health-related behavior change across large populations Mass media campaigns allow for the integration of standardized repeated messages in an entertaining format, invoking cognitive or emotional responses. Educational mass-media to promote positive behavior change on radio, film, or television is also known as *edutainment*. Edutainment has been associated with improved knowledge, attitudes, and behaviors related to HIV/AIDS, fertility, and family planning in Mexico, South Africa, Tanzania, Brazil, Nigeria, and India. However, to date there have been few rigorous studies on the effectiveness of edutainment to improve women's outcomes with respect to gender-based violence (GBV) or intimate partner violence (IPV).

This evaluation contributes to the sparse literature by evaluating the impact of a popular TV series in West Africa, *C'est la vie!,* on knowledge, attitudes and practices related to GBV, including IPV, and sexual and reproductive health. The study is conducted in rural Senegal, where populations have low exposure to the series and new dubbing into local languages provides a unique opportunity to experimentally test the effectiveness of *C'est la vie!.* The target group for the intervention are women aged 14 to 34 years old. The evaluation is a cluster-randomized controlled trial (cRCT) design by randomly assigning rural villages to three arms: 1) *C'est la vie!* screenings via film clubs, 2) same as arm 1 with the addition of post-discussion groups and interactive workshops reinforcing messages, and 3) a placebo film screened identically to arm 1 with no related themes to outcomes of the study. A cross cutting treatment will encourage the partners of target to attend the screenings in half of each study arm. In addition to the RCT, a process evaluation accompanies the evaluation to unpack impact pathways and explore participants experience with the film clubs. The original treatment screenings includes season 1 of *C'est la vie!,* or approximately 26 episodes, which screened in groups of three (1.5 hours total or 25 min each) on a bi-monthly basis. In March 2020, the intervention was interrupted due to the COVID-19 pandemic, due to presidential decree in Senegal to close public schools and prohibiting gatherings of more than 10 people. With approximately two-thirds of the intervention completed, the program will be converted to podcasts of 10-20 minutes via a free hotline in June 2020.

The podcasts will comprise the final episodes of season 1, and season 2. An intermediate phone survey will be undertaken in June 2020 to capture the initial program impacts, and an in-person endline expected for November to December 2020 after the full intervention is implemented.

- **Trial Start Date**: October 9th, 2019
- **Intervention Start Date**: December 2nd, 2019
- **Intervention End Date**: October 30th, 2020
- **Trial End Date**: January 30th, 2021

SPONSERS AND PARTNERS

- **Implementing partners**: Mobi Ciné, a Senegalese NGO*,* Réseau African pour l'Education à la Santé (RAES, Senegalese NGO and producers of *C'est la Vie!*)

  National research partners: ASSMOR Consulting (baseline) and Laboratoire de Recherche sur les Transformations Economiques et Sociales (LARTES) of the Institut Fondamental d'Afrique Noire-Cheikh Anta Diop (IFAN-CAD) (process evaluation described elsewhere and midline phone survey)
- **Funders**: CGIAR Research Program on Policies, Institutions, and Markets (PIM) and an Anonymous donor

EXPERIMENTAL DETAILS

Intervention(s): The TV series *C'est la vie!* is now in it's third season of production and is specifically designed to address issues related to adolescents' and women's rights. The plot revolves around everyday life in a maternal health clinic in Senegal and characters are based on extensive formative research. Themes presented in the series focus on GBV (IPV, forced and early marriage, sexual abuse, female genital mutilation and cutting (FGM/C), illegal abortion), on sexual and reproductive health (family planning, use of contraceptives, HIV and sexually transmitted infections), on maternal and child health (prenatal and postnatal care, quality of health care, traditional medicine), and more generally on gender equality, couple communication, and female autonomy. *C'est la Vie!* is developed and produced by the Réseau African pour l'Education à la Santé (RAES), a Senegalese non-governmental organization with support from UN partners.

The intervention being evaluated is Season 1 and 2 of the TV series *C'est la vie!.* Due to interruption of implementation by COVID-19, the intervention has two distinct implementation modalities. From December 2019 to March 2020, the intervention was screened through regular film clubs in each village. Season 1 of *C'est la vie!* is composed of 26 episodes (25 minutes for each episode). Each village screening showed three episodes in a row and took place every other week. Film versions of *C'est la vie!* season 1 are translated to Wolof and Pular, the dominate languages in study villages. In addition to the TV series, study arm 2 includes "Pedagogical kits," which have been developed by the

RAES social behavior change communication (SBCC) team, in collaboration with United Nations Agencies. The objective of the pedagogical kits is to strengthen the impacts of the TV series by stimulating personal reflections and collective debates. The kits are composed of post-projection discussion guides that accompany each episode and workshop guides that are composed of seven themes.

Implementation was carried out by MobiCiné, through mobile units that visited each village on a rotating basis. Mobile units are cars carrying projectors and screens. Each mobile unit staff includes a screening technician and a communication specialist for monitoring attendance and leading the SBCC component (Pedagogical kit including the post-screening discussions and workshops). Implementation of the film clubs was tested via a pilot study which was approved by the Senegalese ethics committee, Comité National d'Éthique pour la Recherche en Santé (CNERS), in March 2019, and carried out over a two week period in six villages over the month of April 2019. The pilot study was implemented with the objective of determining implementation feasibility, optimization and test intervention components prior to development of the present impact evaluation.

After the disruption of the intervention due to COVID-19, the implementation will take place remotely, via podcasts transmitted through 10-20 min segments (season 1 and 2 of *C'est la vie!*). These will be accessed via a free hotline by study women in both treatment arm 1 and 2, and run from June to September 2020. The intervention will continue to be overseen by MobiCiné, and post-discussion groups will be facilitated via one-to-one calls with communication specialists or in groups of up to 10 women via the call platform (treatment arm 2 only). *C'est la vie!* has already been converted to podcasts for radio dissemination in Wolof. A placebo podcast will also be administered on the control arm with content unrelated to the *C'est la vie!* themes. The podcast intervention will be rolled out in 60% of each treatment arm in order to disentangle impacts of the film clubs only versus film clubs plus additional podcast extended treatment. For the continued treatment groups, the intervention is expected to end with a last in-person 'movie night' in September or October 2020 to thank women for participation (pending the spread and containment of COVID-19). Similar to the original randomization, continued treatment villages will be selected randomly, stratified on region.

- **Outcomes (End Points)**

Primary outcomes: Knowledge, attitudes and practices of *C'est la Vie!* themes, including GBV, sexual and reproductive health, and maternal and child health:

- Knowledge: Regarding GBV (including IPV, FGM/C and early marriage), sexual and reproductive health (including family planning and HIV/STIs), and maternal and child health;
- Attitudes and personal norms: Around GBV (including IPV, non-partner violence, FGM/C, and early marriage), sexual and reproductive health (including family planning), and gender equitable attitudes;
- Practices and behaviors: Regarding GBV (including IPV, non-partner violence, FGM/C of daughters and intentions, early marriage), sexual and reproductive health (including family planning utilization, HIV/STI testing and proxy indicators), and maternal and child health service utilization.

Secondary outcomes: Outcomes expects to be affected by participation in the intervention, including benefits of gathering in groups and increased leisure time – but not key themes of *C'est la Vie!* – including time allocation, closer personal relationships with friends and family, social support and trust, emotional wellbeing, intra-household decision-making power and self-efficacy, and labor force participation.

Due to the large number of outcomes and indicators, for each theme, we will group outcomes into indices at the level of knowledge, attitudes and behavior. We will construct equally weighted averages of z-scores for index aggregation and also report outcomes for individual indicators. More details are given in our pre-analysis plan.

Due to concerns around ethics of asking sensitive behaviors remotely, the intermediate phone survey will assess only primary outcomes of knowledge and attitudes, alongside select secondary outcomes. The full set of behavioral outcomes will be assessed at endline when in-person surveys are possible. See pre-analysis plan for further details.

- **Experimental Design (Public)**

  In total, 120 rural villages across two regions of Senegal – Kaolack and Kolda – are randomly assigned to one of three arms:

  - Arm 1: *C'est la vie!* season 1 and 2 transmitted through film clubs and podcasts
  - Arm 2: Same as Arm 1 plus "pedagogical kits";
  - Arm 3: a TV series "placebo" (on a subject not related to GBV or gender issues) screened through film clubs and podcasts (control group).

  Randomization is stratified on region, and at the village level as opposed to the household level because it is likely that individuals will discuss the TV series *C'est la vie!* with other community members; thus, even individuals who are not directly invited to the film clubs may be exposed to the messages, and they cannot be considered 'untreated'. In each intervention arm, 34 young adult women aged 14-34 per village, living up to 2 km radius to the film club location (village primary school) were invited to attend the sessions. Each woman was allowed to bring one guest. The second stage of randomization assigns women to use their guest pass on either: 1) their husband, partner, boyfriend/male peer, or brother or 2) a female friend, sister or neighbor. The second stage randomization is at the individual level across all three treatment arms and takes the form of a soft nudge (suggestion) at the time of invite, as there is no strict monitoring or consequence if the women does not bring the type of person suggested.

  Prior to the first screening and baseline survey, a census was conducted in 160 villages to identify 34 eligible women to participate in the study. Of the villages with at least 34 eligible females, 120 were randomly selected to participate in the study and randomized into one of the three treatment arms. Women are eligible if they 1) meet the age criteria, 2) speak and understand wolof or pular, 3) live within a 2km radius of a primary school.

- **Was the treatment clustered?** Yes

- **Planned Number of Clusters:** 120

- **Planned Number of Observations:** 4,080 women (1,360 per study arm)

- **Number of clusters by treatment arms:** Equal numbers of clusters (40) per treatment arm, stratified on region (20 per region per arm)

- **MDES for main outcomes:**

  Power calculations for this study drew on data from the 2017 Senegalese Demographic and Health Survey (DHS). We conducted power calculations on three primary outcomes related to behaviors and attitudes of IPV and sexual and reproductive health among women – modern contraceptive use, attitudes justifying IPV and 12-month experience of IPV. Desired statistical power was set to 80 percent, and desired significance level was set to 0.05. Means and intra-cluster correlations were estimated from the 2017 DHS, using the rural population and accounting for survey weights. We allow for 0.10 correlation with baseline characteristics. The desired minimum detectable impacts were set to 6 percentage points for contraceptive use and IPV, and 10 percentage points for attitudes. Given the low prevalence of IPV in the last 12 months and modern contraceptive use, 6 percentage points are large effect sizes, however, these are in the range found by studies examining impacts of social behavior change communication and mass media on both outcomes.

  For contraceptive use and attitudes towards IPV we need a minimum of 28 women per village by endline. For IPV, we are not powered to detect impacts across each intervention arm, but we are powered to detect impacts if we combine intervention arm 1 and arm 2. The needed sample for IPV when arm 1 and arm 2 are combined is 23 married (partnered) women per village at endline. Assuming 5 percent attrition by endline, this means a sample of 24 married (partnered) women per village at baseline. If we assume approximately 70 percent of women 14-34 years are partnered, then this would mean we need a sample of approximately 34 women per village at baseline – 24 of which will likely be partnered and 10 without a partner. The total sample of women is thus 4,080 across the 120 villages. We note that due to geographical variation and differences in recall periods, among others, power calculations are not able to provide exact predictions of statistical power. However, given a sample design, they can provide useful guidance in designing the sample.

SUPPORTING DOCUMENTS AND MATERIALS

IRB

- **Was IRB approval obtained? If so, also IRB name, approval data and number**

  - IFPRI IRB: Full study approval number PHND-19-0739 (IRB #00007490) on August 5th, 2019, modifications due to COVID-19 and addition of phone survey approval number PHND-19-0739M received on May 11, 2020.

  - Comite National d'Ethique pour la Recherche en Sante (Sengalese national ethics committee on health research): Full study approval No 000132/MSAS/DPRS/CNERS approved on August 16, 2019; modifications due to COVID-19 and addition of phone survey approval number SEN 19/39 No 000102/MSAS/DPRS/CNERS received on June 3, 2020.

ANALYSIS PLAN

Pre-analysis plan for impact analysis: Intermediate impacts an entertainment education TV series *'C'est la vie!'*

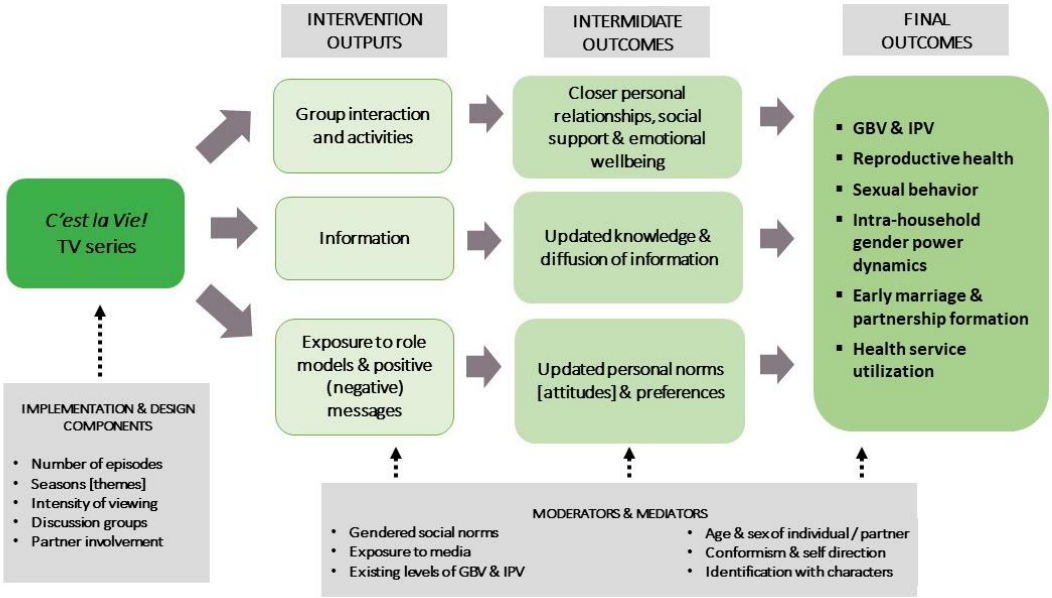
June 2020

This pre-analysis plan is meant to accompany the AEA Trial Registration: The impact of an entertainment education TV series *'C'est la vie!'* on Gender-based violence and sexual and reproductive health (https://www.socialscienceregistry.org/trials/5134). Due to the uncertainties around the timing and content of the endline (expected for November – December 2020), we describe the analysis plan for the intermediate mobile phone survey only in this document.

Objectives and theory of change

The overall objectives of this analysis will be to estimate the effects of *C'est la Vie!* on intermediate outcomes in the Theory of Change (Figure 1), including: 1) Closer personal relationships, social support and emotional wellbeing, 2) updated knowledge and diffusion of information, 3) updated personal norms, attitudes and preferences. We expect the full set of final outcomes to be collected in the endline in-person survey scheduled for approximately 12 months after the baseline survey. We will conduct analysis to understand if impacts vary by: a) treatment arm (ie. *C'est la vie!* only or *C'est la vie!* plus pedagogical kits), b) gender of invitee, either their husband, partner, boyfriend/male peer, or brother or a female friend, sister or neighbor (operationalized via a soft nudge), and c) degree of participation in the intervention (treatment on the treated). In addition, we will conduct heterogeneity based on marital status and factors explaining possible mechanisms of impact (i.e. baseline "conformity", "self-direction", "tradition" and midline indicators of the "transportation" effects).

Figure 1. *C'est la Vie!* Theory of Change



Methodology

Analysis will be undertaken using the longitudinal sample of women aged 14 to 34 at baseline who are re-contacted again at midline. Standard attrition analysis (overall and differential) will be conducted to ensure the internal validity of the evaluation, and baseline balance of background characteristics and outcome variables will be conducted to demonstrate success of the randomization. If selective attrition is shown to be a problem, we will include robustness checks using inverse probability weighting methods or lee bounds following Lee (2009).

Analysis will follow standard analysis of covariance (ANCOVA) models, with a generalized form as follows:

$$(1) \qquad Y_{fvr1} = \propto + \beta_t CLV_{vr} + \gamma Y_{fvr0} + \delta X_{fvr0} + \sigma_r + \varepsilon_{fvr}$$

Where Y_{fvr1} is the outcome of interest for female *f* from village *v* in region *r* at the intermediate survey and Y_{fvr0} is the outcome of interest at baseline. CLV_{vr} equals one if the female is in one of the *C'est la vie!* treatement arms. The β represents the intent-to-treat (ITT) estimator, or the effect of being assigned to the pooled treatment arms. We plan to present both unadjusted results, as well as those controlling for X_{fvr0}, a vector of background characteristics of the female measured at baseline. The background characteristics we plan to include are as follows: 1) age of the female in completed years, 2) marital status of the female, 3) education level, 4) household demographics (including number of household members), and 5) a wealth index made out of housing and assets following the demographic and health survey (DHS). All regressions will control for region (Kolda as compared to Kaolack) as randomization was stratified on region (σ_r) . All regressions will cluster standard errors at the village level. We will run linear probability models for binary outcomes and ordinary least squares models for continuous variables.

In addition to the pooled treatment, we will examine the ITT estimates by treatment arm as follows:

$$(2) \qquad Y_{fvr1} = \propto + \beta_{t1} CLV_{vr} + \beta_{t2} CLV\ plus_{vr} + \gamma Y_{fvr0} + \delta X_{fvr0} + \sigma_r + \varepsilon_{fvr}$$

In equation (2), CLV_{vr} denotes treatment arm 1, and $CLV\ plus_{vr}$ denotes treatment arm 2. To test whether these estimators are statistically different from eachother, we will conduct wald tests of equality and report p-values.

To estimate the differential effects by the randomized soft nudge of male or female guest we will interact the pooled treatment with whether or not the individual was randomized to invite a female guest:

$$(3) \qquad Y_{fvr1} = \propto + \beta_t CLV_{vr} + \beta_{tg} CLV_{vr} * femguest_f + \beta_g femguest_f + \gamma Y_{fvr0} + \delta X_{fvr0} + \sigma_r + \varepsilon_f$$

Where β_t represents the ITT estimator for those women nudged to bring a male guest and β_t $+\beta_{tg}$ the ITT estimator for those women nudged to bring a female guest. At the time of writing, it

is unclear how successful this cross randomization was in encouraging males to attend, therefore, if we find the nudge was unsuccessful, we will drop this analysis.

We plan to conduct a number of analysis on heterogenous impacts. First, since some indicators are only relevant (or more salient) for the partnered subsample and mechanisms are likely to be different based on marital status, we will examine how women who are single (primarily never married), differ from those in partnerships. In this case, we will analyze the following:

$$(4) \qquad Y_{frv1} = \propto + \beta_t CLV_{vr} + \beta_i CLV_{vr} * Single_f + \beta_t Single_f + \gamma Y_{fvr0} + \delta X_{fvr0} + \sigma_r + \varepsilon_f$$

In equation (4) the coefficient β_t now corresponds to the impact of the combined treatment for married females at baseline and $\beta_t + \beta_i$ corresponds to the impact of the combined treatment for single females at baseline. Thus, β_i is the differental impact with respect to being single at baseline.

In addition, previous research has hypothesized that impacts may vary by the degree to which viewers conform to social norms, or how independently they make judgements, which may determine how maleable their attitudes and behaviors are in response to edutainment. Effects may also vary by how closesly participants identify with characters and storyline (e.g. the "transportation effect"). We collect a series of questions following Banerjee and colleagues (2018) to create scales of "conformity", "self-direction", "tradition" and "transportation" to test these theories. To conduct this analysis we will estimate equation 4, substituting corresponding indicies as defined in Table 4 for *Single*.

As not all women will attend all screenings, we are interested to know if intensity of treatment matters for impacts. As a robustness check we will explore, TOT measures using both any attendance and intensity of treatment via number of screenings attended. For this analysis, as attendance is endogenous, we will explore instrumenting treatment with distance from the woman's home to the film club location collected at baseline (via self-reported measures as well as GPS measures). All other parameters will remain the same.

Finally, many of the outcomes we focus on, including personal norms and attitudes are subject to social desireability bias. Following Dhar and colleagues (2018), we will run a robustenss check, interacting pooled treatment models with a score of "social desireability." The score is comprised of questions asked at baseline measuring the woman's motivation to conform with socially accepted actions.

While the analysis described above will serve as main analysis, due to COVID-19 disruptions in our study villages, we will conduct additional sensitvitiy analysis where we will control for a vector of COVID-19 related disruption in each village. While COVID-19 behaviors at the household-level are endogenous, we will aggregate a series of indicators at the village level to represent likely adverse effects across health, economic and social domains. We expect that the effects of COVID-19 on our study sample is balanced across treatment arms—and thus is not strictly needed to confidently estimate the impacts of *C'est la Vie!.* However, there are many uncertainties around how severe COVID-19 effects are and how they are distributed across regions and villages in Senegal.

Outcome indicators

The key indicators for the intermediate survey fall into three groups following the theory of change: 1) updated knowledge and diffusion of information, 2) updated personal norms, attitudes and preferences and 3) closer personal relationships, social support and emotional wellbeing. (1) and (2) represent our primary outcomes in the short-term, while (3) represents our secondary outcome group. The outcomes will be analyzed through a series of indicators, as well as aggregate indices for each domain. The final structure for each index will be informed by dropping any items that were not well-understood by respondents (especially in the phone survey modality) and using standard approaches for evaluating of internal consistency. All indices will be equally weighted aggregates and standardized to the control group using z-scores. We plan to analyze samples for each outcome with non-missing data and will not conduct imputation. In addition to these primary domains, we will analyze intervention inputs and present descriptive statistics for exposure to media and experience with the intervention (including, for example, media use, attendance at film clubs, types of invitees and self-reported enjoyment of the series).

The indicators to be analyzed are as follows:

Table 1. Updated knowledge and diffusion of information on primary outcomes

Domain	Indicator	Description and construction of the variable
Gender-based violence	Child marriage consequences	Index of number of consequences identified for child marriage (ranging from 1 – 10 pre-specified categories)
	FGM/C consequences	Index of number of consequences identified for female genital mutilation / cutting (ranging from 1 – 9 pre-specified categories)
	IPV consequences	Index of number of consequences identified for intimate partner violence (ranging from 1 – 11 pre-specified categories)
Maternal and child health	Prenatal visits	Correctly names number of recommended prenatal visits
	Birth in facility	Index of number of benefits to giving birth in a health facility correctly identified (ranging from 1 – 8 pre-specified categories)
	Timing of breastfeeding	Correctly indicates when women should commence breastfeeding infants after birth
	Colostrum	Correctly identifies that colostrum should be fed to infants
	Exclusive breastfeeding	Correctly identifies the number of months that infants should be exclusively breastfed
	Birth spacing	Correctly identifies the recommended number of months between pregnancies
Sexual and reproductive health	Contraceptives	Index of number of contraceptive types known (ranging from 1 – 13 pre-specified categories)
	HIV transmission	Index of number of HIV transmission modes known (ranging from 1 – 7 pre-specified categories)
	HIV prevention	Index of number of HIV prevention behaviors known (ranging from 1 – 11 pre-specified categories)

Table 2. Updated personal norms, attitudes and preferences on primary outcomes

Domain	Indicator	Description and construction of the variable
	Personal beliefs about early marriage	Binary variable =1 if the youngest acceptable age for a girl / young woman to get marred is >=18 years and =0 if <18 years

Gender-based violence	Personal beliefs on ideal age at marriage	Continuous variable of the ideal age in years at marriage for a girl / young woman
	Personal beliefs on response to sexual violence	Index from two questions from the personal beliefs on response to sexual violence sub-scale of the "beliefs on gender-based violence scale" – ranging from 1 (agree) to 4 (disagree and would be willing to tell others)
	Personal beliefs on husbands right to use violence	Index from two questions from the personal beliefs on husbands right to use violence sub-scale of the "beliefs on gender-based violence scale" – ranging from 1 (agree) to 4 (disagree and would be willing to tell others)
	Attitudes on FGM/C	Index from two questions on attitudes regarding FGM/C – ranging from 1 (strongly disagree) to 4 (strongly agree)
Contraception	Attitudes on contraceptives	Index from two questions on attitudes regarding contraceptives – ranging from 1 (strongly disagree) to 4 (strongly agree)
	Contraceptive use	Current modern contraceptive use (aggregation of all modern methods)
Gender equity	Gender equitable attitudes	Index from four questions on gender equitable attitudes in education, division of domestic tasks, marriage decisions and household decisions – ranging from 1 (strongly disagree) to 4 (strongly agree)

Table 3. Closer personal relationships, social support and emotional wellbeing (secondary outcomes)

Domain	**Indicator**	**Description and construction of the variable**
Personal relationships	Family members	Discussed the following topics in the last 3 months: 1) problems at work or school, 2) marital and relationship problems, 3) sex and sexual health, 4) issues around pregnancy or contraceptives – ranging from 0 (no topics) to 4 (all topics).
	Friends	Discussed the following topics in the last 3 months: 1) problems at work or school, 2) marital and relationship problems, 3) sex and sexual health, 4) issues around pregnancy or contraceptives – ranging from 0 (no topics) to 4 (all topics).
	Partner	Discussed the following topics in the last 3 months: 1) problems at work or school, 2) marital and relationship problems, 3) sex and sexual health, 4) issues around pregnancy or contraceptives – ranging from 0 (no topics) to 4 (all topics).
	Authority figures	Discussed the following topics in the last 3 months: 1) problems at work or school, 2) marital and relationship problems, 3) sex and sexual health, 4) issues around pregnancy or contraceptives – ranging from 0 (no topics) to 4 (all topics).
Social support and trust	Number of close friends	Continuous variable of self-reported number of close friends for discussion of private subjects and who can be called on for help

	Number of close family members	Continuous variable of self-reported number of close family members for discussion of private subjects and who can be called on for help
	Trust in community	Self reported indicator of agreement with the statement that most of community members can be trusted
	Trust in health personnel	Self reported indicator of agreement with the statement that most of health workers can be trusted
Emotional wellbeing	Difficulty concentrating	Index of frequency of having trouble concentrating in the last 7 days – ranging from 0 (never, less than a day) to 3 (frequently, 5 to 7 days). Taken from the Center for Epidemiological Studies Depression Scale (CES-D) short form
	Depressive feelings	Index of frequency of feeling depressed in the last 7 days – ranging from 0 (never, less than a day) to 3 (frequently, 5 to 7 days). Taken from the CES-D short form.
	Loneliness	Index of frequency of feeling lonely in the last 7 days – ranging from 0 (never, less than a day) to 3 (frequently, 5 to 7 days). Taken from the CES-D short form.
	Happiness	Self reporting response to question on level of current happiness – ranging from 1 (very happy) to 4 (not happy). Taken from the World Value Survey.

As each domain will be aggregated to form an overall index, we will not adjust for multiple hypothesis testing for the overall domains. For individual indicators, we will conduct a sensitivity analysis adjusting for multiple hypothesis testing (e.g. calculating Anderson q values – Anderson, 2006).

Table 4. Heterogenous analysis and robustness checks

Domain	**Indicator**	**Description and construction of the variable**
Marital status	Single	Never married, separated/divorced or widowed (in comparison to cohabitation, married, including polygamous marriage)
Conformity and self-direction	Conformity	Index of 3 question capturing the degree to which and individual would constrain choices based on upsetting or violating a social norm (*e.g. It is important to Awa to always behave properly. She wants to avoid doing anything people would say is wrong. How much are you like this person?).* Responses range from 1 (not at all like me) to 6 (very much like me)
	Tradition	Index of 3 questions capturing the individual's commitment to cultural and religious values (e.g. *Religious belief is important to Fatou. She tries hard to do what her religion requires. How much are you like this person?*). Responses range from 1 (not at all like me) to 6 (very much like me)
	Self-direction	Index of 3 questions capturing how likely the individual is to think and act independently and act on own decisions (e.g. *It is important to Youma to make her own decisions about what she does. She likes to be free to plan and to choose what to do herself. How much are you like this person?*). Responses range from 1 (not at all like me) to 6 (very much like me)

Transportation	Identification with characters and story line	Index of 5 questions capturing engagement with the film clubs (*e.g. "I was affected emotionally" or "I could imagine being part of the story"*). Responses range from 1 (disagree) to 3 (agree)
Social desirability	Social desirability	Index of 11 questions capturing how likely an individual is to want to motivation to conform with socially accepted actions (e.g. *It is sometimes hard for me to go on with my work if I am not encouraged*). Responses range from 1 (strongly disagree) to 4 (strongly agree).

* all indicators for heterogenous effects measured at baseline with the exception of "transportation."

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