

Empowerment and Restraint – Evidence from Teenage Girls’ Clubs in Kenya*

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Abstract

Women- and girl-focused empowerment programs are a common policy response to gender gaps in assertiveness and related outcomes like political participation and representation. We report evidence from a field experiment in Nairobi, Kenya, in which 426 of 996 teenage girls were randomly assigned to attend eight sessions of an empowerment club. Household surveys show that treated girls behaved more assertively – but only in contexts where the expected social costs were low, such as interactions with strangers. Within households, where such costs are higher, we find little evidence of change. These findings suggest that fear of sanctions is an important constraint on girls’ behavior and can therefore limit the effectiveness of empowerment programs. When behavior does shift, social mechanisms – such as new network ties and changed norm perceptions – appear crucial, while individual mechanisms like shifts in confidence and attitudes alone seem insufficient to encourage assertive behavior.

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Women and girls are less likely than men and boys to assert their interests, whether in negotiations for professional promotions (Babcock and Laschever, 2004), romantic relationships (Varga, 1997), or dictator games (Doñate-Buendía, García-Gallego and Petrović, 2022). Pro-social behavior can benefit society and it is not obvious that men’s more assertive behavior should be the norm (Clayton, O’Brien and Piscopo, 2024). Yet, women’s lower assertiveness may also reinforce gender inequalities, including in politics. Gender gaps appear in behaviors like voter turnout (Cheema et al., 2023), communicating one’s preferences to officials (Khan, 2021; Prillaman, 2021) and running for office (Fox and Lawless, 2024; Thomsen and King, 2020; Schneider et al., 2016; Kanthak and Woon, 2015) – which are all to some degree about standing up for one’s interests. Women’s pro-sociality may also shape the division of household labor (Bittman et al., 2003), which is linked to gender gaps in political representation (Bernhard, Shames and Teele, 2021; Teele, Kalla and Rosenbluth, 2018) and wages (Goldin, 2021).

The perhaps most widespread strategy to address these inequalities is to provide women and girls with skills, knowledge, and confidence. Examples include empowerment programs that teach teenage girls “life skills,” including how to be assertive (Chang et al., 2020), interventions that expose girls to female role models to raise aspirations (Riley, 2021) and political ambition (Foos and Gilardi, 2020), civic education programs (McClendon, Sperber and Kaaba, 2025; Kalla, Porter et al., 2022) and information campaigns (Giné and Mansuri, 2018) that encourage political participation, as well as campaign workshops for potential female candidates (Carson, 2022; Geha, 2019; Piscopo, 2019; Sanbonmatsu, 2015).

These interventions seem to assume women’s behavior is constrained primarily by a lack of informational, material, or emotional resources. Yet, women and girls in patriarchal contexts also face external constraints, including the risk of sanctions from a conservative environment (Clayton et al., 2021; Jayachandran, 2021; Piscopo, 2019). For example, Gottlieb (2016) finds women’s participation in a civics course in Mali created backlash, because prevailing norms barred women from the public sphere. If women and girls interact with an environment that

subscribes to restrictive gender norms, it is not obvious that women-focused campaigns can encourage empowered behavior. Existing evidence on their effectiveness is indeed mixed.¹

This paper sheds new light on how strategic interaction with a conservative environment shapes behavior and thus the effectiveness of empowerment campaigns. We conducted a field experiment in Kenya, where gender inequalities persist in politics, employment, household-level decision-making, and exposure to violence ([International Center for Research on Women, 2021](#); [USAID, 2020](#); [Wanjala and Were, 2009](#)). Gender attitudes tend to be conservative, even among younger cohorts. Around one-third of Kenyans aged 15-24 find it acceptable for a husband to beat his wife ([Kenya National Bureau of Statistics and ICF, 2023](#)). However, Kenya is no outlier among conservative contexts. The country ranks 75th of 146 countries in the 2024 Gender Gap Report ([World Economic Forum, 2024](#)). Around 60% of married women participate in household decision-making, which is fairly typical for Sub-Saharan Africa (see [Figure A2](#)).

With an NGO partner, we randomly assigned 426 of 996 teenage girls from Nairobi to the empowerment campaign “SKY Girls,” which teaches girls to stand up for themselves in interactions with peers, relatives, and romantic partners. The treatment group attended eight 90-minute “SKY club” sessions featuring magazines, TV shows, and interactions with role models like actors and activists. Programs targeting teenage girls are widespread, given evidence that their attitudes and behaviors are particularly malleable ([Clayton et al., 2021](#); [Krosnick and Alwin, 1989](#)). USAID alone invested USD 130M in such initiatives in 2023.

Examples of assertive behavior targeted by such campaigns include negotiating to postpone intimacy with a romantic partner or demanding a more favorable distribution of chores from siblings or parents. We argue that individuals decide whether to act assertively by trading off the benefits of improved outcomes with the expected costs of backlash. Empow-

¹Studies of girl empowerment programs consistently document shifts in attitudes and self-perceptions, but only sometimes in behavior ([Chang et al., 2020](#)). Exposure to role models can increase educational performance ([Riley, 2021](#)), but [Foos and Gilardi \(2020\)](#) find no effects on political ambition. There is evidence in favor ([Carson, 2022](#); [Sanbonmatsu, 2015](#)) and against ([Geha, 2019](#); [Piscopo, 2019](#)) the effectiveness of candidate trainings.

erment campaigns may encourage assertiveness through *individual mechanisms* – changes in attitudes and confidence that increase the perceived benefits of assertiveness – or *social mechanisms* such as access to support networks that reduce the emotional burden of backlash. Our central prediction is that such changes are unlikely to encourage assertiveness if its social costs are substantial. Drawing on qualitative evidence from Nairobi, we demonstrate that these costs vary across social interactions: teenagers perceived the greatest risks of asserting themselves in interactions with household members – parents and siblings – who exercise substantial control over their lives and with whom they cannot easily sever ties. Hence, we expect within-household behavior to be more difficult to shift than behavior with non-household members.

Our results support these predictions. We measure outcomes through a household survey shortly after the intervention that includes regular survey items as well as traditional and novel behavioral measures. The treatment produced a small but consistent increase in girls' empowered behavior with individuals outside their household. Girls in the treatment group report a greater willingness to stand up to male peers, act more assertively toward the enumerator and give less in dictator games with anonymous peers. Evidence of within-household behavior change is limited. By surveying all other teenagers and young adults in the sampled households, we are able to verify reports from our main respondents. We find no evidence that siblings of girls in the treatment group perceived them as more assertive.

We also explore the mechanisms behind the apparent increase in assertiveness outside the household. Evidence points more consistently to social than individual mechanisms. An analysis of spillover effects reveals behavior may be difficult to shift through individual mechanisms alone. While sisters of SKY club participants consumed publicly available SKY content, and became more supportive of assertiveness and confident in themselves, indirect exposure without in-person attendance did not encourage assertive behavior.

Our main takeaway is that girls' choices are constrained by their environment and that one can hence not assume that providing them with resources will change their behavior.

Others have made similar arguments. [Piscopo \(2019\)](#) critiques women-focused candidate trainings along similar lines, and related logics have inspired interventions targeting women’s environment, including boys and men ([Cassidy et al., 2024](#); [Cheema et al., 2023](#); [Dhar, Jain and Jayachandran, 2022](#)). Our contribution is to show how constraints in the form of social costs vary across social interactions, and how this variation shapes the effects of girl-focused campaigns. Our insights help explain why such programs consistently shift attitudes but not always behavior ([Chang et al., 2020](#)). Consistent with our notion that social costs are highest within households, evidence is most inconclusive for marriage and childbearing decisions, while education and employment outcomes are more consistently affected.

We also find that shifts in behavior require not only empowering content but a collective in-person experience. This second insight mirrors the first. If social costs constrain behavior, social mechanisms may be required to overcome them. The result aligns with existing evidence that ties to other women formed through NGO-led women’s groups, candidate workshops, or education can catalyze women’s involvement in politics and career advancement ([Park, 2025](#); [Carson, 2022](#); [Prillaman, 2021](#); [Hampole, Truffa and Wong, 2021](#)).

Finally, our findings alleviate concerns about harm through backlash. Such backlash has been documented in several studies of adults ([Brulé, 2020](#); [Gottlieb, 2016](#); [Clayton, 2015](#)). Our results suggest girls were aware of backlash risks and censored themselves where costs would have been high. Similar strategic avoidance has been documented among adult women ([Bursztyn, Fujiwara and Pallais, 2017](#); [Exley and Kessler, 2022](#); [Vallejo Vera and Gómez Vidal, 2022](#)). This behavior limits both the risks and the broader potential of empowerment campaigns to shift gender norms.

1 Theory

Empowerment has been defined in various ways ([Laszlo et al., 2020](#)), often drawing on [Sen \(1985\)](#)’s capability approach, which emphasizes individuals’ freedom to choose their way of life. Building on this notion, [Kabeer \(1999\)](#) conceptualizes empowerment in terms of

pre-conditions, process, and outcomes. We focus on the process and present a theory of assertive or empowered behavior: actions that individuals take to achieve outcomes aligned with their interests. Examples from qualitative interviews with adolescent girls in Nairobi include asserting one’s boundaries with friends, requesting a different division of chores from siblings, and defending one’s choice about whether to abort an unwanted pregnancy.

Girls’ behavior in adolescence shapes medium-term outcomes – educational attainment, labor market entry, partner choice, the timing of marriage and childbirth – that structure life chances for years to come and are tightly linked to women’s political participation and candidacy (see, e.g., [Bos et al., 2022](#); [Bernhard, Shames and Teele, 2021](#); [Folke and Rickne, 2020](#); [Teele, Kalla and Rosenbluth, 2018](#); [Wantchekon, Klačnjaja and Novta, 2015](#)). Moreover, many forms of political engagement require asserting one’s interests. Thus, factors shaping girls’ willingness to assert themselves in everyday interactions may also influence their later political participation. For example, [Schneider et al. \(2016\)](#) trace the gender gap in political ambition to women’s lower interest in conflict and self-promotional activities.

How do individuals decide whether to assert themselves? We argue individuals trade off the potential gains from empowered behavior against the social cost that may result from their environment’s reaction. Potential gains include achievement of the desired outcome – a better time with one’s friends, a lower load of chores, one’s desired reproductive outcome – and any expressive utility resulting directly from the act of standing up for oneself.

The costs of assertiveness include negative reactions from targets or observers, particularly when it is perceived as violating social norms. A large literature has found expectations of social sanctions to be powerful motivators of behavior.² Our qualitative interviews suggest the social costs of assertiveness take many forms (see [Table 1](#)). When asked about negative consequences they experienced or fear, girls’ responses ranged from physical and verbal aggression to material repercussions and social exclusion.

²See, e.g., [Bursztyn, González and Yanagizawa-Drott \(2020\)](#); [Bursztyn, Egorov and Fiorin \(2020\)](#); [Perez-Truglia \(2018\)](#); [Bursztyn, Fujiwara and Pallais \(2017\)](#); [Bursztyn and Jensen \(2015\)](#); [Krupka and Weber \(2013\)](#).

Type of Social Cost	Illustrative Examples
Physical aggression	Beating or caning
Verbal aggression	Yelling, insults, or other hurtful language
Professional costs	Job loss or damaged reputation with teachers
Reputational harm	Spreading negative rumors or gossip, revealing one’s private information or secrets to others
Social exclusion	Being ignored, given the silent treatment, or ostracized
Moral judgment	Criticism, disapproval, or stigmatization
Emotional strain	Disappointing, upsetting, or appearing disrespectful toward significant others

Table 1: Social costs of empowered behavior

Social costs described in focus group discussions and qualitative interviews with teenage girls in Nairobi, Kenya. Appendix section [A.12](#) provides details.

This framework suggests several sources of the gender gap in assertiveness. Girls and women may perceive smaller benefits of assertive behavior. They may feel less capable of achieving the desired outcome, value the outcome less, or derive fewer expressive benefits from standing up for themselves, for example because they are socialized to prioritize others (Bos et al., 2022; Diekmann and Eagly, 2000). Girls and women may also face higher costs. Exactly because conservative norms cast women as caregivers (Gilligan, 1993), their social environment may be less tolerant of assertive behavior (Rudman and Glick, 2001), and the set of requests that is seen as legitimate may be smaller for girls than for boys. For example, one respondent explained:

“I tell him [my brother] to wash [the dishes], but he doesn’t want to. He says that’s not work for boys.”

How may empowerment campaigns shift girls’ choices? We distinguish two sets of mechanisms. First, campaigns may lift internal barriers that limit the perceived benefits of empowered behavior. By modeling assertive behavior as desirable, these programs may persuade

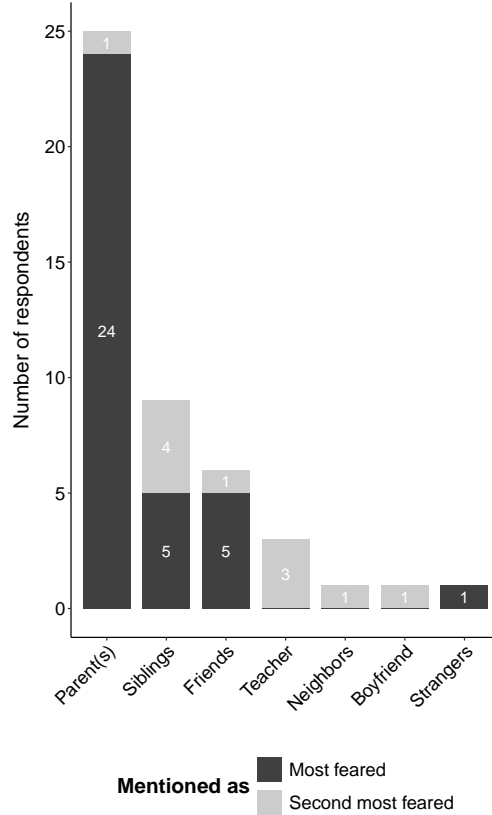


Figure 1: Actors whose negative reaction to assertive behavior is most or second most feared
 Actors described in focus group discussions and qualitative interviews with teenage girls in Nairobi, Kenya.
 Appendix section A.12 provides details.

girls that being assertive is the right thing to do, thereby increasing its expressive benefit. Such programs may also strengthen girls’ preference for an outcome in their interest by convincing them that they deserve to ask for more. Many programs also teach soft skills, such as negotiation strategies, which may increase girls’ confidence in their ability to achieve desired outcomes. We refer to such psychological changes as *individual mechanisms*, also described in the literature as “power-within” (Chang et al., 2020).

A second set of *social mechanisms* involves changes in girls’ ties to and perceptions of others. Many campaigns revolve around the idea of a “sisterhood.” Participants consume empowering content and reflect on it with other girls. Such collective experiences may deepen a campaign’s persuasive and confidence-building effects. Joint exposure may also cause girls to expect other participants to be supportive of assertive behavior. If participants can draw

on their newly formed social network for emotional support when experiencing negative reactions from their pre-existing social environment, girls may become more willing to assert themselves in the first place (Prillaman, 2021; Hampole, Truffa and Wong, 2021).

Whichever mechanisms are at play, empowerment campaigns are unlikely to convince girls to assert themselves if the social costs of doing so are substantial. In interactions in which these costs are minor, an increased sense of agency, a slight confidence boost, or the awareness of a newfound collective that would help alleviate the emotional strain of a confrontation may suffice to tip the net benefit of assertiveness from negative to positive. Yet, many of the costs listed in Table 1 are severe. If girls anticipate assertive behavior to trigger physical aggression or social exclusion, encouragement, confidence, and emotional support may not suffice.

Negative reactions appeared to loom large in the minds of respondents in qualitative interviews. One girl explained:

“I worry. I worry too much because I expect people, most people don’t understand others. You may speak up, maybe you’re just trying to express yourself but they’ll come back at you in a negative way now. So before I speak, I always think so much about should I say it, should I not say it?”

Yet, respondents also perceived variation in these costs across social interactions. When asked whose reactions they would worry about most, most respondents described a clear hierarchy. One respondent said:

“I know I’ll get worried [what] the teachers think about me, but friends, no, neighbors, no, but when it comes to my family, parents, siblings, I really care.”

Figure 1 shows that girls consistently worried most about the reactions of family members like parents and siblings. When asked to describe a time they stood up for themselves, most girls responded with anecdotes about friends or strangers. Consistent with assertiveness within the household being especially costly, not a single respondent recounted a within-family interaction as her first example.

Why might the social costs of asserting oneself be particularly high within the family or household? Parents wield substantial power over teenagers' lives, and children often feel deep emotional attachments to them. Multiple respondents mentioned the emotional strain of disappointing a loved one as shaping their behavior towards their parents. Exiting the relationship with one's parents is not typically an option for minors, and parents usually have control over teenagers' material resources. As one respondent summarized:

“Yes, for parents, it's a must you should be worried because they are the ones who cater for everything you need. And yeah, but for friends, they don't really do anything special for you. But for parents and families, it's [a] different thing.”

Siblings can exert similar levels of control. For instance, 54% of brothers of girls in our control group would not let their sister leave the house wearing a “skirt that is very short.” Older siblings often assume quasi-parental roles and, because siblings share extensive information about one another, they are well positioned to monitor and sanction behavior. One respondent said:

“Maybe you find your sister or your brother knows a big secret about you. Obvious. When you make them angry, you know how they react. They will just yap.”

In many conservative societies, there are strong norms against asserting oneself in the household. [Adenusi and Onifade \(2020\)](#) analyze Nigerian comedy skits portraying children as unable to express themselves without being deemed disrespectful, concluding that this parenting style is widespread across Africa. Similarly, [Skovdal et al. \(2009\)](#) describe childhood in Western Kenya as a “time of duty and service.” Both studies underscore the particularly high expectations placed on girls.

Finally, many girls reported that physical aggression is common in their households. For example:

“You know parents are harsh so they can tell you something that hurts you but you cannot answer them back because they beat you with something that is close to them and it does not make me happy. If you tell them something even if it is true but they are parents so you will just have to be humble.”

Of course, interactions with strangers can also pose a risk of violence, such as in cases of crime. However, unlike disciplinary violence at home, such crimes are rare in everyday interactions, and girls did not report similar concerns outside the household.

In short, the social costs of asserting oneself appear higher within the household than in interactions with friends, boyfriends, or strangers – highest in interactions with parents, followed by siblings. Interviews suggest that parents often intervene in sibling disputes, and all within-household interactions take place in the shadow of parental authority. We therefore expect girl-focused campaigns to be less effective at promoting empowered behavior within the household – including sibling interactions, which form a key focus of our analysis – than outside it. We use “inside” and “outside” the household to denote *who* one interacts with, not *where*: standing up to a friend carries relatively low social costs even at home, while challenging one’s mother or brother is costly even in public. The content of interactions also differs across these contexts. Importantly, the household is precisely where change may matter most (Goldin, 2021): it is where gender norms shape the division of household labor, girls’ mobility and access to resources, and their influence over decisions about their lives – including schooling, labor market entry, and marriage, all of which are key drivers of political participation and representation later in life.

2 Research Design

2.1 Context

Our study takes place in four low- and middle-income neighborhoods in Nairobi. The average household in our sample has 5 members and roughly 3 people sleeping in the same room, which is larger and more crowded than the national average (Kenya National Bureau of Statistics, 2023). 67% of girls and 82% of boys aged 12-19 in our baseline data are enrolled in school. 40% of girls own a phone. Households often extend beyond the nuclear family. 15.8% of Kenyan households include at least one child not living with a biological parent (Kenya National Bureau of Statistics, 2022). We here refer to teenagers living in the same

household as siblings, regardless of biological relation.

Girls and boys are treated differently within households. A study of children aged 10-13 in Nairobi shows girls shoulder higher loads of household chores and parents restrict girls' mobility to a greater extent. Girls make fewer decisions at home and in school and are less likely to feel they can “express their opinions, make suggestions, and have meaningful input in decisions that affect their lives” (APHRC, 2020). Almost half of girls and 4 out of 10 boys have experienced corporal punishment and psychological aggression (UNICEF, 2019).

Gender inequalities among adults manifest in several domains from land ownership to wage employment and political candidacy (Kenya National Bureau of Statistics, 2020; UN Women Kenya, 2023). Qualitative research shows that women who wish to work outside their homes or to participate in their households' financial decision-making often face intimate partner violence or other family backlash (CARE, 2024). Around half of Kenyans believe that women running for office would be criticized or harassed and would face problems within their families (Afrobarometer, 2021). Attitudes among our control group mirror these restrictive gender norms: 53% of girls and 41% of boys believe a girlfriend should not spend time with other boys, and 58% of girls expect other girls to think similarly.

2.2 Intervention

2.2.1 The campaign

SKY Girls targets girls aged 12-19 through TV series, pop songs, magazines, in-person events, and social media content. Active in seven African countries, the campaign embeds messages to empower girls in decision-making and communication, especially in close relationships, such as with partners, friends and family. It addresses topics like what to expect from healthy relationships, how to spot toxic ones, and how to assert oneself when being pressured, e.g. to have sex or give up an ambition or activity one enjoys. The campaign also seeks to foster a sense of inclusion and markets itself as a “sisterhood” of SKY girls. The content is developed locally for each country to ensure contextual appropriateness.

Core elements of SKY Girls Kenya are the TV series “PAA – Born to Fly”, and the Youtube series “The Sista Show” (Table A10 provides details). PAA centers on teenage girl protagonists who navigate social pressures, e.g., from boyfriends, friends, or parents, and learn to assert themselves, with the support of female friends. In The Sista Show, young women hosts entertain with Kenyan pop culture but also interview role models such as activists,³ musicians or actors who discuss situations requiring assertiveness. SKY also organizes in-person events at its Nairobi venue – the “SKY Hub” – and at schools or malls, where girls engage through music and dance. Girls can take the “SKY pledge” to join the SKY sisterhood, committing to stand up for themselves, and receive the SKY magazine. SKY is inclusive across religion and ethnicity. Its content is delivered in a mix of English, Swahili, and slang.

2.2.2 The club

The “SKY club” intervention provided girls with intensive exposure to the campaign through eight 90-minute sessions held on Saturday afternoons between June and September 2023. Sessions took place at a school with transportation provided from pick-up points near girls’ homes. Each week, girls in the treatment group were encouraged to attend one of two identical sessions. Activities included watching PAA and The Sista Show, guided discussions, review of the SKY magazines, and interactions with invited guests, including the PAA cast. Moderators (“Big Sistas”) facilitated the sessions, leading discussions, games, and dancing. Girls also received giveaways such as SKY t-shirts and wristbands. Appendix A.11 provides further details.

The SKY club was designed to run for eight consecutive weeks but was paused for ten weeks after the first two sessions due to an adverse incident (see appendix A.3). Table A4 summarizes the study timeline. Participants received weekly text reminders, occasional phone calls, and home visits during which staff promoted the SKY club using leaflets (Figure

³The Kenyan campaign also includes messaging to counter HIV-related stigma. As pre-registered, we analyze HIV-related outcomes in a separate paper.

A7).⁴ Families received KSH 375 (USD 2.53) per attended session to compensate for the opportunity cost of teenage girls’ weekend chores, such as childcare for younger siblings. This amount – roughly equivalent to the cost of a meal and a soft drink at a local restaurant – was deemed appropriate by our Kenyan partners. Girls were informed that consistent attendance would be rewarded with SKY gifts at the final session. Attendance and treatment compliance were tracked using stamped SKY Club membership cards (Figure A8).

2.3 Baseline survey and sampling

We enrolled a convenience sample of 1,000 households during a baseline survey conducted between April and May 2023. Four households were revealed to be duplicates at endline, yielding a final sample of $N = 996$. Female enumerators canvassed study neighborhoods following a skip pattern to limit cross-household spillovers.⁵ Eligible households included at least one teenage girl aged 12 to 19 for whom (parental) consent could be obtained. Enumerators explained the intervention to parents without naming SKY and emphasized that not all sampled girls would be selected to participate. Appendix A.3 details consent procedures. In each household, we selected one of the eligible girls at random as the *main respondent* who would participate in the intervention were the household assigned to treatment. More details on sampling and descriptive statistics are provided in appendices A.5 and A.10.

Our sample consists of girls from families who permitted participation in the SKY club. While participation appeared popular, we lack systematic data on households that declined enrollment. Such households may be more conservative, but the implications for the representativeness of our results are ambiguous: girls from highly conservative families may respond more strongly to empowerment content due to greater novelty, or less so if entrenched norms constrain behavioral change. Importantly, the differential in social costs of assertiveness within versus outside the household is likely larger in more conservative families, suggesting our main findings may generalize beyond our sample. More broadly, parental permission

⁴If a girl or her parents definitively declined further participation, the household was not contacted again.

⁵The median distance to the closest other household in our sample is 28 meters.

is a prerequisite for girls’ participation in empowerment programs beyond this study. Girls whose parents permit participation thus constitute the practically relevant population.

2.4 Random assignment

Prior to random assignment, we organized households into 426 blocks of two or three households. Appendix A.6 provides details. We randomly assigned one household per block to treatment. Appendix B.1 provides evidence of covariate balance. We initially assigned main respondents from households in the treatment group to one of the two weekly club sessions by simple randomization. Girls were subsequently allowed to switch sessions (see appendix A.8), as strict enforcement would likely have reduced overall compliance due to scheduling conflicts such as Saturday school. Among attending girls, a minimum of 7% and a maximum of 15% swapped sessions in a given week (Figure A6). The morning session was slightly less popular than the afternoon session (192 versus 234 attendees on average), likely reflecting school obligations. Tables A21 and A22 show covariate profiles of attending girls varied little across sessions within and across weeks.

2.5 Treatment take-up and compliance

88% of girls in the treatment group attended at least one session, and 19% attended all sessions (Figure A10). Table A35 indicates that compliance in the treatment group correlates with age and socioeconomic status: younger and poorer girls – those without mobile phone access and those sleeping in more crowded rooms – attended more sessions. This pattern is intuitive, as poorer girls likely face fewer competing leisure opportunities and younger girls have fewer care obligations.

Table A34 reports manipulation checks based on endline outcomes and our main regression specification. Girls assigned to treatment report attending about six more SKY club sessions than control group girls who attended almost none ($p < 0.01$). Nearly 70% of control group girls report having ever watched a SKY show or read the SKY magazine, consistent with the public availability of this content. Treatment assignment increased this share by

roughly thirty percentage points ($p < 0.01$). We also asked respondents to verify six SKY club activities and to recall the name and phone number of a counseling service advertised during the sessions. Girls who report no attendance are coded as zero. Treatment assignment increases the number of correct responses by about four ($p < 0.01$). Finally, control group girls report engaging in about two SKY-related activities outside the club (e.g., social media or visits to the SKY hub), and treatment assignment roughly doubles this number ($p < 0.01$).

2.6 Outcome measurement

Outcomes were measured in an endline survey that started approximately one week after the intervention. Endline enumerators were not involved in the intervention and were blind to treatment assignments and study hypotheses. Girls were interviewed by women and boys by men. We interviewed 829 out of 996 main respondents, yielding a response rate of 83%.

At baseline, enumerators listed all other household members aged 12-19 years, identifying 229 sisters and 272 brothers. At endline, we extended the age range to 22 and interviewed 235 sisters and 255 brothers. Of these 490 siblings, 320 had been listed at baseline, corresponding to a response rate of 64%. Our treatment appears to affect neither the attrition of main respondents and siblings listed at baseline nor the likelihood of previously unlisted siblings being interviewed at endline (see appendix B.2). Results are robust to the exclusion of siblings not listed at baseline (see appendix C.3).

Appendix E describes our outcome measures. We construct indices by standardizing outcomes to the 0-1 range and averaging across items. We do not impute item-level missingness due to non-response to outcome questions.

2.7 Estimation and hypothesis tests

We estimate sample intent-to-treat (ITT) effects using the following OLS regression specification:

$$y_{ij} = \alpha + \tau z_j + \beta^T \mathbf{x}_j + \epsilon_{ij}.$$

Here, y_{ij} is the outcome for respondent i in household j ; α an intercept; τ the sample ITT; z_j the treatment assignment indicator; \mathbf{x}_j a vector of nine covariates (see appendix A.2) with associated coefficient vector β^T ; and ϵ_{ij} an error term. We use this specification to estimate direct ITTs among main respondents, and spillovers among siblings. Analyses of main respondents allow for heteroskedasticity of the error term. Since some households have multiple siblings, analyses of siblings allow for clustering on the household-level. We use inverse-probability weights (IPW) to account for varying treatment assignment probabilities across households due to differentially sized blocks and duplicate observations (see appendix A.7). p -values are calculated via randomization inference (RI) by permuting treatment assignment 8,000 times to simulate the sampling distribution under the sharp null hypothesis of no (positive or negative) effect for any unit. We report parametric p -values for tests about differences in conditional ITTs. To deal with a large number of comparisons, we group hypotheses into theoretically informed groups and test the null hypothesis that all sub-hypotheses in a group are true using RI and combining p -values using the product function (Caughey, Dafoe and Seawright, 2017). Appendix A.1 summarizes divergences from the pre-analysis plan. Appendix A.2 provides details on estimation and testing. Appendix C.2 shows robustness to the exclusion of covariates.

2.8 Ethics

We took extensive measures to safeguard participants' well-being. Recognizing that empowerment interventions can generate backlash (Hartman et al., 2022), we implemented robust monitoring and participant support systems around the SKY club. To ensure that the control group was not permanently excluded from the potential benefits of the intervention, our implementing partners rolled out SKY in the study neighborhoods after study completion, consistent with ethical recommendations by Teele (2014). We also followed calls for transparency in research ethics (Baron and Young, 2022) by conducting telephonic back-check surveys to monitor participants' experience during data collection. Appendix A.3 details these safeguards, discusses back-check results, and describes an adverse incident that

occurred during the intervention.

3 Main Results

3.1 Gender-gaps in empowered behavior

We begin by exploring gender gaps in assertiveness in our sample. Figure 2 plots mean endline measures of empowered behavior for main respondents and brothers in control group households. The figure includes all pre-registered measures of empowered behavior that we collected for both genders. We use IPW to estimate the average control potential outcomes in our sample, and rescale all measures to range from zero to one for comparability. The left panel focuses on interactions outside the household; the right on within-household interactions.

All gender gaps have the expected sign but vary in magnitude. The first two measures in the left panel capture respondents' behavior towards the enumerator during the endline interview. Enumerators elicited which of two gifts respondents would prefer to receive for their interview participation. At the end of the interview, enumerators deliberately handed respondents the incorrect gift. *Complain Gift* records whether respondents spoke up to ask for their preferred item.⁶ Enumerators also misstated the year while entering the interview date on their tablet. *Correct Date* records whether respondents corrected the enumerator. This measure differs slightly from our theoretical concept of assertiveness in that it captures whether respondents speak out based on what they know rather than what they want. Both measures proxy behavior in one-shot interactions with strangers who exert little control over respondents' lives. Endline enumerators had not been involved in the baseline and intervention, and respondents were unlikely to encounter them again. Asserting oneself may nonetheless carry costs. For example, enumerators may react harshly, pass judgment, or complain to respondents' parents. Gender gaps in these measures are small. Around 54% of boys ask for their preferred gift and about 46% corrected the date. Girls are one percentage

⁶Respondents who did not complain were later offered their preferred gift.

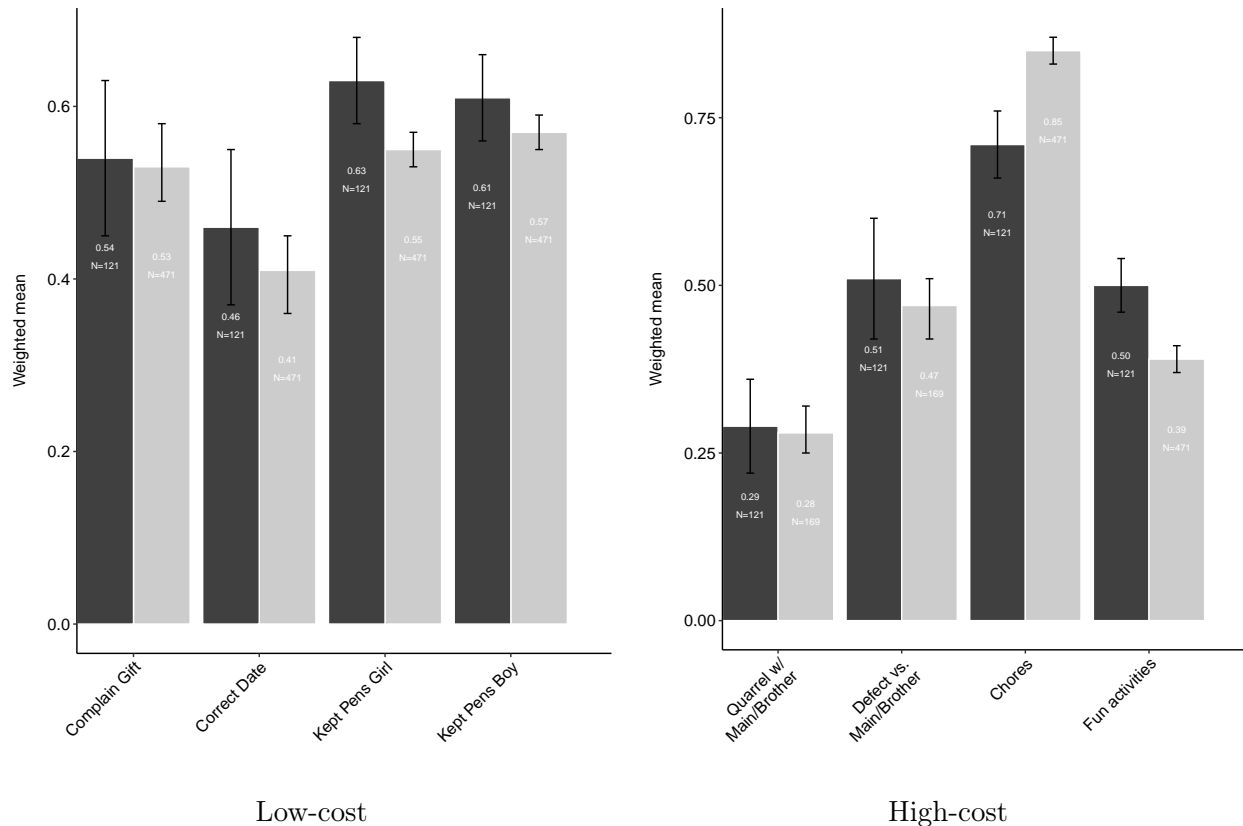


Figure 2: Gender gaps in assertiveness among control group

Bars show weighted means for main girls (light grey) and brothers (dark grey) in control households. Weights equal the inverse probability of assignment to control. For *Quarrel w/ Main/Brother* and *Defect vs. Main/Brother*, we restrict girls to households where a brother was interviewed. Black lines show 95% confidence intervals. Left (right) panel refers to interactions outside (within) the household, where we expect costs of asserting oneself to be low (high). Outcomes are rescaled to 0–1. Question wording is in appendix E.1.

point less likely to do the former and five percentage points less likely to do the latter. One reason may be that girls were interviewed by women and boys by men. In conservative contexts, both genders may hesitate to challenge adult men, suggesting that gaps may have been larger had enumerator gender been held constant.

Kept pens girl and *Kept pens boy* capture behavior in two dictator games with anonymous partners – a randomly selected boy and girl from the sample – presented in random order. Respondents received five pens and decided how many to return to the enumerator for their partner.⁷ Pens are highly valued in this context: several qualitative interviews highlighted disputes over pens, and preferences are likely strongly monotonic, as adolescents commonly

⁷We used an uneven number of pens to avoid even splits and increase sensitivity to treatment effects.

sell unused items. The games thus require respondents to choose between pursuing their own preference for a desirable token and allocating tokens to others, making dictator behavior a proxy for assertiveness as defined here. Because recipients do not observe respondents' choices, social costs are low. The only potential repercussion is a negative reaction from the enumerator. On average, boys keep slightly more than three pens. Girls keep one to two fifths of a pen less on average, with the gap being slightly bigger when matched with a girl. In relative terms, boys retain 8-15% more pens than girls.

Turning to within-household interactions, we measure the frequency of sibling quarrels, since standing up for oneself may result in conflict. We focus on how much main respondents who have a brother in the sample report quarreling with their brothers and how much these brothers report quarreling with the main respondent. Brothers and sisters report close to the same frequency of quarreling, consistent with the notion that assertive behavior by either sibling can generate a conflict involving both.

Main respondents played a prisoner's dilemma with each of their siblings using a simple, pre-tested version in which players choose between a "split" and a "keep" card (appendix E.1). Each player could earn up to four notebooks. Defection is the dominant strategy, as it maximizes the number of notebooks that a respondent earns, irrespective of their sibling's choice. Hence, just like giving less in a dictator game, defection is linked to our notion of empowerment as demanding more for oneself. The costs of doing so may be higher here, since siblings may sanction each other outside the game. Consistent with the expectation that boys are more assertive, the defection rate is slightly higher among brothers, though the difference is small (51% versus 47%). Figure A9 shows that the most common outcome is cooperation by the girl and defection by the brother (27% of games), which is worst for the girl and best for the brother. The reverse outcome is least common (23% of games). Mutual cooperation occurs in 25% of games and mutual defection in 24%.

Finally, respondents reported whether they had engaged in each of ten activities during the past week – six related to leisure or self-improvement and four to household chores. While

these measures do not directly capture empowered behavior, assertiveness in intra-household negotiations may plausibly reduce chore burdens and increase time for leisure and education – outcomes that likely shape girls’ life trajectories. We observe substantial gender gaps in time use: boys remember doing 2.8 of the chores and 3 of the leisure or self-improvement activities on average, compared with 3.4 chores and 2.3 fun or self-improvement activities for girls. In relative terms, girls report having done around 20% more of the chores and 22% fewer free time activities than boys.

3.2 Effects on empowered behavior outside the household

Table 2 displays estimates of treatment effects on girls’ assertiveness in interactions outside the household, where we expect social costs to be relatively low. The outcome in column 1 is an index of three survey items capturing respondents’ willingness to assert themselves in hypothetical interactions with a boyfriend or male friend. The estimate suggests the intervention increased this outcome by roughly one fifth of a control group standard deviation ($p < 0.01$). Table A48 indicates this estimate is driven primarily by an increase in respondents’ willingness to ask a romantic partner to spend more time together, though the proclivity to stand up to a male friend appears to have increased as well. These findings are encouraging, but one may worry that experimenter demand affects these self-reported outcomes, given that the SKY campaign explicitly models such behaviors.

The outcome in column 2 is an index of two behavioral measures: whether respondents asked the enumerator for their preferred gift and corrected the enumerator when she entered the wrong date. The SKY treatment appears to have increased this index by roughly one eighth of a control group standard deviation ($p < 0.05$). This result is robust to the inclusion of enumerator fixed effects (Table A25). Table A49 shows treatment-group respondents are four to five percentage points more likely to engage in each behavior. While small in size, these estimated effects are sufficient to close the small gender gaps apparent in Figure 2.

Columns 3 and 4 show girls in the treatment group keep 0.14 to 0.16 more pens than those

in the control group in dictator games with anonymous girls ($p < 0.1$) and boys ($p < 0.05$).⁸ Estimated effects are relatively small and would close around 35% of the gender gap in games with anonymous girls and about 80% of the gap in games with anonymous boys.

	Assert (Boy)friend	Assert Enumerator	Kept Pens Girl	Kept Pens Boy
SKY	0.048*** (0.017)	0.045** (0.026)	0.138* (0.083)	0.164** (0.081)
Outcome range	0 – 1	0 – 1	0 – 5	0 – 5
Control Mean	0.644	0.472	2.760	2.843
Control SD	0.230	0.362	1.127	1.142
Hypothesis	upr	upr	two	upr
Num. obs.	825	829	829	829

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

Table 2: Effects of SKY on main girls’ assertiveness in low-cost interactions

Models include pre-registered covariates. Significance stars based on RI p -values from test of sharp null of no (positive/negative) treatment effect for any unit. Row “Hypothesis” shows the direction of the test. A test of the hypothesis that all null hypotheses across columns 1–4 are true yields $p = 0.001$. Details on model specification and testing are in appendix A.2 and outcome wording and coding in appendix E.2.

In short, the SKY Club intervention seems to have caused a small but consistent increase in girls’ proclivity to assert themselves in interactions with friends, boyfriends, and strangers. A joint significance test of the estimates in Table 2 yields a p -value of $p = 0.001$.

3.3 Effects on empowered behavior within the household

Table 3 displays estimated effects on empowered behavior within the household. The outcome in the first column asks respondents how they would respond if their brother disapproved of their friends – distance themselves from the friends (coded as zero), avoid discussing their friends with the brother (coded as one) or confront the brother (coded as two). The SKY treatment appears to have caused a small increase of about 0.12 control group standard

⁸We pre-registered a two-tailed test for the game with an anonymous girl, since in-group bonding (see below) or a strengthened gender identity could have offset the empowerment effect.

deviations in this outcome ($p < 0.05$). Table A39 shows this result extends to the subsample of main respondents who have brothers. Of course, experimenter demand remains a worry given the closeness of the outcome to the intervention content.

Column 2 suggests the SKY intervention slightly increased the reported frequency of main respondents’ quarrels with siblings by about a fifth of a control group standard deviation ($p < 0.1$). We subset to respondents who have a sibling in the sample and average quarrel frequency across siblings for respondents who have both brothers and sisters. Table A36 indicates effects are slightly larger for quarrels with brothers than with sisters.

Column 3 reports estimated effects on respondents’ behavior in prisoner’s dilemmas with siblings. For respondents with multiple siblings, we calculate the share of games in which the respondent defected. We find no evidence that the SKY intervention affected girls’ choices. This result applies to games played against both brothers and sisters (Table A37).

	Assert Brother	Quarrel w/ Sibling	Defect vs. Sibling	Chores	Fun Activities
SKY	0.117** (0.061)	0.161* (0.083)	0.016 (0.050)	-0.050 (0.057)	0.047 (0.082)
Outcome range	0 – 2	0 – 2	0 – 1	0 – 4	0 – 6
Control Mean	0.553	0.566	0.467	3.404	2.345
Control SD	0.830	0.740	0.463	0.767	1.215
Hypothesis	upr	two	two	two	upr
Num. obs.	829	355	355	829	829

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

Table 3: Effects of SKY on main girls’ assertiveness in high-cost interactions

Models include pre-registered covariates. Significance stars based on RI p -values from test of sharp null of no (positive/negative) treatment effect for any unit. Row “Hypothesis” shows the direction of the test. A test of the hypothesis that all null hypotheses across columns 1–5 are true yields $p = 0.06$. Details on model specification and testing are in appendix A.2 and outcome wording and coding in appendix E.3.

The final two columns show no evidence of treatment effects on the number of chores

and fun or educational activities that girls remember doing in the past week. Exploratory analyses in Tables A41 and A42 provide suggestive evidence of effect heterogeneity across respondents with and without siblings. The treatment may have slightly decreased the number of chores among respondents with siblings ($p < 0.1$). Estimates among respondents without siblings are close to zero, though the difference is not statistically significant. This pattern aligns with the idea that the social costs of assertiveness are highest in interactions with parents: when multiple teenagers are present, intra-household bargaining may occur between siblings, but with only one teenager, bargaining may occur directly with parents.

So far, evidence for the SKY interventions’ effect on within-household assertiveness is mixed. A test of the joint significance of the estimates in Table 3 yields a p -value of $p = 0.06$, but they are no longer jointly significant once the test in column 1 – which is most susceptible to experimenter demand – is excluded. These findings align with our expectation that empowerment campaigns are less effective where social costs of assertiveness are high. Of course, other interpretations exist. For example, girls may have asserted themselves more regarding chores and leisure or self-improvement activities, but these outcomes may not have changed because parents and siblings met girls’ requests with resistance.

To further examine girls’ intra-household behavior, we use our sibling sample. First, if main respondents are more assertive in their households, siblings may notice. We asked siblings to guess the main respondent’s answers to several questions, rewarding one correct guess with a gift. Column 1 of Table 4 shows we find no evidence of an effect on the share of siblings who think the main respondent would stand up to her brother, a finding that holds even among brothers who should be well informed about this scenario (Table A43). We also asked siblings to select three out of ten adjectives to describe the main respondent, five relating to “passive” and five to “empowered” traits. Column 2 shows siblings of girls in the treatment group do not appear to describe them in more empowered terms.

Second, if main respondents were more assertive, siblings may become better informed about their preferences. We elicited incentivized guesses about preferences such as the main

respondent’s favorite TV show and preferred free time activity that could come up in intra-household negotiations. However, column 3 shows we find no evidence of an increase in the number of siblings’ guesses that matched main respondents’ answers. Indeed, the intervention does not appear to have improved siblings’ ability to guess main respondents’ answers to any of the included questions (Table A50).

	Perceptions		Knowledge	Behavior			
	Assert Brother	Empowered	Correct Guesses abt. Main Girl	Quarrel w/ Main Girl	Defect vs. Main Girl	Chores	Fun Activities
SKY	0.033 (0.045)	0.027 (0.071)	-0.083 (0.114)	0.076 (0.077)	-0.003 (0.046)	0.030 (0.092)	-0.047 (0.114)
Outcome range	0 – 1	0 – 3	0 – 6	0 – 2	0 – 1	0 – 4	0 – 6
Control Mean	0.336	0.848	2.671	0.640	0.475	3.059	2.851
Control SD	0.473	0.775	1.162	0.801	0.500	1.033	1.258
Hypothesis	upr	upr	upr	two	two	two	two
Num. obs.	490	490	490	489	490	490	490
N Clusters	355	355	355	354	355	355	355

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

Table 4: Effect of SKY on siblings’ perceptions, knowledge, and behavior related to main girl

Models include pre-registered covariates. Analyses based on sample of siblings. Significance stars based on RI p -values from test of sharp null of no (positive/negative) treatment effect for any unit. Row “Hypothesis” shows the direction of the test. A test of the hypothesis that all null hypotheses regarding outcomes under *Perceptions* (*Behavior*) are true is $p = 0.27$ ($p = 0.87$). No such test is reported for *Knowledge*, which includes only one outcome. Details on model specification and testing are in appendix A.2 and outcome wording and coding in appendix E.4.

Third, the last four columns of Table 4 provide no evidence that the SKY intervention affected siblings’ reported quarrels with the main respondent, siblings’ defection rate against main respondents in the prisoner’s dilemma, or the number of chores and fun or self-improvement activities that siblings remember – outcomes that could have reflected adjustments to main respondents’ greater assertiveness. Tables A43 and A44 show effects appear absent among both sisters and brothers, except for a slight increase in sisters’ reported

frequency of quarrels ($p < 0.1$). A joint test of the significance of all estimates reported in Table 4 yields a p -value of $p = 0.8$, supporting the conclusion that the SKY intervention did not meaningfully increase main girls' assertive behavior in the household.

Finally, siblings' outcomes may reflect not only changes in main respondents' behavior but also indirect exposure to SKY content via TV and social media. In qualitative interviews, treated girls recounted sharing the SKY magazine and talking about SKY with siblings. Here we focus on brothers and return to indirect effects on sisters below. We were particularly concerned about potential backlash from brothers, who might react negatively to assertive behavior or feel excluded by the campaign.

Table A62 shows brothers of main respondents assigned to treatment were indeed aware of their SKY club participation, more exposed to SKY content, and more likely to know that the SKY program is only for girls. However, we find no evidence that such indirect exposure affected brothers' attitudes towards girls' assertiveness, norm perceptions, beliefs about gender stereotypes and inequality, attachment to masculinity, stated tendency to support girls, or behavior in a dictator game with another boy (Tables A63 and A65). If anything, brothers appear to allocate slightly more pens to an anonymous girl in dictator games. This pattern of minimal effects on brothers aligns with the notion that main respondents did not substantially change their within-household behavior.

4 Mechanisms

Next, we explore the mechanisms through which the treatment may have produced its apparent effects on behavior in low-cost interactions. We assess individual and social mechanisms.

4.1 Individual mechanisms

Table 5 investigates persuasion and confidence effects. The outcome in column 1 is an index of two items asking whether girls *should* assert themselves in hypothetical interactions with male peers. The SKY treatment appears to have increased this index by about 0.15 control group standard deviations ($p < 0.01$). We also asked girls to classify behaviors by romantic

partners as healthy or potentially toxic, including controlling behaviors (e.g., demanding constant information about one’s location) and empowered behaviors (e.g., asking for one’s needs). Column 4 shows the treatment does not seem to have affected girls’ ability to identify these behaviors.

	Attitudes		Beliefs About Self	
	Should Assert	Healthy Rel.	Confident	Empowered
SKY	0.048*** (0.020)	-0.030 (0.015)	0.003 (0.012)	0.079* (0.053)
Outcome range	0 – 1	0 – 1	0 – 1	0 – 3
Control Mean	0.688	0.514	0.840	0.954
Control SD	0.296	0.219	0.170	0.743
Hypothesis	upr	upr	upr	upr
Num. obs.	829	817	829	829

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

Table 5: Effect of SKY on main girls’ assertive attitudes and self-confidence

Models include pre-registered covariates. Significance stars based on RI p -values from test of sharp null of no (positive/negative) treatment effect for any unit. Row “Hypothesis” shows the direction of the test. A test of the hypothesis that all null hypotheses regarding outcomes under *Attitudes* (*Beliefs About Self*) are true is $p = 0.04$ ($p = 0.123$). Details on model specification and testing are in appendix A.2 and outcome wording and coding in appendix E.5.

Turning to confidence, the outcome in column 3 is an index of two items that ask about respondents’ level of agreement with the statements “I feel that I have a number of good qualities” and “I am able to deal with life’s challenges at least as well as most other people in my age group.” We find no evidence that the treatment affected self-perceptions. The outcome in the last column asks respondents to describe themselves using three out of the same ten adjectives that we used to measure siblings’ perceptions of main respondents. Girls in the treatment group choose slightly more empowered adjectives ($p < 0.1$).

While our quantitative evidence is mixed, qualitative interviews provide some evidence

that individual mechanisms may be at play. When asked what they liked most about the SKY club and how it influenced them, treated girls often highlighted learning the importance of standing up for oneself, how to do so and changes in self-perceptions. One girl said:

“The [...] Sky Club taught me a lot of things, like ways to know who is your best friend and who is not your best friend. Mmmmh...it taught us how to defend yourself when someone abuses you, aaah...how to love yourself and...and how to be self-confident.”

Other responses included “It [The club] helps one have confidence,” “They taught us how to be resilient,” and “I’m not as shy as I used to be.”

4.2 Social mechanisms

Turning to social mechanisms, Table 6 suggests girls in the treatment group formed new social ties. Column 1 contains no evidence of an effect on respondents’ number of female friends, but column 2 indicates the treatment increased the share of respondents who made a new friend in the last two months by about ten percentage points ($p < 0.01$). This finding is consistent with our qualitative interviews: most treated interviewees recounted that they had made new friends during the SKY club, even those who had pre-existing social ties to other participants. As one girl explained:

“There were girls I knew before the Sky club, [...] I still made friends with other girls. Obviously in the vehicle you can’t keep quiet because if your friend is seated there and you are seated here, you must make friends with other people.”

We also find evidence that new social ties functioned as a support system. Column 3 indicates the SKY intervention slightly increased girls’ sense that they would find someone supportive to turn to if they experienced something upsetting by about one tenth of a control group standard deviation ($p < 0.1$). In qualitative interviews, girls repeatedly described the supportive atmosphere in the SKY club, e.g.:

“[D]uring the sessions you could stand up maybe if the question was asked, even if you answer a wrong or bad question, they [the other girls] could not laugh at

you or mock you. But outside here or at school, you could stand, say something and instead of correcting you, they would laugh at you.”

	Social Connections			Norm Perceptions	
	Girl Friends	New Friend	Turn To	Descriptive	Prescriptive
SKY	-0.121 (0.135)	0.109*** (0.034)	0.108* (0.070)	0.086*** (0.025)	0.089*** (0.025)
Outcome range	0 – 10	0 – 1	0 – 3	0 – 1	0 – 1
Control Mean	2.877	0.582	2.186	0.559	0.506
Control SD	2.073	0.494	0.989	0.348	0.346
Hypothesis	upr	upr	upr	upr	upr
Num. obs.	829	829	828	827	827

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

Table 6: Effect of SKY on main girls’ network ties and perceptions of social norms

Models include pre-registered covariates. Significance stars based on RI p -values from test of sharp null of no (positive/negative) treatment effect for any unit. Row “Hypothesis” shows the direction of the test. A test of the hypothesis that all null hypotheses regarding outcomes under *Social Connections* (*Norm Perceptions*) are true is $p = 0.001$ ($p = 0.000$). Details on model specification and testing are in appendix A.2 and outcome wording and coding in appendix E.6.

We leverage two ancillary randomizations to explore whether treated girls bonded with each other. First, a randomly selected quarter of respondents were told their anonymous girl partner for the dictator game had not previously participated in the study, allowing treatment group girls to infer that their partner had not attended the SKY club. Table A47 suggests the treatment-induced increase in the number of pens kept is almost twice as big if respondents are primed this way. Although estimates lack statistical significance because this test is underpowered,⁹ the pattern is consistent with SKY club participants developing altruism toward each other.

⁹To avoid deception, girls assigned to this prime were matched with sisters who had not participated in prior study phases, but the sister sample is small.

Second, we asked respondents how much they liked the popular music genre Afrobeats after randomly informing half that a majority of girls at baseline disliked it.¹⁰ This prompt was intended to induce peer pressure. Table A66 indeed suggests the prime reduced the stated preference for Afrobeats among control group girls by about one fifth of a control group standard deviation ($p < 0.01$). We find no evidence that SKY club participation reduced girls' susceptibility to this pressure; if anything, the negative effect is slightly stronger among the treatment group. This pattern contradicts our expectation that SKY would increase assertiveness, but may reflect a desire among the treatment group to conform to the views of other club participants who were part of the baseline survey.¹¹

Table 6 suggests the SKY intervention also shifted respondents' perceptions of social norms. SKY club participants seem to have become more likely to think that other girls *would* (column 4) and that other girls believe girls *should* (column 5) assert themselves in hypothetical interactions with male peers ($p < 0.01$). Because we ask about "most other teenage girls," it is unclear whether these shifts are confined to perceptions of norms among SKY participants. Some responses in qualitative interviews suggest girls changed their perceptions of SKY participants specifically. For example:

"It was different because they [the SKY participants] were, they, those girls were understanding and good [better] than the other girls because they have not learned about many things that we learned in the SKY group. (...) Yes, they were more supportive [of me standing up for myself] than the other friends."

However, other girls described their pre-existing friends as more supportive of assertiveness, e.g., because these pre-existing friendship ties had grown over a longer period of time.

4.3 Effects among sisters

We have found evidence consistent with the relevance of social mechanisms, while the evidence on individual mechanisms is mixed. Of course, both kinds of mechanisms may be

¹⁰55.4% of respondents reported disliking Afrobeats at baseline.

¹¹We find no evidence that the SKY intervention affected the strength of girls' gender identity (Table A46), i.e., any sense of in-group bonding appears confined to SKY club members.

at play. To further probe their relative importance, we analyze indirect effects of the SKY treatment on main respondents' sisters.

First, Table A57 suggests that although sisters of girls in the treatment group did not attend club sessions, they were aware of their siblings' participation and had greater exposure to publicly available SKY content. Second, Table A59 shows no evidence that indirect exposure to SKY content led sisters to form new network ties or shift their norm perceptions. Intuitively, such changes may require in-person attendance. The apparent absence of a change in norm perceptions also aligns with our finding that the treatment did not alter main respondents' behavior toward their sisters. Third, Table A60 shows that indirectly exposed sisters nonetheless view themselves more positively, select more empowered adjectives to describe themselves, and are more likely to believe that girls should act assertively.

Finally, despite these apparent changes in confidence and attitudes, indirectly exposed sisters do not act more assertively, even in low-cost settings. Table A58 provides no evidence that indirect exposure led sisters to self-report assertive behavior or to keep more in dictator games. The apparent positive effect on assertiveness toward the enumerator is small and disappears once enumerator fixed effects are included (Table A25).

In short, shifts in attitudes and confidence alone – without shifts in norm perceptions and network ties – appear insufficient to induce empowered behavior among sisters. Assuming the causal process works similarly for main respondents, these estimates suggest the apparent increase in main respondents' empowered behavior in low-cost interactions is unlikely driven solely by persuasion and confidence effects.

This evidence points to the importance of social mechanisms but does not reveal how they shape empowered behavior. One possibility is that SKY club participants influence each, amplifying any persuasion and confidence effects. Yet, confidence and persuasion effects appear if anything stronger among sisters. Another possibility is that access to a network of girls who can provide support in the event of backlash lowers the anticipated emotional cost of asserting oneself. Consistent with the interpretation that the SKY club provided girls

with an alternative support system, girls in the treatment group report feeling less pressure to be in a romantic relationship (Table A46, $p < 0.05$).

4.4 Alternative explanations

Finally, we consider whether our findings could be artifacts of the research design. One concern is experimenter demand. While difficult to rule out as a driver of apparent effects on self-reported outcomes, this concern is less acute for behavioral measures. Moreover, demand effects cannot explain why effects seem concentrated in specific outcomes and not others, especially in our mechanism analysis. Second, one may worry that the apparent effects reflect changes among the control rather than the treatment group. The control group may have felt left out and behaved less assertively. Yet, Figure A11 shows control girls actually became more likely to report assertive behavior over time. Both the control and treatment group became less likely to believe girls should be assertive from baseline to endline, suggesting a secular trend rather than disappointment. No control girls reported feeling upset in our endline back-check survey. Third, despite our efforts to geographically disperse the sample, treated girls could have shared SKY lessons with control girls through pre-existing social ties. Such cross-household spillovers would bias our estimates downward, but to fully explain our results, these spillovers would need to be larger for within-household than outside-household behavior. We see no obvious reason to expect this pattern. Moreover, we find no evidence of within-household spillover effects on behavior, and such effects would likely be stronger within than across households.

5 Discussion

Teenage girls assigned to an empowerment club became more assertive in interactions outside the household. Evidence of behavior change inside the household is limited. This pattern aligns with our theoretical prediction that the high social costs of intra-household conflict constrain girls' assertiveness toward household members. Moreover, shifts in attitudes and confidence alone do not appear sufficient to induce behavioral change; some form of social

change – such as shifts in network ties or norm perceptions – seems necessary.

Intra-household dynamics shape many consequential outcomes, including women’s labor force and political participation. The limited evidence of effects on girls’ intra-household behavior therefore raises questions about the capacity of empowerment campaigns to generate lasting gender norm change. However, we capture only short-term effects. A more optimistic interpretation is that the SKY campaign encouraged girls to practice assertiveness in lower-stakes settings, which may, over time, translate into greater assertiveness within the household. Increased assertiveness outside the household could also shape girls’ partner choices and consequently the composition of their future households (Kandel, 1978). More broadly, the intervention may have influenced which social interactions girls seek out or avoid. Finally, girls’ tendency to moderate themselves where backlash is costly mitigates concerns that empowerment campaigns could inadvertently cause harm.

Our core takeaway is that girls’ behavior is shaped not only by internal factors but also by external constraints – most notably the fear of social sanctions – and that these constraints condition the effects of girl-focused campaigns. To what extent does this insight generalize? Factors that raise the costs of intra-household conflict, such as strong family ties or risks of violence, are widespread. Figure A3 shows that in most Sub-Saharan African countries, over 70% of children under fourteen face violent discipline, with similar patterns elsewhere. The limited intra-household effects of teenage-girl empowerment campaigns may therefore not be unique to Kenya.

Household constraints may also limit adult women’s assertiveness and the effectiveness of women-focused interventions. Domestic violence in response to assertive behavior remains widely accepted (Figure A4), and women who seek political office often face family backlash (Figure A5). Existing evidence aligns with this pattern: Cheema et al. (2023) find a get-out-the-vote campaign in Pakistan worked best when targeting women and their husbands, while Geha (2019) argues family dynamics limit the effectiveness of candidate trainings for women in Lebanon. Constraints can also arise outside the household, including institutional barriers

that shape women’s entry into politics (Piscopo, 2019). Overall, our results highlight the importance of accounting for context-specific constraints when designing interventions to shift women’s behavior.

The apparent importance of social mechanisms also connects to evidence from other contexts. Networks have been shown to advance women’s empowerment in the US (Carson, 2022; Hampole, Truffa and Wong, 2021), Uganda (Bandiera et al., 2020), and India (Prillaman, 2021), and collective exposure enhances the impact of education–entertainment interventions, including on violence against women (Peterman, 2025). Our findings suggest that opportunities for social interaction – often a by-product of content dissemination – can help offset the social constraints facing girls and women in conservative settings.

A more comprehensive assessment of empowerment campaigns may explore long-term effects and the link between assertiveness outside one’s household and political behavior. Our intervention was relatively brief, and even the control group had some exposure to the campaign. More intensive interventions like ongoing after-school clubs that solidify peer ties may generate broader behavioral change. Our conclusion about the importance of social mechanisms relies on comparisons of main respondents to sisters – groups that are not randomly assigned. Future work may further probe the question of mechanisms by randomly assigning respondents to content-only or network-only interventions designed to trigger only one set of mechanisms.

Lastly, we focus on girls’ assertiveness because empowerment programs explicitly seek to shift this outcome. From a normative perspective, it is not obvious that increasing girls’ assertiveness should be our priority. In the prisoner’s dilemma that girls in our sample play with brothers, the modal outcome is that the brother defects and the girl cooperates – leaving girls with the lowest and brothers with the highest possible payoff. Holding brothers’ behavior fixed, greater assertiveness (defection) benefits girls, but encouraging brothers to cooperate would instead yield the socially optimal outcome. This logic highlights the importance of work on the behavior of men (Cheema et al., 2023; Clayton, O’Brien and Piscopo, 2024).

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