



Regular Article

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ABSTRACT

Edutainment is a promising tool for changing behavior at scale, yet little is known about how to maximize impacts. We undertake an experimental evaluation of a popular West African television series, *C'est la vie!*, delivered through film clubs targeted at adolescent girls and young women in rural Senegal. We examine impacts on violence against women and girls and sexual and reproductive health. Results show *C'est la vie!* improved knowledge on both domains three months after film clubs ended, as well as violence-related attitudes nine months later, however, had no impact on behaviors. We investigate design components intended to strengthen impacts, generally finding no additional impacts from post-screening discussions, engaging men, and podcasts. Our findings suggest that edutainment is an engaging way to reach viewers on sensitive themes, however more evidence is needed on how to effectively deliver edutainment content for sustained behavior change at scale.

1. Introduction

Using the power of media to educate is the hallmark of the “edutainment for development” approach. Edutainment aims to change individuals’ behavior by absorbing them into a story where messages are integrated into the narrative, invoking cognitive or emotional responses (La Ferrara, 2016; Wakefield et al., 2010). Edutainment is increasingly used to deliver messages on sensitive themes to prevent violence against women and girls (VAWG) and improve sexual and reproductive health (SRH). Strategies for improving these outcomes have traditionally used social behavior change approaches that are delivered in person to individuals or groups, through community outreach or at health facilities (Aboud and Singla, 2012). Compared to in person approaches, delivering social behavior change through mass media, such as radio or television has the potential to reach a large audience and notably decrease the cost per person reached (Wakefield et al., 2010). While

radio has long been a strategy for reaching dispersed rural populations, television and social media are increasingly viable delivery methods. Edutainment may also reach a younger demographic who face barriers in accessing information from traditional sources, but have higher exposure to technology and social media.

Research dating back to the 1990s shows that edutainment has resulted in positive impacts on SRH behaviors, increasing HIV testing and reducing prevalence of Chlamydia, the number of sexual partners, incidence of unprotected sex and fertility, among others (Banerjee et al., 2019b; Orozco-Olvera et al., 2019; La Ferrara et al., 2012). In addition, more recent studies have demonstrated that edutainment can decrease both experience and perpetration of diverse forms of VAWG in resource poor settings, including in the African region (Peterman, 2026; Green et al., 2020; Yount et al., 2023). Edutainment products and platforms are diverse, ranging from early forms of participatory theater, community radio and soap operas to more recent feature-length films, social media

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and gamified content. Each modality (or combination thereof) has inherent advantages and disadvantages, particularly concerning access, cost, scalability, and potential to standardize or customize messaging. In addition, different modalities offer the potential to embed or layer additional complementary components which may serve to either boost, guide or provide additional customized content. For example, in a review of 21 quantitative studies measuring impacts of edutainment on violence outcomes, just over half of the studies included interventions with complementary components (Peterman, 2026). These ranged from packages of community-level social behavior change activities, to light-touch post-screening discussions, interactive workshops or text-message based linkages to social services.

While evidence surrounding edutainment's effects are promising, knowledge gaps remain. First, these edutainment products and accompanying studies have primarily targeted a focused set of health outcomes for behavior change. It remains unclear whether longer series that cover a more comprehensive range of health-related topics can lead to synergies across different outcomes, or conversely, if such a multi-topic approach dilutes content on any one theme, ultimately diminishing impacts. Second, most television-based edutainment is delivered in urban areas with stable access to service providers (whether cable or satellite), internet, and electricity. While television is becoming increasingly common in rural areas, expansion presents new challenges due to unstable access to electricity, as well as a plurality of local languages that may not coincide with the broadcasted languages suitable for urban areas. In addition, delivery in rural areas raises questions on acceptability of characters or storylines and engagement of viewers who may be more conservative or unable to relate to narratives. Third, we still know very little about what design features, including which platforms and complementary activities, lead to larger impacts. Finally, previous work has primarily looked at short-term outcomes, generally measuring outcomes within a period of less than a year, and typically at one specific moment in time. It is unclear how impacts evolve over time and whether edutainment can lead to sustained impacts on knowledge, attitudes, or behaviors after interventions end.

We address several evidence gaps through a cluster-randomized controlled trial (cRCT) of *C'est la vie!*, a multi-topic television-based edutainment series focused on VAWG and SRH themes that has reached millions of viewers across West and Central Africa. Our study targeted 120 rural villages of Kaolack and Kolda regions in Senegal, following over 3,400 adolescent girls and young women aged 14 to 34 over time. First, we explore whether exposure to *C'est la vie!* delivered through film clubs improves a wide range of outcomes related to VAWG and SRH among adolescent girls and young women in rural Senegal. Second, we explore design features to see if changing how the series is delivered leads to larger impacts. These features include: i) adding post-viewing discussions and workshops on key themes, ii) varying whether the girls and young women selected to participate were encouraged to bring a male or female guest; and iii) extending exposure to content via audio podcasts. While the first two design variations were planned in the initial study, the third was a shift mid-study to accommodate continued implementation after COVID-19 related shutdowns. Third, we follow a sample of girls and young women, interviewing them at approximately 8 months and 14 months after the baseline (or three and nine months following the conclusion of the film clubs) to see how impacts evolve over time. Finally, we explore potential pathways through which edutainment leads to behavior change using both data from the cRCT and qualitative data collected during the intervention.

We hypothesize three main, complementary pathways through which *C'est la vie!* could lead to changes in VAWG and SRH behaviors. The first is through an *information channel*, for example, providing information on different forms of contraceptives that are available or information on the negative effects of female genital mutilation (FGM) (Peterman, 2026). Participants may update knowledge and subsequently alter behavior to avoid negative consequences or achieve desirable outcomes. The second is through an *individual persuasion*

channel and the power of observational learning (Bandura, 2001; La Ferrara, 2016). Through images, storylines, and role models, viewers see characters' positive and negative experiences and learn how they can imitate or model behaviors that will benefit them. For example, in *C'est la vie!*, viewers observe a young girl who is married too soon and subjected to marital rape, who later dies due to complications in childbirth; they also see a passionate young nurse advocating and championing the rights of youth to plan and space their births through family planning. Seeing these narratives may change the set of choices and behaviors adolescents and young women believe is acceptable or possible in their current or future relationships. The third is through a *norm diffusion channel*, either via group exposure to content, or through interpersonal dialogue, where viewers discuss with each other or other family members what they see or hear, resulting in them updating their perceptions of what others are doing or what others find acceptable (Papa and Singhal, 2009). For example, the storyline of an abusive relationship could prompt realization that individuals in their social circles believe the abused woman should leave the relationship—which again may change the set of choices and behaviors adolescents and young women believe is acceptable or possible in their current or future relationships.

These pathways may be enhanced through design and delivery features. Specific to this study, post-screening discussions and workshops may reinforce all three pathways. Through facilitated discussions on the main themes and messages, participants can further absorb and internalize the messages from *C'est la vie!* and share their opinions and experiences with other participants in the group, thus potentially socializing a new norm (Le Port et al., 2022). Facilitated discussions may also be an opportunity to identify and correct any misperceptions or adverse reactions to sensitive content, to ensure these do not spread beyond the initial viewing. In addition, inviting a male guest instead of a female guest may lead to larger impacts for several reasons. First, interpersonal dialogue with men (as compared to women) maybe more important as men are often the powerholders and decision-makers in families and communities. Thus, if engaging men leads to new information about men's views or creation of new norms, we might expect more meaningful changes in pathways and final behaviors. These changes may be particularly notable if women are more attuned to views of their female peers (and discuss personal issues with other women) as compared to their male peers or partners. Second, many VAWGs and SRH behaviors involve men and women together, thus changing men and women's knowledge and attitudes together are arguably more important than changing just women's. This is particularly true for VAWG outcomes, where men are typically the perpetrators of such violence. Lastly, extending exposure to the *C'est la vie!* content via podcasts, increases the “dose” or duration of the intervention, which may lead to larger impacts, particularly if repetition of messages is needed.

The study takes place in two regions of rural Senegal, where populations have limited exposure to SRH and VAWG information, aspirational narratives, and media featuring strong female role models.¹ Past exposure to *C'est la vie!* is also low and new dubbing into local languages provided a unique opportunity to experimentally test its effectiveness. We randomly assigned 120 rural villages to three arms: Treatment 1 (T1), *C'est la vie!* screenings via film clubs; Treatment 2 (T2), same as arm 1 with the addition of post-screening discussion groups and interactive workshops (“pedagogical kits”), and Control, a placebo television series with no themes related to the study screened via film clubs in the same

¹ While Senegal scaled up a school-based sexuality education program in the late 2000s, many girls and women (in particular those not attending school) are still excluded from these efforts (Chau et al., 2016). For example, over 50 percent of our sample never attended any formal school (Table C2), and an additional 24 percent have only received primary or partial primary education. In addition, our community level survey indicates only 8 percent of communities have a health clinic, center or hospital in the village, thus limiting direct exposure to information and campaigns.

way as T1. Film clubs targeted adolescent girls and young women aged 14 to 34 years old as primary participants, who are likely to encounter themes of *C'est la vie!* in their own lives as they make life transitions. Participants received tickets to the screenings which allowed them to bring one guest and were randomly encouraged to invite either a male guest (their partner if married, family member or friend if not) or a female guest.

The intervention started in December 2019 and was meant to cover Season 1 of *C'est la vie!* over five months. However, in March 2020, the intervention was interrupted due to the COVID-19 pandemic and a presidential decree in Senegal which prohibited gatherings of more than 10 people. With approximately half of the intervention completed (totaling approximately 13 episodes of Season 1), a phone survey was undertaken in June 2020 to capture the short-term program impacts on VAWG and SRH knowledge and attitudes (but not behaviors). To continue providing participants with content during COVID-19 restrictions, the film club platform changed to podcasts for a random set of villages across all three arms. An in-person endline survey was subsequently undertaken in December 2020 to measure medium term impacts on VAWG and SRH knowledge, attitudes, and behaviors.

We find that in the short term (three-months post film clubs), *C'est la vie!* increases knowledge of VAWG and SRH, but attitudes are unchanged. In the medium term (nine-months post film clubs), knowledge gains have disappeared, however, we find significant improvements in VAWG attitudes and norms, which are driven by improvements in attitudes on child marriage and FGM. We find no impacts on aggregate indices of VAWG and SRH behaviors, which indicates that gains in knowledge and attitudes are not large enough or meaningful enough to change behavior, at least not within our study period. In general, we find little additional impact from adding pedagogical kits, inviting male guests, or extending the intervention with podcast during COVID-19. The exception is that inviting male guests, as compared to female guests, leads to larger increases in SRH knowledge. Lastly, we find that women who were more transported by the series had significantly larger impacts on VAWG and SRH outcomes compared to those that were less transported, suggesting that the power of edutainment lies in its ability to absorb viewers into the storyline. While engagement in the series is not exogenously determined, changes in knowledge due to observational learning are also supported by complementary qualitative data, which indicate that women felt enlightened by the narratives in the film and shared the story and lessons with family and friends (Le Port et al., 2022).

Taken together, these results suggest that providing information through an entertaining narrative is effective at improving knowledge in the short run, but these gains may fade over time. In contrast, changes in attitudes in our setting take time to manifest. These findings are consistent with recent literature on edutainment in Africa showing strong impacts on knowledge, with variable impacts on attitudes and behaviors. For example, in Nigeria an evaluation of MTV's *Shuga* found increases in HIV-related knowledge approximately eight months after the intervention and more nuanced changes on risky sexual behaviors (Banerjee et al., 2019b). In Uganda and Egypt, short videos or a multi-media series had no impact on VAWG attitudes, even though they increased women's reporting of violence and help seeking behaviors (Christia et al., 2023; Green et al., 2020). Finally, a radio drama in rural Tanzania focused on themes of early and forced marriage changed related attitudes and perceived norms in the short-term (two weeks later), however, effects were smaller or no longer detectable 15 months after exposure (Green et al., 2022). This study adds to the growing evidence on edutainment, showing how effects of a multi-topic television series change over time, exploring design features, and mechanisms of impact.

2. Program design

2.1. Intervention

C'est la vie! is a popular West African television series developed by

RAES and produced by Keewu Productions, a Senegalese non-governmental organization.² Grounded in the Senegalese context, the series was developed based on extensive understanding of social behavior change theory, formative work, local message validation and piloting. The plot revolves around everyday life in a maternal health clinic in Senegal, featuring four main female protagonists. The series is specifically designed to address issues related to adolescents' and women's rights: themes presented in the series focus on VAWG (i.e., IPV, forced and early marriage, sexual abuse and FGM), SRH (i.e., family planning, use of contraceptives, HIV and sexually transmitted infections), and maternal and child health (i.e., skilled attendance, antenatal and postnatal care, breastfeeding). In addition, more general themes are woven into the narrative on gender equality, couple communication, and women's empowerment. The intervention evaluated in this study focuses on *C'est la vie!*, season 1, which includes 26 episodes of approximately 25 min each, which at the time of the study had been dubbed into five local languages.

RAES also developed a multi-media information campaign around *C'est la vie!*, which was designed to promote discussion of key themes, and consisted of radio adaptations, a web-based mini-series, social media materials, and community activities. As part of these community activities, pedagogical kits were developed in collaboration with United Nations partners. The pedagogical kits aimed to strengthen the impact of the series by using trained facilitators to lead discussions following the screenings, along with thematic workshops for small groups. The activities aimed to stimulate personal reflections and collective debates using games, exercises, and video extracts from the series (among others). See Appendix Table A1 for a list of episodes, themes, and discussion topics related to the television version of *C'est la vie!* season 1, and Table A2 for similar details related to the podcast (audio only) version of season 1.

2.2. Study design

To test the impact of *C'est la vie!*, we designed a cRCT involving 120 rural villages across two regions of Senegal: Kaolack in central Senegal, and Kolda in the south (Fig. 1).³ Stratified by region, villages were randomly assigned to three arms:

- **T1 (CLV):** *C'est la vie!* season 1 transmitted through film clubs. Season 1 is composed of 26 episodes, each lasting approximately 25 min. Each screening showed three episodes in a row every other week, using public primary schools during after school hours.
- **T2 (CLV + Kit):** Same as Treatment 1 with the addition of adapted pedagogical kits composed of 30- to 45-min facilitated discussions after each screening, and monthly workshops (four total, one focused on sexuality, one focused on sexual violence, and two focused on IPV) lasting 1.5 h each.⁴
- **Control:** A placebo Senegalese television series called Golden, a drama about a family who runs a gold mining company (without messages related to VAWG or SRH), screened through film clubs. The

² For more information on the *C'est la vie!* series and the pedagogical kit, see the website: <https://cestlavie.tv/>.

³ Study villages were randomly selected from the universe of villages in each region with populations of 500 households or lower yet had at least 34 qualifying adolescent girls and young women, had a primary school and were accessible by motor vehicle.

⁴ The pedagogical kits were adapted for feasibility of implementation. The post-screening discussions which were designed to be 30 to 60 min per episode, were reduced to 30 to 45 min total across the three episodes screened in order to keep the total time of viewing and discussions under 2 h. Similarly, the half day workshops were reduced to 1.5 h. These decisions were made taking into account the preferences of target girls and young women after extensive piloting. See Le Port et al., 2022 for more detail on the pilot and implementation decisions.

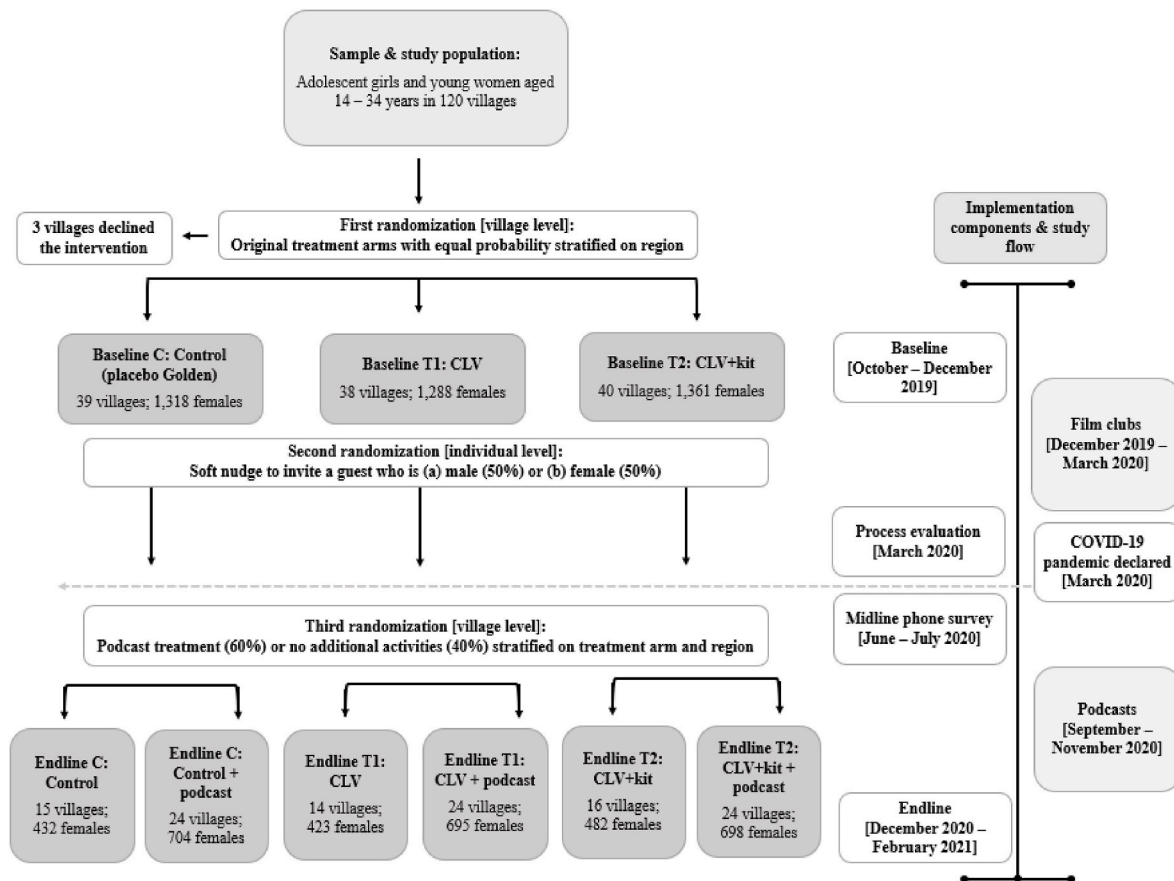


Fig. 1. Flow chart describing the timeline and progression of the study population.

placebo film clubs were implemented similarly to the *C'est la vie!* film clubs in terms of location, frequency and duration, and thus allowed us to specifically test the effect of the series content and net out other aspects of the intervention, including the effect of social gathering and general exposure to television.

Randomization was conducted at the village level, because it was expected that participants would discuss the content of the intervention with other community members; thus, even individuals who were not directly invited to the film clubs could be exposed to the messages via spillover effects. In each study arm, adolescent girls and young women were invited to attend the film clubs and allowed to bring one guest. In all three arms, the guest was cross randomized at the individual level to be either: 1) a male guest (their husband, boyfriend, male peer, father, or brother) or 2) a female guest (friend, mother, or sister). The random assignment of the guest took the form of a soft nudge (suggestion) at the time of invite, as there was no restriction or consequence if the woman did not bring the type of person suggested.

Implementation was carried out by *MobiCiné*, a Senegalese non-governmental organization that specializes in promoting cinema in rural areas, through mobile units that consisted of vehicles carrying projectors, generators, and screens that visited each village on a rotating basis. Each team included a screening technician and a female communication specialist for monitoring attendance and leading the post-screening discussions and workshops in T2. *MobiCiné* communication specialists underwent a one-week training with RAES and United Nations partners to learn how to deliver pedagogical kit material and navigate discussing sensitive topics (Le Port et al., 2022).

The intervention started in December 2019 and was meant to last five months with a total of nine film club screenings plus four workshops in the CLV + Kit arm. However, in March 2020, the intervention was

interrupted due to COVID-19 and resulting regulations, with approximately four film club sessions and two workshops (those on sexuality and sexual violence) having taken place in each village. To continue providing participants with the *C'est la vie!* content during COVID-19, audio podcasts were delivered via mobile phone for a random fraction of villages. Within each intervention arm, villages were randomized to either “continued treatment” via podcasts (60%) or no additional activities (40%) (Fig. 1). The podcasts were an audio adaptation of season 1 of *C'est la vie!* and consisted of sixteen 10-min episodes (see Table A2 for themes). In the control arm, the placebo podcast was the series *Bouche de l'Afrique*, which were folklore stories on themes unrelated to those in *C'est la vie!* To deliver the podcasts, facilitators from a central call center contacted study participants and if available, connected them to a platform where the podcast was transmitted.⁵ For participants in the CLV + Kit arm who were assigned to the podcasts, facilitators also engaged them in individual discussions every two weeks via mobile phone.

Further details regarding the study design, including visual map of villages, sample size calculations, ethical protocols, trial registration and discussion of deviations from the pre-analysis plan are included in Appendix B.

⁵ A *MobiCiné* voice box platform was set up with four operational positions each under the responsibility of a facilitator who had the task of calling women and girls to sensitize them on the podcasts, monitor their participation via their self-reports, lead a post-discussion, and send regular reminders to women who have not been able to access the platform to listen podcasts. Each episode of the podcast is posted on the platform for one week.

Table 1
Overview of outcome indicators by domain aggregate.

	Violence against women and girls (VAWG)	Sexual and reproductive health (SRH)
Knowledge	- Child marriage consequences: Number of adverse consequences identified (ranging from 0 to 10) - Female genital mutilation consequences: Number of adverse consequences identified (ranging from 0 to 10) - Intimate partner violence consequences: Number of adverse consequences identified (ranging from 0 to 11)	- Risks of early pregnancy: Number of risks identified (ranging from 0 to 4) - Abortion consequences: Number of adverse consequences identified (ranging from 0 to 7) - Contraceptive knowledge: Number of contraceptive types known (ranging from 0 to 12) - Family planning availability: Knows of a place to receive family planning (0/1) - HIV transmission: Number of transmission modes known (ranging from 0 to 4) - HIV prevention: Number of prevention behaviors known (ranging from 0 to 7)
Attitudes	- Personal beliefs about early marriage: Believes the acceptable age for a girl/young woman to get married is ≥ 18 years (0/1) - Personal beliefs on ideal age at marriage: Believes the ideal age for a girl/young woman to get married is ≥ 18 years (0/1) - Attitudes rejecting sexual violence: Scale comprising five equally weighted personal beliefs (Likert responses) - Norms rejecting sexual violence: Scale comprising four equally weighted injunctive norms (Likert responses) - Attitudes rejecting intimate partner violence: Scale comprising four equally weighted personal beliefs (Likert responses) - Norms rejecting IPV: Scale comprising four equally weighted injunctive norms (Likert responses) - Attitudes rejecting female genital mutilation: Scale from three equally weighted personal beliefs (Likert responses)	- Attitudes supporting contraceptives: Scale comprising two equally weighted personal beliefs (Likert responses) - Fertility ideals: Total number of desired children (reverse coded)
Behaviors	- Freedom from controlling behaviors: No report of experiencing one of five partner perpetrated acts in the last 12 months (0/1)^a - Freedom from emotional intimate partner violence: No report of experiencing one of five partner perpetrated acts in the last 12 months (0/1)^a - Freedom from physical intimate partner violence: No report of experiencing one of seven partner perpetrated acts in the last 12 months (0/1)^a - Freedom from sexual intimate partner violence: No report of experiencing one of three partner perpetrated acts in the last 12 months (0/1)^a - Intimate partner violence disclosure: Disclosed to anyone in the last 12 months (0/1)^a - Intimate partner violence help seeking: Sought help to stop violence in the last 12 months (0/1)^a - Intervene: Would intervene in the case of a neighbor's physical intimate partner violence (0/1) - Freedom from non-partner sexual harassment: No report of experiencing one of eight acts in the last 12 months (0/1) - Freedom from non-partner physical violence: No report of experiencing one of four acts in the last 12 months (0/1) - Freedom from non-partner emotional violence: No report of experiencing one of six acts in the last 12 months (0/1) - Freedom from female genital mutilation: No living daughter that has undergone circumcision^b - Freedom from early marriage and cohabitation: Never married or cohabited (0/1)^c	- Condom use: Used condom in last sexual intercourse (0/1)^d - Currently using modern contraceptives: Using one or more modern methods to avoid becoming pregnant (0/1)^d - HIV test: Tested in the last 12 months (0/1) - Freedom from herpes: No genital sore or ulcers in the last 12 months (0/1) - Freedom from chlamydia: No bad-smelling abnormal genital discharge in the last 12 months) - Freedom from early sexual debut: Never had sexual intercourse (0/1)^c - Freedom from early pregnancy and childbirth: Never given birth and not currently pregnant or pregnant in the last 12 months (0/1)^c

Notes: Not all indicators are collected at midline. Some recall periods and measurements vary between waves.

^a Among the sub-sample currently or formerly in a partnership.

^b Among the sub-sample reporting any living daughters.

^c Among the sub-sample of adolescents ≤ 19 years at baseline.

^d Among the sub-sample who are sexually active.

3. Data

Survey data were collected in collaboration with ASSMOR consulting and Cheikh Anta Diop University in Dakar at three points: 1) before the start of the intervention and before participants knew they would be invited to attend film clubs (baseline survey, October to December 2019), 2) three months after the film clubs suddenly stopped due to the pandemic and before the podcasts were implemented (midline survey, June to July 2020), and 3) nine months after the film clubs stopped (endline survey, December 2020 to January 2021). The midline survey was a short mobile phone survey, as in-person data collection was not possible due to the COVID-19 related restrictions. Therefore, the midline survey only collected a subset of indicators on knowledge and attitudes, and no indicators on behaviors.⁶ The endline survey occurred in-person and collected all indicators related to knowledge, attitudes, and behaviors across VAWG and SRH domains. In addition to the quantitative data, in-depth qualitative data was collected in March 2020 in 14 villages (stratified by region) to understand *how* and *why* impacts were achieved (or not) among the target population (Le Port et al., 2022).

Prior to the baseline survey, a census was conducted in all study villages with the objective of identifying eligible adolescent girls and young women to participate in the study. Eligibility criteria included: 1) age (14–34 years), 2) speaking and understanding the language in which the series was being shown (either Wolof or Pulaar, depending on the dominant language in each community), and 3) living within a 2-km radius of the public primary school. A random sample of 34 eligible adolescent girls and young women was selected in each village to take part in the baseline survey and intervention.

3.1. Outcome measures

We examine impacts across domains of knowledge, attitudes and behaviors on two main *C'est la vie!* themes related to VAWG and SRH. For each theme and domain, we pre-specified outcome indicators based on the content of *C'est la vie!* and sought to include validated scales and (or) questions from previous surveys in Senegal or the region, including those in the Demographic and Health Survey, where possible. Table 1 presents an overview of domains and indicators, while Appendix Table B1 provides more detailed descriptions including indicator construction for all outcome indicators and key variables used for heterogeneous analyses.

Given the breadth of indicators collected, we create three aggregate indices corresponding to domains of 1) knowledge, 2) attitudes (and norms), and 3) behaviors for each theme.⁷ Analyzing aggregate indices instead of individual outcomes has several advantages (Anderson, 2008): first, aggregating outcomes into an index reduces the probability of a false discovery by reducing the number of distinct hypothesis tests conducted; second, an aggregate index provides a statistical test and inference for overall or aggregate impacts on a family of outcomes such as knowledge on VAWG; third, it may provide more power to detect impacts as it can reduce the random error from each individual indicator.

⁶ This was done for a variety of reasons. First, phone surveys are short, and thus a limited number of indicators could be collected. Knowledge and attitudes were prioritized, as the survey was immediately after the intervention occurred and many behaviors take longer to materialize. In addition, many of our key behavior outcomes were sensitive in nature (including VAWG) and would have necessitated ethical protocols that were not possible to implement within remote surveys and with uncertainty around violence-related services being accessible during the early period of the pandemic.

⁷ Ideally, we could have further split aggregate (2) into attitudes and norms separately, following our conceptualization of pathways. However, due to the many themes presented in the series and accompanying toolkit, we were unable to comprehensively cover both concepts. Thus, we collected norms only for IPV and non-partner violence, to test these as key concepts.

To create the aggregate indices, we first transform all indicators so that higher values equal more favorable outcomes (e.g., attitudes supporting freedom from IPV score higher, while attitudes condoning IPV score lower) and then standardize each indicator using the control mean and standard deviation. The indices are then simply the equally weighted average of the individual z-scores (Kling et al., 2007). For indices where component indicators are missing, we replace observations with the mean by treatment arm for the individual components.⁸ In addition to the aggregate indices, we analyze individual indicators to understand which specific outcomes might be driving changes. For the individual indicators, we correct for multiple hypothesis testing by computing the false discovery rate q-values implemented using the `qqvalue` (method, `simes`) command in Stata (Simes, 1986). We compute the q-values by specification, domain and survey wave.

The majority of outcome indicators across both VAWG and SRH domains represent sensitive topics which are subject to reporting bias (Palermo et al., 2014; Neal and Hosegood, 2015). We sought to address these reporting biases in a variety of ways, including ensuring enumerator teams were all female and underwent dedicated training to collect data on sensitive topics and adhered to best practices with respect to violence-related surveys (detailed violence-specific ethical protocol is included in Appendix B) (PETERMAN et al., 2023). Nonetheless, women and adolescent girls in our sample may differentially report based on levels of social desirability, stigma or shame, or rapport with enumerators. In the context of an experimental study, many of these biases are likely equivalent across study groups. However, there is a possibility that exposure to *C'est la vie!* could have led to participants being more willing to report violence to enumerators, either due to reduced stigma, shame or internalization of blame for the abuse. Second, there is a possibility that *C'est la vie!* changed participants' awareness of what constitutes abuse in the first place. This could be particularly the case for sexual IPV, as sex within marriage is often seen as a man's right and a woman's duty in Senegal. We sought to address these additional biases in a number of ways, including through collection of social desirability scales, testing disclosure of violence modules through self-administered questionnaires (at endline) and triangulation with qualitative data. We discuss these details in subsequent sections.

3.2. Sample and baseline balance

Fig. 1 shows the composition of the sample across survey waves and treatment arms. Of the original 120 villages, village leaders in three refused to participate, thus these villages were dropped from the sample before implementation started. Baseline data were collected on 3967 participants across 117 villages, of which we were able to re-survey 3003 (or 76 percent) during the midline phone survey and 3433 at endline (or 87 percent). We examine interview success rates at each period, showing that overall rates do not vary by the original treatment arms (Appendix Table C1). As the adolescent girls and young women in our midline survey are a select sample that have access to mobile phones and re-contact rates are substantially higher at endline, we focus on the unbalanced panel for our main analysis; however, our results are robust to also using a balanced sample of girls and young women who are surveyed in all three survey rounds.

We test for selective attrition and baseline balance across background characteristics and outcome variables for the baseline to midline panel sample (Appendix Table C2) and the baseline to endline panel sample (Appendix Table C3). The last column across both tables shows that those that attrited are different from those that stayed in the sample. However, there is little differential attrition across the treatment and control arms (columns 4 and 5). The exceptions are that in the midline

⁸ If all components are missing, we do not impute and thus the aggregate index is also missing. This only occurred for baseline VAWG, where 11 observations had all components missing.

sample those who attrited were less likely to have watched *C'est la vie!* and those in the CLV arm had higher (more favorable) aggregate SRH and VAWG outcomes compare to those that attrited in the control arm. However, most of these outcomes are still balanced across CLV and control arms for those that stayed in the sample (column 2). In the endline sample there is evidence of selective attrition with respect to age, previously watching *C'est la vie!*, household wealth, and aggregate SRH behaviors. However, only age and aggregate SRH behaviors are unbalanced across the treatment and control arms for those that stay in the sample (columns 2 and 3). Overall, for those that stay, we fail to reject the null on tests of joint orthogonality of baseline characteristics that compare CLV to control or CLV + Kit to control (p-value range: 0.24 – 0.72). Tests were performed by regressing treatment variables (CLV or CLV + Kit) on indicators listed in Appendix Tables C2 and C3.

Descriptive statistics for the baseline to endline panel show that pre-intervention the sample is young (on average 22 years old) and that 34.9 percent are adolescents 14 to 19 years old. The majority of the sample are married (52 percent in non-polygynous and 21 percent in polygynous marriages), and about half report no formal schooling. In terms of access to television and prior exposure to *C'est la vie!*, 51.7 percent of respondents report usually watching some television but only two percent had watched *C'est la vie!* at baseline. Discussing IPV or SRH is not common, only 20 to 23 percent of respondents had talked about IPV or family planning in the last three months with other family members or friends (sometimes or frequently), and even less had discussed with other community members. Adolescent girls and young women live in relatively large households, with about 10 members on average.

4. Estimation

We structure our analysis by first investigating the impacts of *C'est la vie!* on our outcomes of interest, pooling together both the CLV and CLV + Kit arms. We then estimate the impacts for each arm separately. These models estimate the impact of the intervention over all its cross-randomized sub-treatments. We then estimate the fully interacted (“long”) model to examine if impacts varied by different design features: the male guest invite and the podcasts (Muralidharan et al., 2025). We estimate midline and endline outcomes separately to see how impacts change over time, and in particular if impacts were sustained nine months after film clubs ended.

Following our pre-analysis plan, we use analysis of covariance (ANCOVA) models to estimate the pooled impact of *C'est la vie!* The exact equation we estimate is:

$$Y_{fvd}^t = \alpha^t + \beta_p^t Pooled_{vd} + \gamma^t Y_{fvd}^0 + \delta^t X_{fvd}^0 + \sigma_d^0 + \varepsilon_{fvd}^t \quad (1)$$

Where Y_{fvd}^t is the outcome of interest for female f from village v in department d at either midline or endline (t), and Y_{fvd}^0 is the outcome of interest at baseline. The indicator $Pooled_{vd}$ equals one if village v was randomized to receive either CLV or CLV + Kit. The β_p^t represents the intent-to-treat (ITT) estimator for each time period, or the effect of being assigned to a *C'est la vie!* arm (interpreted as composite effects across all sub-treatments). We control for, X_{fvd}^0 , a vector of background characteristics of the female measured at baseline including age, marital status, education, household size, and wealth, as well as study design indicators for being randomized to bring a male guest and being randomized to the podcast (endline only).⁹ We also control for six departments (three per region) through fixed effects (σ_d), which is an administrative level below region (the stratum used for randomization) to take into account

film club implementation logistics.

In equation (2) we separate CLV from CLV + Kit, with β_c^t and β_k^t representing the ITT estimator, or the effect of being assigned to CLV or CLV + Kit respectively:

$$Y_{fvd}^t = \alpha^t + \beta_c^t CLV_{vd} + \beta_k^t CLVKit_{vd} + \gamma^t Y_{fvd}^0 + \delta^t X_{fvd}^0 + \sigma_d^t + \varepsilon_{fvd}^t \quad (2)$$

To test whether β_c^t and β_k^t are statistically different from each other, we conduct Wald tests of equality.

Finally, in equation (3) we estimate the fully interacted model to test whether impacts varied by whether participants were randomly assigned to invite a male or female guest. Given that this was randomized across all three treatment arms, we use equation (1) and interact the pooled treatment with an indicator for the male guest nudge ($Male_{fvd}$):

$$Y_{fvd}^t = \alpha^t + \beta_p^t Pooled_{vd} + \beta_M^t Male_{fvd} + \beta_{PM}^t Pooled * Male_{fvd} + \gamma^t Y_{fvd}^0 + \delta^t X_{fvd}^0 + \sigma_d^t + \varepsilon_{fvd}^t \quad (3)$$

We estimate a similar model with the podcast extension, but only at endline, as the podcasts were implemented after the midline survey. All regressions cluster standard errors at the village level. These analyses broadly follow our pre-analysis plan for the study, with deviations detailed in Appendix B.

5. Results

5.1. Experience with film clubs and podcasts

We begin by describing participants' experiences with the film clubs using monitoring data and at endline via self-reports. Both treatment and control arms show high rates of participation in the film clubs, ranging from 89 to 92 percent using the self-report data to 87 to 90 percent using the monitoring data (Table 2). There are no significant differences across the three arms in terms of participation. Among respondents who report never participating ($n = 318$), common reasons stated by those in the control group include being temporarily away or not in the village during screenings (34 percent), not having time or the day (time) being inconvenient (27 percent), not being informed of the day (time) (18 percent) or health reasons (11 percent) (rates are similar for treatment arms). For adolescent girls and young women who participated, the average number of sessions attended was about 3.5 according to self-reports (and slightly lower according to the monitoring data). Given that on average 4.3 sessions were implemented before COVID-19 forced film club closure, participants attended about 75 percent (or 65 percent using monitoring data) of total implemented screenings. Among those that attended, most (65 to 75 percent according to monitoring data) brought a guest and about a quarter brought a male guest.

While participation data is in general similar across the three arms, differences emerge in terms of participant experience. Most participants talked to family and friends about the series, and this was significantly more common in the CLV + Kit arm compared to the control arm (77 percent versus 66 percent). Love of the series was nearly universal, with over 90 percent reporting they like the films very much (the highest choice on a five-point scale) and rates were higher among treatment arms compared to the control arm. Participants also reported a high degree of “transportation” with over 70 percent of the sample agreeing with four out of five statements related to imagery, emotional response, and focus (e.g., “I can imagine myself as part of the story,” “It affects me emotionally,” “I think the story has changed my life”). Participants in the treatment arms were significantly more likely to report that the series affected them emotionally or changed their life compared to the control arm.

We report similar descriptives on participation for the subsample of villages who were randomized to receive the podcast (Appendix

⁹ The wealth index is constructed through principal component analysis containing 28 indicators representing dwelling characteristics and household durable and livestock assets following the Demographic and Health Survey methodology.

Table 2

Experience with film clubs by original treatment arm, endline survey.

	N	Means			P-value from difference		
		Control (C)	C'est la vie (T1)	C'est la vie + kit (T2)	T1-C	T2-C	T2-T1
Participated in the film club	3433	0.890	0.916	0.916	0.173	0.137	0.987
Participated in the film club (monitoring)	3433	0.868	0.898	0.890	0.228	0.403	0.718
Reason not participated: Not interested	318	0.048	0.011	0.010	0.223	0.212	0.971
Reason not participated: No time/not convenient	318	0.272	0.277	0.303	0.952	0.639	0.718
Reason not participated: Too far away/travel time to long	318	0.024	0.011	0.020	0.439	0.847	0.587
Reason not participated: Temporarily away or not in village	318	0.344	0.383	0.343	0.594	0.994	0.574
Reason not participated: Not permitted to attend	318	0.032	0.011	0.051	0.263	0.452	0.066
Reason not participated: Not informed of the time/no information	318	0.176	0.213	0.162	0.461	0.729	0.273
Reason not participated: Health reasons	318	0.112	0.096	0.131	0.697	0.696	0.481
Reason not participated: Other reason	318	0.176	0.160	0.232	0.751	0.387	0.261
Times participated in screenings (1-6)	3115	3.443	3.424	3.580	0.908	0.399	0.352
Times participated in screenings (1-6, monitoring)	3039	2.756	2.601	2.936	0.373	0.351	0.066
Number of screenings implemented (village level)	3433	4.335	4.142	4.519	0.492	0.513	0.207
Percentage of screenings attended (monitoring)	3040	0.643	0.653	0.657	0.782	0.684	0.899
Ever attended with someone she personally invited	3115	0.746	0.771	0.772	0.391	0.309	0.964
Ever attended with someone she personally invited (monitoring)	3040	0.650	0.704	0.753	0.377	0.070	0.400
Ever invited a male guest (monitoring)	3040	0.223	0.264	0.266	0.280	0.215	0.956
Attended with: Parent or guardian	3115	0.022	0.027	0.022	0.408	0.947	0.448
Attended with: Husband, partner or boyfriend	3115	0.037	0.018	0.031	0.013	0.466	0.053
Attended with: Sibling	3115	0.072	0.081	0.090	0.563	0.235	0.610
Attended with: Other type of household member	3115	0.340	0.370	0.338	0.396	0.936	0.329
Attended with: Friend	3115	0.244	0.250	0.251	0.833	0.811	0.987
Attended with: Other non-household member	3115	0.125	0.147	0.146	0.336	0.306	0.985
Talked to family, friends or others about the film	3115	0.678	0.734	0.765	0.109	0.014	0.272
Liked the film a lot (5 on 5-point scale)	3115	0.903	0.946	0.944	0.010	0.014	0.889
Can imagine myself as part of the story	3115	0.713	0.813	0.753	0.001	0.166	0.018
I want to know how the story ends	3115	0.957	0.972	0.974	0.196	0.103	0.768
It affects me emotionally	3115	0.855	0.914	0.930	0.015	0.000	0.434
I think the story has changed my life	3115	0.730	0.814	0.815	0.003	0.001	0.975
I feel like I experienced the same thing as the characters	3115	0.460	0.496	0.475	0.174	0.554	0.458

Notes: P-values are reported from Wald tests on the equality of means of control and each treatment for each variable. Standard errors are clustered at the village level.

Table C4). We see a difference between the self-reported rates of participation and the monitoring rates, with 52 to 61 percent of adolescent girls and young women reporting participating in a podcast, while the monitoring data reports 70 to 86 percent.¹⁰ In terms of the number of times participants listened to podcasts, the average is about 2.5 according to self-reports or between 5 and 6.4 according to the monitoring data. This equates to listening rates of on average 38 percent out of the 16 total scheduled podcasts. According to the monitoring data, participation varied by treatment status, with women in the CLV and CLV + Kit arms being significantly more likely to participate compared to the control arm.

5.2. Impacts of *C'est la vie!*

Table 3 presents the impacts on VAWG of being randomized to the *C'est la vie!* intervention for the pooled treatment (panel A) and separated by treatment arm (panel B) (and visualized in corresponding Appendix Figure C1). The first two columns show impacts on VAWG knowledge and attitudes from the midline survey measured approximately three months after the film clubs ended, and the last three columns are VAWG impacts at endline, approximately nine months after film clubs ended. Being randomized to *C'est la vie!* improves VAWG knowledge at midline by 0.281 standard deviations (SDs), however these impacts disappear by endline. In contrast, there are no impacts on

VAWG attitudes at midline, however by endline, exposure to *C'est la vie!* significantly improves attitudes by 0.128 SDs. We find no impacts of the pooled treatment on VAWG behaviors measured at endline (impacts are generally close to zero, ranging from -0.072 SDs to 0.004 SDs). Impacts across all outcomes are not significantly different by treatment arms, revealing that adding the pedagogical kits does not lead to larger impacts (panel B).

Appendix Table C5 presents the results on the individual standardized indicators that comprise the VAWG aggregate for the midline and endline surveys, to understand what indicators drive impacts on overall effects. Impacts on VAWG knowledge at midline accrue from all three indicators that make up the aggregate index, correctly naming adverse consequences for child marriage (0.222 SDs), FGM (0.152 SDs) and IPV (0.250 SDs). Appendix Table C6 presents the means and impacts on the raw scores, revealing that the mean levels of knowledge are low (e.g., respondents are able to name 1.6 out of 10 possible consequences for child marriage – or 16 percent; 0.8 out of 10 possible consequences for FGM – or 8 percent; and 1.8 out of 11 possible consequences of IPV – or 16 percent). *C'est la vie!* only leads to improvements on these VAWG knowledge indicators that range from 13 to 23 percent compared to control means. By endline these impacts have faded for all three indicators. For VAWG attitudes, impacts at midline are only significant for one out of five indicators (attitudes towards child marriage), but by endline there are significant impacts on three out of seven indicators. In particular, we find significant improvements at endline in beliefs that the youngest acceptable and ideal age of marriage for girls and women is 18 or above (0.103 and 0.111 SDs), or an improvement in raw scores of about 14 percent and 6 percent respectively compared to control means. We also find significant improvements in attitudes rejecting FGM (0.106 SDs or 5 percent improvement compared to control mean), and attitudes rejecting IPV (0.109 SD or 4 percent improvement compared to control mean for CLV + Kit arm only). Although we find improvements in some individual attitude indicators, we do not find impacts on individual norms indicators. Counterintuitively, we find adverse effects on

¹⁰ The monitoring reports were filled out by facilitators after calling participants to see if they had successfully listened to the podcasts and cross-checking this with system generated phone numbers which had accessed the platform, linked to each participant. On the one hand not all participants who called the platform may have listened to the full episodes, and participants may have misreported their listening to the facilitator. On the other hand, it is also possible that participants may have misreported their exposure to podcasts in the survey.

Table 3
Impacts of treatment on aggregate VAWG and SRH indices (z-scores).

Panel A: VAWG pooled	Midline survey		Endline survey		
	VAWG Knowledge	VAWG Attitudes	VAWG Knowledge	VAWG Attitudes	VAWG Behaviors
Pooled treatment	0.281 (0.109)**	0.028 (0.082)	0.030 (0.068)	0.128 (0.051)**	-0.033 (0.046)
R ²	0.19	0.17	0.09	0.16	0.11
N	3003	3003	3433	3433	3422
Panel B: VAWG by treatment arm					
Treatment 1: CLV	0.303 (0.130)**	-0.027 (0.086)	-0.026 (0.081)	0.102 (0.054)*	0.004 (0.051)
Treatment 2: CLV + Kit	0.259 (0.125)**	0.083 (0.097)	0.087 (0.077)	0.154 (0.057)***	-0.072 (0.053)
R ²	0.19	0.17	0.09	0.16	0.11
N	3003	3003	3433	3433	3422
F test: CLV = CLV + Kit	0.11	1.68	1.91	1.33	2.37
P-value	0.74	0.20	0.17	0.25	0.13
Panel C: SRH pooled					
Panel C: SRH pooled	Midline survey		Endline survey		
	SRH Knowledge	SRH Attitudes	SRH Knowledge	SRH Attitudes	SRH Behaviors
Pooled treatment	0.174 (0.080)**	0.114 (0.078)	0.005 (0.042)	-0.015 (0.052)	-0.009 (0.041)
R ²	0.26	0.06	0.26	0.07	0.13
N	3003	3003	3433	3433	3433
Panel D: SRH by treatment arm					
Treatment 1: CLV	0.183 (0.090)**	0.114 (0.089)	-0.054 (0.046)	0.010 (0.063)	-0.037 (0.049)
Treatment 2: CLV + Kit	0.166 (0.099)*	0.113 (0.098)	0.066 (0.052)	-0.041 (0.059)	0.019 (0.046)
R ²	0.26	0.06	0.27	0.07	0.13
N	3003	3003	3433	3433	3433
F test: CLV = CLV + Kit	0.03	0.00	4.99	0.62	1.35
P-value	0.86	0.99	0.03	0.43	0.25

Notes: Standard errors in parentheses clustered at the village level ($n = 117$). Results are from ANCOVA models controlling for baseline values of outcomes and a set of baseline controls including age, marital status, education level, household size, household wealth, male guest treatment, podcast treatment (endline only regressions), and department fixed effects. Z-score aggregate outcomes are compiled using standardized indicators, computed in reference to control arm means. SRH = Sexual and reproductive health; VAWG = violence against women and girls. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$.

emotional and sexual IPV ranging from 0.072 to 0.101 SDs (a reduction in freedom from IPV). These impacts translate to a reduction of about 3.6 percent and 2.1 percent in emotional and sexual IPV respectively compared to control means (these adverse effects are not significant when correcting for multiple hypothesis testing, q-values of 0.38 and 0.30). Given significant improvements in IPV attitudes, it is plausible that the adverse impacts on emotional and sexual IPV are due to other factors, including increased awareness of what constitutes violence, rather than increases in underlying behaviors (we explore this possibility in Section 6.4). *C'est la vie!* also significantly increases freedom from FGM among daughters of participating women (0.08 SDs or 4 percent increase compared to control mean), consistent with the significant improvements in attitudes against FGM.¹¹ This promising effect on FGM, however, is no longer significant when correcting for multiple hypothesis testing (q-value of 0.38).

Table 3 panels C and D presents results on SRH outcomes at midline and at endline (and visualized in corresponding Appendix Figure C1). Similar to the VAWG results, we find that being randomized to *C'est la vie!* improves SRH knowledge at midline by 0.174 SD, but these impacts fade by endline (Panel C). Midline impacts on SRH knowledge are not significantly different by treatment arms, again revealing that the pedagogical kits did not lead to larger impacts (Panel D). We find no other impacts on SRH attitudes or behaviors (the magnitudes of impacts are generally close to zero, with the exception of midline SRH attitudes which are 0.11 SDs but not statistically significant).

Appendix Table C7 presents the impacts on the individual

standardized indicators that make up the aggregate. We find that at midline being randomized to *C'est la vie!* improved knowledge on all three indicators related to contraceptive methods (0.164 SDs), HIV prevention (0.144 SDs), and HIV transmission (0.135 SDs in the CLV only treatment arm). Appendix Table C8 presents the means and impacts on the SRH raw scores, revealing that mean levels of SRH knowledge are also low (e.g., respondents are able to name 1.9 out of 12 possible contraceptive methods – or 16 percent; 1.4 out of 7 possible HIV prevention methods – or 20 percent, and 1.1 out of 4 transmission methods – or 27%). *C'est la vie!* only leads to improvements in these midline SRH knowledge indicators that range from 11 to 15 percent compared to control means. By endline these impacts have faded for all three indicators. We find few other impacts on individual SRH indicators at endline, the exception is improved knowledge on where to get family planning in the CLV + Kit arm (0.092 SDs, which is significantly different from *C'est la vie!* only arm).

We check the robustness of our results to alternative specifications. First, Appendix Table C9 replicates these results for unadjusted models (with only baseline values of the outcome variable, department fixed effects, and experimental design indicators), showing very similar impacts, with slightly lower precision. Second, to ensure that differences in impact across the midline phone survey and the endline survey are not due to differences in the sample of adolescent girls and young women who were interviewed, we estimate equations (1) and (2) on a balanced sample of participants who were interviewed across all three rounds. Appendix Tables C10 reveals that results are similar in the balanced sample, with minor differences in magnitude of coefficients. Third, we show that differences in VAWG attitudes across rounds is not due to

¹¹ Girls in Senegal are cut early – mostly before the age of 1 year, with smaller percentages being cut between ages 1 to 5 years (Wenly et al., 2025). In the study sample of women with a daughter, 72.5 percent had a daughter between the ages of 0-5 years old.

differences in measurement.¹² Appendix Table C11 shows that when endline VAWG attitudes are measured using the same scales as midline, impacts are similar, showing strong positive impacts on VAWG attitudes at endline. Fourth, for many outcomes, including attitudinal measures, responses may be subject to social desirability bias. Following previous research, we run a robustness check, interacting pooled treatment with a score of social desirability using 10 items derived from the Marlowe Crowne scale, where higher values equate to greater propensity to give socially desirable answers (Dhar et al., 2022). We find no heterogeneous impacts by social desirability on VAWG outcomes, indicating no evidence of differential bias for these outcomes (Appendix Table C12). However, for SRH, we find evidence that respondents in the pooled treatment with higher social desirability are more likely to give favorable responses on endline attitudes. This is not an outcome where we find overall impacts, nonetheless it is a useful cautionary finding. Fifth, following our pre-analysis plan, we also estimate treatment-on-the-treated (TOT) effects to explore if take-up and intensity of treatment matters. We implement an instrumental variable approach predicting any participation in *C'est la vie!* film clubs (using monitoring data) and 'high participation' (defined as attending three or more screenings) using the exogenous village-level randomization to *C'est la vie!* pooled treatment. Appendix Table C13 shows results align with expectations, showing impacts are larger in magnitude in the TOT estimates compared to the ITT estimates. Sixth, we address issues of selective attrition by bounding our estimates following (Lee, 2009). Appendix Tables C14–C16 reveal that results are robust to bounding. Lastly, we show results are robust to not imputing missing values (Tables C17).

5.3. Impacts by male nudge and podcasts

We next test for heterogeneous impacts of the pooled treatment by whether adolescent girls and young women were randomly encouraged to bring a male guest and by whether villages were randomized to continue the intervention via podcasts. Table 4 reveals no evidence of differential impacts by male guest (Panel A) or podcast (Panel B) on VAWG aggregates. In contrast, Panel C reveals that the male nudge leads to significantly larger impacts on SRH knowledge by 0.167 SDs at midline and by 0.077 SDs at endline compared to the female nudge. However, there are no other differential impacts on other SRH outcomes by the male nudge or the podcast extension.

Weak and null results by male invitation and the podcast extension may reflect the lower take-up of these design features. For example, although the group nudged to bring a male guest accounted for nearly all male guests, their attendance may have not been regular enough to promote meaningful engagement and change. According to monitoring data, 50 percent of the participants in the male nudge group attended at least once with a male guest, however self-reports show that the majority guests were not husbands or partners (Table 2). In addition, as previously discussed the take-up of podcasts was lower than anticipated, in part due to logistical and implementation challenges.

6. Pathways and heterogeneity

6.1. Qualitative evidence

Qualitative data collected through individual interviews and focus group discussions provide narratives suggestive of pathways to behavioral change related to observational learning and interpersonal

¹² As explained in Section 3 on Data collection, the midline survey was relatively short (as compared to the endline) and implemented by phone. Therefore, as detailed in Table B1, scales on VAWG attitudes were truncated at midline. While this results in some differences between midline and endline means, these measurement differences affect all study arms equally.

Table 4

Heterogenous impacts by male invite and podcast on aggregate VAWG and SRH indices (z-scores).

	Midline survey		Endline survey		
	VAWG Knowledge	VAWG Attitudes	VAWG Knowledge	VAWG Attitudes	VAWG Behaviors
<i>Panel A: VAWG impacts x male guest</i>					
Pooled treatment	0.243 (0.116)**	0.081 (0.087)	0.046 (0.076)	0.133 (0.062)**	−0.001 (0.056)
Pooled treatment x male guest	0.080 (0.057)	−0.108 (0.066)	−0.024 (0.062)	−0.013 (0.063)	−0.071 (0.065)
Randomized to male guest	−0.111 (0.157)	0.152 (0.153)	0.010 (0.157)	0.201 (0.139)	−0.085 (0.184)
R ²	0.20	0.18	0.09	0.17	0.11
N	3003	3003	3433	3433	3422
<i>Panel B: VAWG impacts x podcast</i>					
Pooled treatment	–	–	0.040 (0.109)	0.199 (0.093)**	−0.036 (0.069)
Pooled treatment x podcast	–	–	0.011 (0.137)	−0.116 (0.108)	0.014 (0.090)
Podcast	–	–	−0.011 (0.154)	0.215 (0.184)	−0.176 (0.172)
R ²	–	–	0.10	0.17	0.12
N	–	–	3433	3433	3422
	Midline survey		Endline survey		
	SRH Knowledge	SRH Attitudes	SRH Knowledge	SRH Attitudes	SRH Behaviors
<i>Panel C: SRH impacts x male guest</i>					
Pooled treatment	0.096 (0.082)	0.124 (0.087)	−0.031 (0.047)	−0.041 (0.056)	−0.019 (0.050)
Pooled treatment x male guest	0.167 (0.055)***	−0.007 (0.078)	0.077 (0.046)*	0.060 (0.069)	0.017 (0.070)
Randomized to male guest	−0.198 (0.128)	−0.066 (0.166)	−0.087 (0.129)	0.170 (0.156)	−0.040 (0.155)
R ²	0.27	0.06	0.26	0.08	0.13
N	3003	3003	3433	3433	3433
<i>Panel D: SRH impacts x podcast</i>					
Pooled treatment	–	–	−0.051 (0.054)	−0.096 (0.069)	0.022 (0.056)
Pooled treatment x podcast	–	–	0.096 (0.078)	0.146 (0.096)	−0.048 (0.080)
Podcast	–	–	−0.202 (0.135)	−0.021 (0.188)	0.068 (0.160)
R ²	–	–	0.27	0.08	0.13
N	–	–	3433	3433	3433

Notes: Standard errors in parentheses clustered at the village level (n = 117). Results are from ANCOVA models controlling for baseline values of outcomes and a set of baseline controls including age, marital status, education level, household size, household wealth, male guest treatment, podcast treatment (endline only regressions), and department fixed effects. Z-score aggregate outcomes are compiled using standardized indicators, computed in reference to control arm means. SRH = Sexual and reproductive health; VAWG = violence against women and girls. *p < 0.1 **p < 0.05; ***p < 0.01.

dialogue (Le Port et al., 2022). Participants reported feeling enlightened and motivated by the narratives in the series and shared the story and lessons with family and friends. In particular, participants unanimously said the series “raised their awareness” of interesting and important topics for adolescent girls and young women, helping them “live better.” The topics mentioned in conversations included, but were not limited to, themes of marriage and domestic life, IPV and pregnancy risks, family planning, abortion, and how to react in the case of sexual violence. Participants also mentioned how the content helped them make the right choices in life and enabled them to advise others, especially younger women who were not as familiar with themes of marriage and

childbirth.

The power of observational learning is well demonstrated in the following quote:

"It's the series. Because it's through the show that you understand what's going on in the world. For teenagers, it's by watching the show that they will understand the problems of a 15-year-old girl who is married and pregnant. You can always talk to them, but by watching the show, the images, they will realize that it's real and they will be careful." ~Individual interview, married adolescent girl, age 16 in Kolda (CLV + Kit)

Participants also recalled sharing and discussing information with others, including their families and co-wives or mothers-in-law specifically:

"My family thinks it's good to attend, because it teaches the girls so many things. After each screening, I tell them about everything we saw and each of them gives their opinion." ~Individual interview, unmarried adolescent girl, age 15 in Kaolack (CLV)

Changes in attitudes and norms were less clear cut in qualitative narratives—with some themes showing consistent narratives of shifts due to the series, and others no change. Child marriage was a theme where shifts were consistently mentioned by adolescent girls and women, whereas there were few attitudinal or norm changes around IPV or FGM. In some cases, this lack of change was attributed to adherence to longstanding religious or cultural beliefs:

"The series has changed my outlook, because before I thought you could marry me very young, but now I know that is not a good thing. The program has not changed my opinion on FGM, I still believe that FGM is something important for a girl and that it helps to have no problem when married." ~Individual interview, unmarried adolescent girl aged 18 in Kaolack (CLV + Kit)

As illustrated above, participants report individual attitudes changing from *C'est la vie!*, but the potential is likely to vary based on the extent to which particular social norms are entrenched in each community.

6.2. Transportation effects

The power of edutainment to affect attitudes and behavior is in part mediated by its ability to transport individuals (Green, 2021). Individuals who are more immersed in the storyline are more likely to change their beliefs, attitudes and behaviors (Banerjee, La Ferrara, et al., 2019; Green and Brock, 2000). Using five items from the transportation scale developed by Green and Brock (2000) and reported in Table 2, we construct a transportation index and investigate whether adolescent girls and young women who are more transported by *C'est la vie!* exhibited larger improvements in knowledge, attitudes, and behaviors related to VAWG and SRH (see Table B1 for additional details). We first present correlates of transportation among the treatment group (Appendix Table C18)¹³ and find that never having married (as compared to married in a non-polygamous marriage) and living in a wealthier household are negatively correlated with both transportation indicators. We then estimate pooled treatment impacts disaggregated by the high transportation tercile or the lower two terciles (Table 5). Results indicate that those who are more transported by the *C'est la vie!* storyline have larger improvements on VAWG and SRH aggregates as compared to those in the bottom two terciles (although this is not significantly different for attitudinal measures). We also find that those who are more transported report adverse impacts on VAWG behaviors. We

¹³ We also measured transportation among the placebo control group, however, as the series was different, the characteristics that correlate with transportation are likely to be different for the treatment and control arms.

hypothesize the same dynamic driving reporting of adverse impacts on individual IPV indicators may be also occurring here. Specifically, adolescent girls and young women who are more absorbed in the series may also be those who update their perceptions of what constitutes IPV. While these results cannot be interpreted in a causal way, as factors determining transportation are endogenous, they show that engagement in the series and content may be an important mediator of impacts.

6.3. Heterogeneity

The target sample of adolescent girls and young women is a diverse demographic. We hypothesize that the salience of themes may be stronger among those who are in similar situations, allowing them to better identify with characters. For example, adolescent girls and young women who are partnered may have stronger reactions to narratives around IPV or family planning decisions. Likewise, adolescent girls who are facing marriage possibilities, may have stronger reactions to narratives on child marriage or early pregnancy risks. To investigate these possibilities, we look at heterogeneity of impacts, by marital status as specified in the pre-analysis plan. In addition, previous research has hypothesized that impacts on attitudes may vary by the degree to which viewers conform to social norms, or their degree of self-direction, which may determine how malleable their attitudes and behaviors are in response to edutainment (Banerjee et al., 2019b). We collect a series of questions following previous studies to create scales of "conformity" and "self-direction" to test these theories (see Table B1 for more information on index construction).

The results of these analyses are reported in Table 6 (VAWG outcomes) and Table 7 (SRH outcomes), and reveal little evidence of heterogeneity. The only exception is a statistically significantly larger effect on midline SRH attitudes (0.256 SDs) among the never married sample (as compared to the married sample), but no other significant differences by marital status (Panels A), conformity (Panels B) or self-direction (Panels C).

6.4. Exploring impacts on intimate partner violence

One unanswered question from our findings is how to interpret the adverse effects on individual indicators of emotional and sexual IPV. A direct interpretation is that the series is increasing incidence of IPV, however this contradicts our findings showing increased knowledge of adverse consequences of IPV and increases in favorable attitudes on VAWG. There are several alternative hypotheses which we investigate with quantitative and qualitative data.

We explore the first alternative by interacting the social desirability scale with treatment and estimating impacts on individual IPV outcomes, as well as interacting a second indicator of whether or not questions on IPV were asked directly by enumerators or self-completed on tablets at endline (Peterman et al., 2025).¹⁴ In neither case are interaction terms significant, indicating there is no quantitative evidence that stigma, shame and social desirability attached to enumerator administered questioning (versus self-completed private questioning) drives effects.

We next review qualitative transcripts from the process evaluation to explore support for the second alternative hypothesis, finding some evidence of increased awareness of what constitutes abuse as well as evidence for increased disclosure. For example, there were multiple accounts in focus group discussions of participants in both regions

¹⁴ At endline, participants were randomized to either be interviewed face-to-face by female enumerators or complete audio computer assisted self-interviews meant to increase privacy and reduce potential stigma and shame attached to responses. Results of this experiment are available elsewhere, showing private interviews led to increases in reporting of 4 to 7 percentage points for IPV outcomes (Peterman et al., 2025).

Table 5

Impacts by transportation on aggregate VAWG and SRH indices (z-scores).

Panel A: VAWG	Midline survey		Endline survey		
	Knowledge	Attitudes	Knowledge	Attitudes	Behaviors
Pooled treatment: low transportation	0.167 (0.113)	0.025 (0.087)	−0.019 (0.074)	0.112 (0.057)*	0.013 (0.049)
Pooled treatment: high transportation	0.421 (0.114)***	0.032 (0.084)	0.103 (0.075)	0.151 (0.057)***	−0.103 (0.058)*
R ²	0.20	0.17	0.09	0.16	0.11
N	3003	3003	3433	3433	3422
F test: Low = High	14.74	0.02	3.94	0.53	4.86
P-value	0.00	0.90	0.05	0.47	0.03
Panel B: SRH					
Pooled treatment: low transportation	0.063 (0.081)	0.096 (0.085)	−0.036 (0.046)	−0.047 (0.054)	0.035 (0.044)
Pooled treatment: high transportation	0.310 (0.089)***	0.135 (0.084)	0.067 (0.051)	0.034 (0.067)	−0.077 (0.050)
R ²	0.27	0.06	0.26	0.07	0.13
N	3003	3003	3433	3433	3433
F test: Low = High	18.65	0.36	4.40	1.83	6.48
P-value	0.00	0.55	0.04	0.18	0.01

Notes: Standard errors in parentheses clustered at the village level (n = 117). Results are from ANCOVA models controlling for baseline values of outcomes and a set of baseline controls including age, marital status, education level, household size, household wealth, male guest treatment, podcast treatment (endline only regressions), and department fixed effects. Z-score aggregate outcomes are compiled using standardized indicators, computed in reference to control arm means. SRH = Sexual and reproductive health; VAWG = violence against women and girls. *p < 0.1 **p < 0.05; ***p < 0.01.

stating they had expanded views on what constitutes violence: “All of these are forms of rape and sleeping with a woman without her consent is also a rape. Rape comes in many forms ... I did not realize these were rape, but now I know” and “On the subject of violence, many of us didn't know what we'd been taught, such as the fact that excision is a form of violence, or that taping a person passing is a form of violence, etc. That's something people like me didn't know, and the boys don't know because many of them do it.” There were also multiple accounts of increased disclosure, such as “Yes, I learned new things from the series, like the fact that a victim of rape should not keep it a secret because it could harm them, cause a serious illness. You need to talk to a trustworthy friend about it.” While these quotes provide only suggestive evidence, they also align with previous edutainment evaluations of a radio program in Nepal and a documentary in Tanzania which found increases in disclosure of IPV, attributed to changes in reporting, rather than backlash effects (Clark et al., 2020; Leyaro et al., 2021). In our case, qualitative evidence also shows no narratives of adverse (or beneficial changes) with respect to IPV behaviors, further supporting the hypotheses that impacts we see quantitatively may be due to increased awareness or reporting.

7. Discussion and conclusion

We evaluate whether *C'est la vie!*, a popular West African edutainment television series, improves adolescent girls and young women's knowledge, attitudes and behaviors with respect to VAWG and SRH in rural Senegal. We find that at midline, *C'est la vie!* increases knowledge on VAWG and SRH, but attitudes are unchanged. These knowledge gains disappear by endline, while significant improvements in VAWG attitudes and norms emerge, driven by improvements in attitudes on child marriage and FGM. We find no impacts on aggregate behaviors, which indicates that gains in knowledge and attitudes are not sufficient to change behavior, at least not within the context of rural Senegal. In general, we find no additional effects of design variations tested, including the pedagogical kits, male guest invite, or the podcast extension implemented during COVID-19. The notable exception is that gains in SRH knowledge are larger when participants are nudged to bring a male guest as opposed to female guest.

Our findings have several implications for program design and future research. First, we find that the pedagogical kits did not generally enhance or lead to additional impacts. In other words, gains in knowledge and attitudes came from the series, rather than from structured discussions and workshops. While other edutainment interventions on

similar topics have included facilitated discussions, our study is unique in being able to isolate the additional impact of these activities (Orozco-Olvera and Rascon-Ramirez, 2022; Cassidy et al., 2024). The lack of additional impact could be because participants were widely discussing themes and the storyline with friends and family informally, outside of intervention activities, thus facilitated discussions did not add new information or present new norms above and beyond those already presented in the series. Another possibility is that the adaptations made for implementation of the pedagogical kits, and in particular, shortening the duration of the discussions from 1.5 h to 30 to 45 min and the workshops from 3 h to 1.5 h, potentially reduced their efficacy. In either case, these findings call into question the additional costs for both implementation and participants required for facilitated discussions, particularly given the challenges of scaling these components.

Second, we find that in general, inviting a male guest instead of a female guest did not lead to differential impacts, with the exception of improvements in SRH knowledge. Similar to pedagogical kits, this may be because dialogue with men was already occurring regardless of the soft nudge or because no new information or uncovering of views occurred over and beyond that which would occur with women. Alternatively, as noted earlier, descriptive evidence suggests nudges may not have been enough to actively engage men or change the dialogue. A companion process evaluation reveals that our attempt to jointly engage men and boys in *C'est la vie!* and related activities may have been limited by the view that the series content was composed of ‘women's topics’ and film clubs were ‘for women’ (Le Port et al., 2022). Thus, even when men attended, they were likely to be the minority and were unlikely to return for future sessions. Our findings are similar to those in *MTV Shuga*, which find that bringing a friend of opposite sex compared to the same sex improved HIV knowledge but did not lead to greater impacts on other outcomes (Banerjee et al., 2019b). However, our findings generally contrast with results of edutainment implemented in Mexico and Uganda, which suggest that impacts are hypothesized to occur through norm diffusion, and appear to depend in part on community exposure to messages (Green et al., 2020; Arias, 2019).

Third, we find that impacts evolve over the time frame of the evaluation. Impacts on both VAWG and SRH knowledge fade over time, while impacts on VAWG attitudes become significant over time. This means that interventions may need to plan for longer timelines that include sustained viewings (and repeated messaging) so that impacts do not fade rapidly, while for researchers this means ensuring repeated measurement of outcomes over the medium or longer-terms. Few studies

Table 6
Heterogenous impacts on aggregate VAWG indices (z-scores).

Panel A: VAWG impacts x marital status	Midline		Endline		
	VAWG knowledge	VAWG attitudes	VAWG knowledge	VAWG attitudes	VAWG behavior
Pooled	0.303	0.032	0.019	0.117	−0.051
treatment	(0.114)***	(0.089)	(0.074)	(0.055)**	(0.054)
Pooled	−0.098	−0.016	0.072	0.063	0.112
treatment	(0.094)	(0.109)	(0.094)	(0.070)	(0.085)
x never married					
Marital status: never married	−0.080	0.046	−0.249	0.027	−0.190
	(0.199)	(0.191)	(0.172)	(0.156)	(0.169)
R ²	0.20	0.17	0.10	0.17	0.12
N	3003	3003	3433	3433	3422
Panel B: VAWG impacts x self direction					
Pooled	0.265	0.009	−0.001	0.097	−0.040
treatment	(0.112)**	(0.089)	(0.077)	(0.050)*	(0.050)
Pooled	0.037	0.065	0.097	0.104	0.054
treatment	(0.104)	(0.100)	(0.088)	(0.079)	(0.078)
x high self direction					
High self direction (top tercile)	0.128	0.046	−0.102	−0.170	−0.291
	(0.178)	(0.176)	(0.205)	(0.156)	(0.181)
R ²	0.20	0.18	0.10	0.17	0.12
N	2999	2999	3426	3426	3415
Panel C: VAWG impacts x conformity					
Pooled	0.312	0.021	0.054	0.088	−0.070
treatment	(0.126)**	(0.091)	(0.088)	(0.054)	(0.059)
Pooled	−0.089	0.013	−0.029	0.097	0.097
treatment	(0.137)	(0.112)	(0.103)	(0.080)	(0.083)
x high conformity					
High conformity (top tercile)	0.227	0.277	0.092	−0.275	−0.058
	(0.222)	(0.178)	(0.191)	(0.165)*	(0.204)
R ²	0.20	0.18	0.10	0.17	0.11
N	3002	3002	3432	3432	3421

Notes: Standard errors in parentheses clustered at the village level (n = 117). Results are from ANCOVA models controlling for baseline values of outcomes and a set of baseline controls including age, marital status, education level, household size, household wealth, male guest treatment, podcast treatment (endline only regressions), and department fixed effects. Z-score aggregate outcomes are compiled using standardized indicators, computed in reference to control arm means. VAWG = violence against women and girls. *p < 0.1 **p < 0.05; ***p < 0.01.

on edutainment focusing on similar topics have measured results over the long-term, which may be particularly important for social norm diffusion and behavior change. Those that do generally find that impacts found in the short term generally diminish overtime (Green et al., 2022; Cassidy et al., 2024).

Fourth, we show that extending the content via podcasts did not lead to larger impacts, and thus, there are no dosage effects at least not through the podcast platform. This may be because there were low returns to continued or repeated messaging after clubs ended or due to the lower take-up of the podcasts. While numerous studies show immediate knowledge or attitudinal change, the dosage or intensity needed to sustain changes are unclear (Donati et al., 2022; Green et al., 2022). In one of the few long-term and intensely-implemented mass-media interventions, women in villages covered by an Egyptian anti-FGM radio campaign *Al-Rabat El-Byout*, aired daily for 5 min each morning over 11 years, showed reduced likelihood of women being cut by 13 percent (Khalifa, 2022). With edutainment interventions being increasingly designed as short clips, documentaries, podcasts, or social media advertisements, ranging from 10 to 30 min, questions remain as to the

efficacy and sustainability of approaches across contexts.

Lastly, impacts on knowledge and other outcomes may depend on how transported viewers are by the storyline, highlighting the importance of the production phase in generating content that will absorb and captivate viewers. Few studies have explicitly tested emotional responses to storylines; however many evaluated interventions were developed based on formative research, using context-specific actors, storylines and languages. Increasingly, interventions also include components meant to stimulate interaction, for example, participatory theater (Hoff et al., 2021), interactive gamified chatbots (De Filippo et al., 2023) or web-based interactive learning modules (Yount et al., 2022). Some evidence shows that this built-in engagement pays off. In a test comparing WhatsApp-based gamified chatbots to an audio-drama focused on IPV in South Africa, young women reported more favorable attitudes regarding healthy relationships and a 7 percentage point reduction in the experience of IPV only in the gamified arm (De Filippo et al., 2023). Further, viewers who indicate they occasionally “thought about” characters or who remembered specific facts about them reported lower support for IPV, however similar to our analysis, this cannot be taken as causal (Banerjee et al., 2019a).

There are limitations to this study, including challenges in implementation due to the pandemic, which shortened the target group's exposure to the intervention. However, even with these disruptions, the average number of screenings of *C'est la vie!* was equal to 5.4 h of content (4.3 screenings of approximately 75 min each), which is more than other edutainment interventions that have resulted in meaningful impacts. For example, MTV's *Shuga* series was a total of 3 h exposure and the radio series in Tanzania which changed attitudes and norms around child marriage was just under 2 h of content (Banerjee et al., 2019b; Green et al., 2022). However, these series differed from *C'est la vie!* in that they were focused primarily on one thematic area (e.g., HIV and risky sex or child marriage) delivered over one or two sessions, while *C'est la vie!* aimed to change a wide range of themes through a prolonged engagement and repeated viewing. Thus, the pandemic disruptions meant that not all themes were repeated and not all storylines concluded. In addition, while overall take-up of the intervention was high, average attendance by participants at any given screening ranged from 40 to 70 percent. Therefore, adolescent girls and women may not have gotten the full storyline and message needed to change behaviors (Le Port et al., 2022).

Finally, due a variety of factors, including disruptions and changes in both implementation and study design, as well as largely null effects on behavioral outcomes, we do not conduct a full cost-effectiveness analysis. However, back-of-the-envelope calculations show that approximate cost per woman or adolescent girl directly targeted for the film club was approximately \$62 USD (direct reach), plus her guest (indirect reach) across the 117 rural villages (or an average of \$31 USD to reach both). This total implementation cost was for all aspects of the original implementation plan (see Section 2), which included equipment, vehicle rentals, labor and training costs for facilitators, monitoring and technical oversight, overhead and grant administrative costs. We view mobile cinema costs for this trial to be relatively high, as the intervention took place in rural areas and included repeated engagement over a five-month planned implementation period, as compared to potential scale-up models which could engage participants on mobile devices, existing platforms, or one-time screenings. As the original implementation was not completed as planned, we are hesitant to draw conclusions from these figures in terms of cost-effectiveness metrics. In addition, we are not aware of any cost-effectiveness analysis within other edutainment studies with a focus on SRH or VAWG. However, as a point of comparison, a six-country study on the cost of violence prevention interventions as part of the ‘What Works’ program trials found implementation costs per participant of \$3.95 USD (in Ghana) to \$1324 USD (in Zambia) (Ferrari et al., 2022). Cost-effectiveness evidence for both smaller pilots and at-scale distribution of edutainment are an evidence gap, thus efforts should be made in future studies to rigorously estimate these

Table 7

Heterogenous impacts on aggregate SRH indices (z-scores).

Panel A: SRH impacts x marital status	Midline survey		Endline survey		
	SRH Knowledge	SRH Attitudes	SRH Knowledge	SRH Attitudes	SRH Behaviors
Pooled treatment	0.177 (0.086)**	0.051 (0.080)	−0.009 (0.045)	−0.022 (0.061)	−0.013 (0.048)
Pooled treatment x never married	−0.012 (0.077)	0.256 (0.094)***	0.072 (0.083)	0.054 (0.092)	0.007 (0.078)
Marital status: never married	0.065 (0.168)	−0.408 (0.186)**	−0.354 (0.154)**	−0.298 (0.206)	1.075 (0.176)***
R ²	0.27	0.06	0.27	0.08	0.15
N	3003	3003	3433	3433	3433
Panel B: SRH impacts x self direction					
Pooled treatment	0.182 (0.084)**	0.132 (0.088)	0.030 (0.046)	−0.007 (0.058)	0.023 (0.044)
Pooled treatment x self direction	−0.023 (0.087)	−0.055 (0.092)	−0.078 (0.067)	−0.003 (0.087)	−0.078 (0.064)
High self direction (top tercile)	0.128 (0.158)	0.120 (0.177)	0.121 (0.159)	−0.110 (0.190)	0.317 (0.172)*
R ²	0.27	0.06	0.27	0.08	0.13
N	2999	2999	3426	3426	3426
Panel C: SRH impacts x conformity					
Pooled treatment	0.169 (0.097)*	0.142 (0.081)*	0.022 (0.048)	−0.037 (0.064)	−0.001 (0.050)
Pooled treatment x conformity	0.051 (0.106)	−0.067 (0.109)	−0.021 (0.070)	0.084 (0.099)	−0.016 (0.077)
High conformity (top tercile)	0.181 (0.171)	−0.046 (0.232)	0.116 (0.149)	−0.131 (0.192)	−0.058 (0.183)
R ²	0.27	0.06	0.27	0.08	0.14
N	3002	3002	3432	3432	3432

Notes: Standard errors in parentheses clustered at the village level (n = 117). Results are from ANCOVA models controlling for baseline values of outcomes and a set of baseline controls including age, marital status, education level, household size, household wealth, male guest treatment, podcast treatment (endline only regressions), and department fixed effects. Z-score aggregate outcomes are compiled using standardized indicators, computed in reference to control arm means. SRH = Sexual and reproductive health. * $p < 0.1$ ** $p < 0.05$; *** $p < 0.01$.

metrics (Peterman, 2026).

Overall, our findings contribute to a quickly growing literature on edutainment by demonstrating that an edutainment television series implemented in rural areas can change knowledge and attitudes on sensitive topics. However, our study also points to the need to better understand how to produce edutainment content that will ultimately change behaviors, how to best deliver edutainment content, and how to ensure impacts are sustained over time. Options for design and implementation features that reach and engage participants, spread social norms, and lead to behavior change are increasingly diverse with innovation in digital spaces and the spread of social media into rural areas. Yet, we still do not know how to leverage these new platforms for positive behavior change, amidst caution that much of existing content can promote and reinforce undesirable behaviors. Key areas for future research are capturing impacts in real-world scenarios across different platforms and target audiences, measuring cost-effectiveness at scale, as well as understanding transferability of impacts over broader geographic areas and cultures.

CRedit authorship contribution statement

Malick Dione: Investigation, Formal analysis, Data curation. **Jessica Heckert:** Writing – review & editing, Investigation, Formal analysis. **Melissa Hidrobo:** Writing – original draft, Supervision, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Conceptualization. **Agnes Le Port:** Writing – review & editing, Supervision, Methodology, Investigation, Funding acquisition, Conceptualization. **Amber Peterman:** Writing – original draft, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Moustapha Seye:** Writing – review & editing, Investigation, Methodology.

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Appendix A. Online appendix

Supplementary online appendix to this article can be found online at <https://doi.org/10.1016/j.jdeveco.2026.103748>.

Data availability

Replication files available <https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/NPTGZE>.

References

- Aboud, Frances E., Singla, Daisy R., 2012. Challenges to changing health behaviours in developing countries: a critical overview. *Soc. Sci. Med., Part Special Issue* 75 (4), 589–594. <https://doi.org/10.1016/j.socscimed.2012.04.009>.
- Anderson, Michael L., 2008. Multiple inference and gender differences in the effects of early intervention: A reevaluation of the Abecedarian, Perry Preschool, and early training projects. *J. Am. Stat. Assoc.* 103, 1481–1495. <https://doi.org/10.1198/016214508000000841>.
- Arias, Eric, 2019. How does media influence social norms? Experimental evidence on the role of common knowledge. *Polit. Sci. Res. Methods* 7 (3), 561–578. <https://doi.org/10.1017/psrm.2018.1>.
- Bandura, Albert, 2001. Social cognitive theory of mass communication. *Media Psychol.* 3 (3), 265–299. https://doi.org/10.1207/S1532785XMEP0303_03.
- Banerjee, Abhijit, Ferrara, Eliana La, Orozco, Victor, 2019a. Entertainment, education, and attitudes toward domestic violence. *AEA Pap. Proc.* 109 (May), 133–137. <https://doi.org/10.1257/pandp.20191073>.
- Banerjee, Abhijit, Ferrara, Eliana La, Orozco, Victor, 2019b. The entertaining way to behavioral change: fighting HIV with MTV. Working Paper No. 26096. Working Paper Series. National Bureau of Economic Research, (3). <https://doi.org/10.3386/w26096>.
- Cassidy, Rachel, Dam, Anaya, Janssens, Wendy, Kiani, Umair, Morsink, Karlijn, 2024. Targeting men, women or both to reduce child marriage. *Inst. Fisc. Stud.* <https://ifs.org.uk/publications/targeting-men-women-or-both-reduce-child-marriage>.
- Chau, Katie, Seck, Aminata Traoré, Chandra-Mouli, Venkatraman, Svanemyr, Joar, 2016. Scaling up sexuality education in Senegal: integrating family life education into the national curriculum. *Sex. Educ.* 16 (5), 503–519. <https://doi.org/10.1080/14681811.2015.1123148>.
- Christia, Fotini, Larreguy, Horacio, Muhab, Norhan, Parker-Magyar, Elizabeth, 2023. Empowering women facing gender-based violence amid COVID-19 through media campaigns. *Nat. Human Behav.* 7, 1740–1752.
- Clark, Cari Jo, Shrestha, Binita, Ferguson, Gemma, et al., 2020. Impact of the change starts at home trial on women's experience of intimate partner violence in Nepal. *SSM Popul. Health*. 10 (April), 100530. <https://doi.org/10.1016/j.ssmph.2019.100530>.
- De Filippo, A., Bellatin, P., Tietz, N., Grant, E., Whitefield, A., Nkpana, P., et al., 2023. Effects of digital chatbot on gender attitudes and exposure to intimate partner violence among young women in South Africa. *PLOS Digit Health* 2 (10), e0000358. <https://doi.org/10.1371/journal.pdig.0000358>.
- Dhar, Diva, Jain, Tarun, Jayachandran, Seema, 2022. Reshaping adolescents' gender attitudes: evidence from a school-based experiment in India. *Am. Econ. Rev.* 112 (3), 899–927. <https://doi.org/10.1257/aer.20201112>.
- Donati, Dante, Orozco-Olvera, Victor, Rao, Nandan, 2022. Using Social Media to Change Gender Norms: an Experiment Within Facebook Messenger in India. *The World Bank*. <https://doi.org/10.1596/1813-9450-10199>. Policy Research Working Papers.
- Ferrari, Giulia, Torres-Rueda, Sergio, Chirwa, Esnat, et al., 2022. Prevention of violence against women and girls: a cost-effectiveness study across 6 Low- and middle-income countries. *PLoS Med.* 19 (3), e1003827. <https://doi.org/10.1371/journal.pmed.1003827>.
- Green, Melanie C., 2021. Transportation into narrative worlds. In: Frank, Lauren B., Falzone, Paul (Eds.), *Entertainment-Education Behind the Scenes: Case Studies for Theory and Practice*. Springer International Publishing. https://doi.org/10.1007/978-3-030-63614-2_6.
- Green, Melanie C., Brock, Timothy C., 2000. The role of transportation in the persuasiveness of public narratives. *J. Personality Soc. Psychol.* 79, 701–721. <https://doi.org/10.1037/0022-3514.79.5.701>.
- Green, Donald, Wilke, Anna M., Cooper, Jasper, 2020. Countering violence against women by encouraging disclosure: a mass media experiment in rural Uganda. *Comp. Polit. Stud.* 53 (14), 2283–2320. <https://doi.org/10.1177/0010414020912275>.
- Green, Donald, Groves, Dylan W., Manda, Constantine, Montano, Beatrice, Rahmani, Bardia, 2022. A radio drama's effects on attitudes toward early and forced marriage: results from a field experiment in rural Tanzania. *Comp. Polit. Stud.*, 00104140221139385 <https://doi.org/10.1177/00104140221139385>. December 8.
- Hoff, Karla, Jalan, Jyotsna, Santra, Sattwik, 2021. Participatory Theater Empowers Women: Evidence from India. Policy Research Working Papers. The World Bank. <https://doi.org/10.1596/1813-9450-9680>.
- Khalifa, Suzanna, 2022. Female Genital Cutting and Bride Price. Working Paper.
- Kling, Jeffrey R., Liebman, Jeffrey B., Katz, Lawrence F., 2007. Experimental analysis of neighborhood effects. *Econometrica* 75 (1), 83–119. <https://doi.org/10.1111/j.1468-0262.2007.00733.x>.
- La Ferrara, Eliana, 2016. Mass media and social change: can we use television to fight poverty? *J. Eur. Econ. Assoc.* 14 (4), 791–827. <https://doi.org/10.1111/jeaa.12181>.
- La Ferrara, Eliana, Chong, Alberto, Duryea, Suzanne, 2012. Soap operas and fertility: evidence from Brazil. *Am. Econ. J. Appl. Econ.* 4 (4), 1–31. <https://doi.org/10.1257/app.4.4.1>.
- Le Port, Agnes, Seye, Moustapha, Heckert, Jessica, et al., 2022. A community edutainment intervention for gender-based violence, sexual and reproductive health, and maternal and child health in rural Senegal: a process evaluation. *BMC Public Health* 22 (1), 1165. <https://doi.org/10.1186/s12889-022-13570-6>.
- Lee, David S., 2009. Training, wages, and sample selection: estimating sharp bounds on treatment effects. *Rev. Econ. Stud.* 76 (3), 1071–1102.
- Leyaro, Vincent, Selaya, Pablo, Trifkovic, Neda, 2021. The effectiveness of documentary films to reduce violence against women: experimental evidence from Tanzania. Preprint.
- Muralidharan, Karthik, Romero, Mauricio, Wüthrich, Kaspar, 2025. Factorial designs, model selection, and (Incorrect) inference in randomized experiments. *Rev. Econ. Stat.* 107 (3), 589–604. https://doi.org/10.1162/rest_a_01317.
- Neal, Sarah E., Hosegood, Victoria, 2015. How reliable are reports of early adolescent reproductive and sexual health events in demographic and health surveys? *Int. Perspect. Sex. Reprod. Health*. 41 (4), 210–217. <https://doi.org/10.1363/4121015>.
- Orozco-Olvera, Victor, Rascon-Ramirez, Ericka G., 2022. Improving enrollment and learning through videos and mobiles: experimental evidence from Northern Nigeria. SSRN Scholarly Paper No. 4221220. <https://doi.org/10.2139/ssrn.4221220>. September 16.
- Orozco-Olvera, Victor, Shen, Fuyuan, Cluver, Lucie, 2019. The effectiveness of using entertainment education narratives to promote safer sexual behaviors of youth: a meta-analysis, 1985–2017. *PLoS One* 14 (2), e0209969. <https://doi.org/10.1371/journal.pone.0209969>.
- Palermo, Tia, Bleck, Jennifer, Peterman, Amber, 2014. Tip of the iceberg: reporting and gender-based violence in developing countries. *Am. J. Epidemiol.* 179 (5), 602–612. <https://doi.org/10.1093/aje/kwt295>.
- Papa, Michael J., Singhal, Arvind, 2009. How entertainment-education programmes promote dialogue in support of social change. *J. Creativ. Commun.* 4 (3), 185–208. <https://doi.org/10.1177/097325861000400304>.
- Peterman, Amber, 2026. Edutainment to Prevent Violence Against Women and Children. *World Bank. Res. Observ.* 41 (1), 78–117.
- Peterman, Amber, Devries, Karen, Guedes, Alessandra, et al., 2023. “Ethical Reporting of Research on Violence against Women and Children: a Review of Current Practice and Recommendations for Future Guidelines.” original research. *BMJ Glob. Health* 8 (5), e011882. <https://doi.org/10.1136/bmjgh-2023-011882>.
- Peterman, Amber, Dione, Malick, Port, Agnes Le, Briaux, Justine, Lamesse, Fatma, Hidrobo, Melissa, 2025. Disclosure of violence against women and girls in Senegal. *World Bank Econ. Rev.* 39 (3), 614–631. <https://doi.org/10.1093/wber/lhae039>.
- Simes, R.J., 1986. An improved bonferroni procedure for multiple tests of significance. *Biometrika* 73 (3), 751–754. <https://doi.org/10.1093/biomet/73.3.751>.
- Wakefield, Melanie A., Loken, Barbara, Hornik, Robert C., 2010. Use of mass media campaigns to change health behaviour. *Lancet* 376 (9748), 1261–1271. [https://doi.org/10.1016/S0140-6736\(10\)60809-4](https://doi.org/10.1016/S0140-6736(10)60809-4).
- Weny, Kathrin, Silva, Romesh, Klug, Stefanie, 2025. Self-report and proxy reports in survey data on female genital mutilation, Senegal. *Bull. World Health Org.* 103 (6), 366–374.
- Yount, Kathryn Mary, Cheong, Yuk Fai, Bergenfeld, Irina, et al., 2022. Impacts of A web-based social-norms edutainment program on sexually violent behavior and bystander behavior among university men in Vietnam: the GlobalConsent randomized controlled trial. *JMIR Public Health Surveill.* <https://doi.org/10.2196/preprints.35116>.
- Yount, Kathryn M., Cheong, Yuk Fai, Bergenfeld, Irina, et al., 2023. Impacts of GlobalConsent, a web-based social norms edutainment program, on sexually violent behavior and bystander behavior among university men in Vietnam: Randomized controlled trial. *JMIR Public Health Surveill.* 9 (1), e35116. <https://doi.org/10.2196/35116>.