IFPRI Discussion Paper 02399

December 2025

Bridging Gender Gaps in Political Participation

Experimental Evidence on Group-Based Trainings from Nigeria

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Abstract

Women's political participation remains persistently lower than men's worldwide. While barriers to women's civic engagement are well documented, there is limited causal evidence on how to effectively close gender gaps in participation. This study evaluates whether a group-based training intervention can enhance women's engagement in local governance. In a randomized controlled trial across 300 communities in rural southwest Nigeria, we recruited 3,900 politically unaffiliated women into newly formed women's action committees (WACs). Control WACs received a single civic education training, while treatment WACs received five additional trainings aimed at strengthening women's collective efficacy over the course of six months. Leveraging baseline (May–July 2023) and endline (January—February 2024) surveys alongside behavioral data from a community grants competition, we find that the intervention significantly increased both the level and quality of women's political participation. Treated communities also exhibited greater responsiveness by local leaders to women's needs and priorities. These findings show that group-based interventions can meaningfully and scalably narrow gender gaps in civic participation.

Keywords: Gender, women's political participation, randomized controlled trial, gender transformative approaches, governance, women's empowerment, Nigeria

Acknowledgments

We appreciate the support and guidance of ActionAid Nigeria throughout this project, especially the leadership of Vivian Efem-Bassey and the many dedicated trainers who implemented these trainings. This study received financial support from the Evidence in Governance and Politics (EGAP) Network, the CGIAR Science Program on Food Frontiers and Security, and the CGIAR Gender Equality and Inclusion Accelerator; we would like to thank all funders who supported this research through their contributions to the CGIAR Trust Fund: https://www.cgiar.org/funders/. We thank Sophie Bhurtel, Rafael Borisonik, Lucia Carrillo, Augustine Iraoya, Yan Liu, Ning Ma, Nathan Martins, Natalia Montero Acevedo, Opeyemi Olanrewaju, Hussein Oluwadamilare, Emily Rusting, and Monica Sidana for valuable research assistance.

Claire Adida, Katrina Kosec, Cecilia Hyunjong Mo, and Jordan Kyle are equally contributing first authors of this work.

1 Introduction

Women's participation in local governance remains persistently low in many countries, even as evidence demonstrates the importance of women's political inclusion for policy outcomes (Duflo, 2012; Lawless, 2015). While representation through women's presence in political office plays a critical role, direct participation by women as citizens in local democratic processes is equally essential. Yet substantial barriers continue to limit women's civic engagement (Iversen and Rosenbluth, 2006), resulting in the systematic exclusion of women's perspectives from decisions about public services—such as healthcare, education, and infrastructure—that shape daily life. These gendered disparities in participation have significant consequences: when women's voices are absent from local governance, public policies are less likely to reflect women's priorities (Chattopadhyay and Duflo, 2004; Doepke and Tertilt, 2019), thereby reinforcing longstanding inequalities (Htun and Weldon, 2018).

Despite extensive research documenting gender gaps in political participation, relatively little is known about the effectiveness of theoretically grounded, real-world interventions aimed at increasing women's engagement in local governance. Prior scholarship attributes women's lower levels of participation to individual-level constraints—such as limited access to skills and resources needed for political advocacy (Burns, Schlozman and Verba, 2021)—as well as societal factors, including gender norms that restrict women's involvement in public life (Cheema et al., 2019). Yet there remains a paucity of rigorous empirical evidence evaluating whether scalable interventions designed to address these individual and social barriers can meaningfully increase women's participation in local governance. This study, embedded in the EGAP Metaketa Initiative on Women's Action Committees and Local Services (Metaketa V)[1], seeks to help address this research lacuna by testing a set of training interventions aimed at strengthening women's collective efficacy in influencing local policymaking processes.

[1]See https://egap.org/our-work/the-metaketa-initiative/round5-womens-action-committees-and-local-services/.

Explanations for women's political participation, or its lack thereof, typically fall into three categories: structural barriers (e.g., limited time), normative constraints (e.g., gendered expectations), and psychological factors (e.g., internalized disempowerment). While existing research has extensively examined the first two (e.g., Inglehart et al. 2003; Burns, Schlozman and Verba 2021; Cheema et al. 2019), the psychological dimensions that may shape women's political engagement remain underexplored. Our study, as part of Metaketa V, engages this research gap by studying training interventions that explicitly draw on the Social Identity Model of Collective Action (SIMCA) (Van Zomeren, Spears and Leach, 2008). As a theoretical framework, SIMCA posits that collective action is driven by perceived group-based injustice, an activated group identity, and shared collective efficacy as core psychological mechanisms (Bandura, 1997; Drury and Reicher, 2005; Simon and Klandermans, 2001). According to the SIMCA framework, when interventions activate these mechanisms, women should be more likely to view political engagement as both legitimate and achievable, thereby increasing their motivation and confidence to participate in local governance.

Our study—implemented in rural southwestern Nigeria—was implemented in close collaboration with country-based partners who played critical roles in ensuring contextual relevance and integrity. ActionAid Nigeria (AAN), a non-governmental organization focused on civic empowerment, co-designed the intervention training curriculum with the research team and recruited and trained locally-based facilitators to deliver the sessions in participating communities (see Appendix B for additional details on the curriculum). LoftyInc, a development-focused project management firm, implemented a community grants competition to separately assess behavioral outcomes linked to women's participation in local civic processes. Together, these partnerships enabled the study to assess whether group-based trainings designed to strengthen women's collective efficacy beliefs, group identification, and perceptions of group-based injustice—the core components of what engenders collective action according to the SIMCA framework—can help overcome the psychological barriers to

local political participation.

The findings from this Nigeria study indicate that group-based trainings focused on the psychological mechanisms noted in the SIMCA framework can enhance women's political engagement in local governance. In line with its pre-registered design, the study finds that treated women were significantly more likely to report higher levels of engagement in civic activities, report higher-quality interactions with local leaders, and perceive those leaders as more responsive to their claims. These patterns are matched in behavioral data from the community grants competition, with trained women significantly more likely to participate, to collaborate on proposals, to submit higher quality proposals, and to receive the support of local leaders for their proposed community development projects. These gains are accompanied by statistically significant improvements in women's sense of self-efficacy and group efficacy, as well as group identification, highlighting the importance of psychological empowerment as a potential mechanism of change. The study does not find effects on recognition of injustice.

We also explored whether the effectiveness of such interventions to vary with individuals' baseline levels of influence and standing within their communities. Two measures of individuals' underlying baseline influence that we pre-registered—age and literacy status—also appear to moderate the impacts of trainings, with younger and older women responding differently to treatment mechanisms, and with literate women responding more strongly to treatment when it comes to applying for a community grant.

While the SIMCA framework emphasizes psychological factors as mechanisms for collective action, our study cannot fully disentangle the relative influence of each mechanism. Moreover, it cannot rule out alternative pathways, such as the development of relevant skills, that may also account for the observed effects. Yet, by experimentally evaluating a group-based intervention grounded in collective action theory, the study does provide suggestive evidence that such interventions could meaningfully increase women's political participation in otherwise restrictive environments. In doing so, the study helps inform future research

that can more precisely identify the microfoundations of civic participation.

2 Nigerian Context

Nigeria provides a compelling setting for testing interventions designed to improve women's political participation. Like the other countries in the Metaketa V initiative, Nigeria's democratic institutions are weak and gender inequality is deeply entrenched. Although the country formally operates under a multiparty electoral system, it is classified as an electoral autocracy, according to the 2024 V-Dem report (Nord et al., 2024). Democratic institutions are undermined by executive dominance and weak accountability mechanisms. At the local and rural level, where our study is situated, governance is often dominated by informal patronage networks and male elites who exercise control over community decision-making processes. These institutional conditions restrict the extent to which ordinary citizens, especially women, can participate meaningfully in shaping policy outcomes.

Gender disparities in political representation in Nigeria are among the most severe worldwide. As of 2023, women hold just 4% of seats in the national parliament and only 11% in local government councils, despite making up roughly half the population. Nigeria's Gender Inequality Index (GII) score of 0.618, as reported by the United Nations Development Programme (UNDP), places it in the lowest tier of country rankings (United Nations Development Programme, 2024), reflecting a wide array of persistent structural barriers, such as unequal access to education, employment, and reproductive health. These constraints are reinforced by cultural and religious norms of a patriarchal society that restrict women's voice in Nigeria's public sphere. As a result, many women internalize expectations that politics is a male domain, constraining their political aspirations and participation in governance (Ette and Akpan-Obong, 2023; Pogoson, 2012).

Nigeria's gendered inequalities are evident in patterns of local civic engagement. According to data from Afrobarometer Round 9 (2023), Nigerian women are half as likely as men

to contact local officials or attend community meetings. These gendered gaps in political engagement persist even after accounting for differences in education and income (Hern, 2020; Logan and Bratton, 2006), suggesting the constraints have been internalized by many Nigerian women. The limited presence of women in public decision-making is thus not only a reflection of resource or access deficits but also of ingrained beliefs about who belongs in political spaces.

3 Research Design

This study was conducted as part of the Metaketa Initiative on Women's Action Committees and Local Services (Metaketa V).[2] The initiative examines whether group-based trainings can improve women's political engagement and influence in local governance, using coordinated randomized controlled trials across five countries. Each country study applied a common measurement framework and tested pre-registered hypotheses using experimental methods to enable comparative insights across diverse contexts. Metaketa V specifically examines whether group-based trainings can strengthen women's participation in hybrid regimes that blend authoritarian features with democratic institutions. Our study in Nigeria was implemented as a randomized controlled trial across 300 communities in three southwestern states: Ogun, Osun, and Oyo.[3] These states were selected to ensure both contextual diversity and operational feasibility.

Because there is no census of rural wards in Nigeria, our implementation partner ActionAid Nigeria (AAN), and our evaluation partner NOIPolls, collaborated to identify and list all wards in the three project states. Using this sampling frame, we randomly selected 50 wards from each of the three states for each of the two treatment conditions (for a total of 300 communities). We stratified by local government area (LGA) in order to reduce risks of

[2]See: https://egap.org/our-work/the-metaketa-initiative/round5-womens-action-committees-and-local-services/.

[3]The Nigeria study's pre-analysis plan (PAP), including an amendment, can be found in https://osf.io/kxyj9/overview. This study only reports results from the PAP related to hypotheses in the Metaketa PAP.

spillovers.[4]

All communities, regardless of treatment condition, held a standardized "burn-in" meeting to establish baseline conditions and ensure comparability in terms of basic civic awareness at the outset of the study. This initial meeting, which lasted just over three hours, provided civic education on citizens' rights, local government structure, service delivery, and avenues for political participation. The content was delivered in a neutral and unidirectional format and did not invoke gender identity, perceptions of group-based injustice, or collective efficacy.

During the burn-in meeting, facilitators also introduced the idea of Women's Action Committees (WACs) as voluntary spaces where women could discuss how to participate in local governance and explained that some communities would receive further monthly sessions over the next six months. The follow-up sessions would provide opportunities to learn about collective action and strategies for engaging with local government. The WACs were explicitly described as being non-partisan and non-religious, offering a space for women to speak freely about issues affecting them and to learn from one another. Additionally, we fielded our baseline survey (May–July 2023) immediately following each burn-in meeting, as the women in attendance at the burn-in meetings acted as our experimental sample.

Following the burn-in meeting, communities were randomly assigned to either the control or treatment group. In the control group, communities received no additional training, although no measures were taken to prevent voluntary self-organized gatherings. Communities assigned to the treatment group received five additional interactive training sessions for women. Because the burn-in meeting functions was designed to act as a political information placebo, we can net out the effects of general political information. Because it closely mirrors the informational interventions commonly used to encourage political participation, this design enables us to isolate the added impact of the collective efficacy intervention beyond status quo information-based approaches.

[4]Ensuring no spillovers is particularly important for elite responsiveness outcomes; stratifying by LGA ensures that each of the 300 communities has a unique and non-overlapping set of local policymakers.

To improve balance on multiple pre-treatment covariates, we applied Moore's (2012) "optimal-greedy blocking" algorithm in the randomization procedure. We used several factors to group similar communities into blocks and then assigned treatment at the community level using complete random assignment within the block. The variables for determining the blocks included the number of women attending the burn-in meeting and the presence or quality of the following community-level characteristics: availability of an electricity grid, a piped water system, a sewage system, mobile phone service, a borehole, a post office, a school, a police station, a health clinic, market stalls, banking services, transportation services, roadblocks, and customs checkpoints, as well as the condition of the main road.

Although randomization was implemented at the community level, our primary focus is on individual-level outcomes. Accordingly, we conducted balance tests on individual characteristics (see Appendix Table A2). The results indicate that community-level randomization generally produced balance across individual-level covariates. Of 33 comparisons, four differences were statistically significant at the 5% level—three pertaining to religious identification and one to personal income. Consistent with our pre-analysis plan, and in light of these minor pre-treatment imbalances, we estimate models both with and without covariate adjustment. Covariate-adjusted estimates are reported in the appendix.[5]

The study recruited 3,900 women, organized into 300 WACs of up to 13 members each, and 3,879 (99.5%) of the recruited women attended the burn-in meeting and completed the baseline survey.[6] Our implementation partner made every effort to reach 13 eligible women in each community, but never allowed more than 13. Individuals were considered eligible if they were married women between the ages of 21 and 50 who were economically active, expressed

[5]Throughout the paper, results are not sensitive to the inclusion of covariate adjustment.

[6]We targeted 13 women per community based on a power analysis of minimum detectable effects based on simulated data, assuming an ICC of 0.08, a two-tailed alpha of 0.05, and 80% power. This sample size allows for detection of standardized effect sizes on key outcomes while allowing for attrition of up to 23%. Actual attrition was very low; 93.7% (N = 3,634) of those who attended the burn-in meeting and completed the May–July 2023 baseline survey also completed our January–February 2024 endline survey. Importantly, attrition—defined as completing the baseline survey but not the endline survey—was not systematically related to treatment assignment ($p = 0.48$). The attrition analysis was conducted using a difference-in-means model that includes block fixed effects, with standard errors clustered at the women's group (community) level.

a willingness to participate regularly in group meetings, and had spousal approval to do so. This recruitment method was deliberate and aimed at both maximizing retention over 6 months of training and minimizing the risk of unintended backlash from the participants' husbands.[7] Recruitment was carried out in partnership with community leaders and local facilitators to ensure inclusivity and legitimacy.

To contextualize the representativeness of our sample, we compared basic civic engagement indicators from our baseline survey with Afrobarometer Round 9 (2023) data for rural Nigerian women. Although the recall periods in the two instruments differ, the contrasts are noteworthy. For example, while 31% of rural women in Afrobarometer's national sample reported attending a community meeting within the past 12 months, 51% of women in our three-state sample had done so within the previous six months.[8] Women in our sample are also more educated than the average woman in rural Nigeria; while 35% of rural Nigerian women have completed a secondary education, 52% of the women in our sample have completed a secondary education. However, levels of direct contact with government were similar across samples: 24% of Afrobarometer's rural women had ever contacted a government official compared to 26% of our respondents within the past six months. These comparisons suggest that, while our participants were neither elite nor politically connected, they were somewhat more civically engaged and more educated than the typical rural woman in Nigeria.[9] This pattern likely reflects, at least in part, our eligibility criteria and should be taken

[7]Reassuringly, based on field-based observations from AAN and responses to questions on the endline survey, there was no evidence of unintended backlash in our study. The pre-analysis plan committed to measuring instances of backlash and unintended consequences. We have several outcomes measuring backlash, including 1) perceived conflict between respondents and other household members; 2) perceived conflict between respondents and community members and local leaders (measured as an index); 3) life satisfaction (measured as an index); 4) satisfaction with participating in the intervention; and 5) an indicator for the respondent recommending the intervention. Treatment does not increase conflict of any kind, nor does it affect life satisfaction. However, treated women were significantly more satisfied with and likely to recommend the intervention. Qualitatively, our local facilitators—whom we explicitly tasked with completing a form each week reporting any backlash described by women—reported none. Appendix E, subsection E.4 provides these results.

[8]These figures may also reflect the fact that these data were collected as part of our baseline survey, which we conducted immediately following the burn-in meeting. Therefore, some women may have been primed to think about attending community meetings based upon information received during burn-in.

[9]It is worth noting that a limitation of this analysis is that it not possible to use Afrobarometer data to compare rural populations just in our study states with our sample since Afrobarometer is not representative

into account when interpreting the generalizability of the intervention's effects.

In the treatment group, the five additional training sessions were developed in collaboration with AAN to be grounded in the Social Identity Model of Collective Action (SIMCA). These sessions were designed to stimulate group-based political engagement by fostering three psychological mechanisms: a shared sense of injustice, a politicized group identity, and beliefs in collective efficacy. The trainings aimed to empower women with leadership and advocacy skills, while enhancing their ability to articulate group-based preferences and grievances and act on them in local civic spaces. Female facilitators were recruited by AAN from either the communities themselves or nearby areas to match the gender and ethnicity of participants in each community, ensuring cultural and linguistic familiarity that enhanced trust and engagement. These facilitators tended to be teachers, social workers, and health workers who were comfortable building rapport and discussing potentially sensitive topics with communities. All facilitators received robust training to standardize delivery and uphold the intervention's theoretical underpinnings.

The five sessions employed a combination of discussion-based and experiential learning activities, including structured small-group discussions, role-playing exercises, and guided reflections, complemented by take-home assignments designed to reinforce content between meetings. These assignments were discussed at the start of subsequent sessions, creating an iterative learning environment that was meant to deepen group identification and foster a sustained sense of shared purpose among participants. All activities were designed around the use of materials available locally (e.g., sticks and stones) and in a range of meeting locations so that the training could potentially be scaled in the future.

The study employed a mixed-methods measurement strategy. As noted earlier, quantitative, self-reported data were collected through structured surveys administered by NOIPolls at baseline (May–July 2023, immediately following each burn-in meeting) and endline (January–

at the state level. If women in rural southwestern Nigeria are more civically engaged and more educated than women in northern Nigeria, for example, then the country average may be lower than the average in the study states.

February 2024, 2–3 months following the end of training) to both WAC members and local elites across treatment and control communities. These surveys captured participants' knowledge, attitudes, and self-reported behaviors related to political participation. Second, facilitators recorded detailed attendance data and qualitative field observations across sessions to monitor implementation and participant engagement.

Third, we designed a community grants opportunity during the study to have a meaningful behavioral measure of civic participation and elite responsiveness. This opportunity—a community grants program run by an independent, local organization, advertised through local radio and banners in the study communities—ran concurrently to the women's trainings, though applications for the grants program were due several weeks after trainings concluded (see Appendix C for additional details). In order to submit an application, individuals were required to form a project team of five members, propose a community development project of no more than $2,000 (approximately the amount needed to drill a new borehole for water access[10]), lay out a budget and implementation plan for the project, explain how the project would address a community need, and explain how the project could be maintained over time.

Grant proposals were scored and endorsed by local leaders to signal which projects they thought would benefit their communities the most, and winners were selected by an independent review committee based upon the scoring and endorsement process. The evaluation procedure was set up to mimic local decision-making processes around community development. Importantly, the grants opportunity was perceived as completely separate from the WAC intervention. The community grants process was run exactly the same in both placebo and treatment communities, and the independent implementer was not aware of the treatment status of communities. The grants competition was open to all community members (not just WAC members) and open to both male and female applicants, and none of the program advertisements mentioned anything related to the targeting of women. The grants

[10]This amount was determined through extensive consultations with local partners to ensure that grants would be sufficiently valuable to build a meaningful local development project.

competition in Nigeria attracted nearly 7,000 applicants and 1,400 applications, demonstrating that community members found the opportunity valuable and credible.[11]

Having an independent behavioral measure helps to mitigate concerns about potential social desirability bias in self-reported survey measures and provides a real-world test of whether women organized and acted collectively following the intervention. These multiple data sources provide a robust basis for estimating the causal effects of the group-based training on women's political participation in local governance.

4 Results

This section presents the Nigeria study's pre-registered results in alignment with the Metaketa V Meta-PAP hypotheses. Our theory of change posits that structured group-based trainings can foster collective efficacy among women, thereby increasing both their engagement in local political processes and the quality of that engagement. The pre-analysis plan committed to evaluating three main hypotheses concerning women's participation and leader responsiveness, six secondary hypotheses concerning intermediate psychological and informational mechanisms, and two hypotheses related to heterogeneous treatment effects. All hypotheses were pre-registered, and outcome measures were harmonized across the Metaketa country studies to facilitate future cross-country meta-analysis.[12]

4.1 Participation in Local Civic Processes

To assess whether the group-based trainings increased women's engagement in local civic processes, we consider both behavioral and self-reported outcomes. Political engagement

[11]The grants competition was advertised in all 450 study communities because the broader research design included an additional treatment arm. The analysis in this study focuses on 300 of these communities (the control and treatment groups), although the approximately 1,400 grant applications were submitted by participants from all 450 communities. Table A1 displays the number of applications received by treatment condition.

[12]Details regarding the specific questions used to construct each index can be found in our pre-analysis plan.

comes in many forms, from voting in national and local elections, to attending political rallies, to protesting and engaging in contentious politics, among other activities. Political participation also includes more quotidian forms of participation, such as routine interactions within community forums where decisions about resource allocation and local development priorities are made. We focus on these everyday forms of participation, which shape life in rural communities directly and which women can plausibly put into practice during the time frame of the study.

We first look at whether a woman applied for a community grant or served as the lead applicant on the proposal. We find that treated women were more likely to participate both as lead applicants (i.e., sponsors) and applicants (i.e., either leads or co-signatories). This is true whether we use administrative records (considering our primary specification, without covariate controls, we observe a 5.4 percentage point (pp) increase in sponsorship and 16.8 pp increase in applying; see panel Ia in Figure 1) or self-reports (we observe a 13.5 pp increase in sponsorship and 33.7 pp increase in applying; see panel Ib in Figure 1).[13]

We additionally constructed a composite index of self-reported participation using data from the women's survey. These participation measures reflect everyday forms of participation relevant to public service delivery at the local level, in which women may have engaged over the past six months. The index intends to capture a wide range of participation activities, including participating in formal community meetings where local issues are discussed, initiating direct contact with local elites, and asking others in the community to participate on your behalf. Specifically, the index includes the following activities: having attended a community meeting, having spoken in a community meeting, having contacted a political elite about some important problem,[14] having the phone number of their traditional leader, having asked anyone for information related to local service delivery, having tried to access any documents related to local service delivery, and having asked someone to attend a

[13]The full regression tables for effects reported in Figure 1 are in Appendix E.

[14]Specifically, we asked about contacting ward councilors, members of parliament, bureaucratic agents, traditional leaders (baales), religious leaders, political party leaders, and market leaders. These elites are considered critical to community development projects and local services in rural Nigeria.

community meeting on your behalf.

As shown in panel Ib of Figure 1, analysis of this composite index provides strong evidence that the intervention significantly boosted political engagement among treated women: the intervention led to a 0.28 standard deviation (SD) increase in women's engagement with local governance. We find similar effects when using an alternate, binary outcome variable for a woman having affirmatively answered any of the political participation questions, indicating a 7.3 pp increase due to treatment. Movements of this magnitude reflect substantively meaningful change: for example, the approximately 10 percentage point increase in community meeting attendance we observe is comparable to the size of the gender gap in meeting attendance in rural Nigeria seen in Afrobarometer data. When benchmarked on comparable percentage point changes in community meeting attendance, the estimated increase exceeds that generated by a light touch training intervention in India that did not involve group formation(Kosec et al., 2024), though is smaller than the effects observed in a more intensive group-based intervention in India, where women met more frequently and over a longer period of time (Prillaman, 2016).[15]

When we analyze individual elements of the index separately, all individual measures of everyday participation increase when women are assigned to the training intervention, and most are individually statistically significant as well (see Figure A3). This shows that improvements in the index are not driven by a single form of participation but by broad increases in levels of political participation.

4.2 Quality of Participation

Beyond increasing women's level of participation in local civic processes, the intervention also improved the quality of women's participation. Again, we rely on both behavioral and self-reported measures of participation quality–and quality measures are equal to zero for

[15] A forthcoming meta-analysis situates the effect sizes reported here relative to similar group-based interventions implemented as part of the five-country coordinated Metaketa study, showing that the magnitudes reported here fall within the upper range of estimates for comparable women's empowerment programs.

women (or groups, in the case of several group-level measures of quality of participation that we use) who do not sponsor or otherwise apply for a grant.

First considering our behavioral measures (panel IIa of Figure 1), independent reviewers blinded to treatment status and applicant details, scored the quality of community grant applications in terms of their clarity and relevance.[16] After evaluating the focus of the grant application, as well as its clarity and relevance, reviewers then received the applicants' details. For each WAC woman, if she was on more than one application, the scores of her highest-scoring application were used. We find that treatment significantly improved women-level behavioral measures of grant clarity (by 11 pp) and relevance (by 15 pp).

We additionally examine several indicators of quality of participation at the group level, testing whether WACs in treatment communities are more likely to collaborate and pursue a shared goal. First, we code whether at least two women from the same WAC collaborated on a joint submission ("grant coordination"). Second, we code a measure of "grant policy match," which is the extent to which the focus of grant applications supported by WAC women matches priorities women revealed privately in their survey responses).[17] Treatment indeed increased these group-level indicators of quality of participation, with coordination increasing by 21 pp and "policy matching" by 15 pp (Figure 1). Overall, we conclude that WAC women receiving trainings had objectively stronger community grants submissions.

We also constructed a pre-specified index measuring the self-reported quality of women's engagement with local leaders. The index measures whether interactions were perceived as clear and understandable, relevant and actionable, and well coordinated with other community members.[18] We again find significant treatment effects, as shown in panel IIb of Figure 1.

[16]Clarity is a binary index based on reviewer assessments of how clearly written the proposal is, how well-documented the needs outlined are, and how logical the argument is in terms of explaining why the proposed project will address the identified community needs (each measured on a 1–4 scale from *not at all* to *very*, and a proposal received a 1 if the total score was greater than or equal to 9). Relevance is also a binary indicator of whether the proposal scored greater than or equal to 3 (each proposal was scored from 1–4 on how relevant the proposal is to the details of the call.

[17]Specifically, for each WAC group (300 in total), the policy match is coded as a 1 if any grant proposal supported by a WAC member fell in a sector category (e.g. agriculture, health) that any WAC woman within the same WAC indicated on the women's survey as being a sector priority—and otherwise it is 0.

[18]Specifically, we analyze an index comprised of seven survey questions encompassing women's assessment

Treated women scored 0.23 SD higher on this index than those in the control group, indicating improvements in their perceptions of how they expressed their views, collaborated with peers, and communicated with local leaders.

4.3 Responsiveness from Local Leaders

Group-based trainings also led to improvements in local leaders' actual responsiveness to women's civic engagement. The treatment modestly increased the likelihood of receiving a community grant, though the effect is small and sensitive to specification (see panel IIIa of Figure 1). In models with covariate controls, treatment is associated with a 0.8 pp increase in grant receipt ($p < 0.01$). In our primary specification without covariate controls, the estimated effect is 0.7 pp and falls short of conventional levels of statistical significance ($p = 0.105$). The small size of the coefficient on treatment is unsurprising given the large number of applications (1,396) relative to the number of awards (15) (see Appendix C for more details).

Nonetheless, we observe robust evidence of treatment-induced responsiveness in our behavioral outcomes in two additional ways: (1) which applications were endorsed by local elites; and (2) whether women were encouraged to apply by local elites(see panel IIIa of Figure 1). As part of the selection process, local elites had the option to endorse applications and advance them to the next review round, overseen by a higher-ranked elite, who in turn also chose whether or not to endorse the applications. All elites—baales (traditional community leader), ward councilors, and LGA chairmen—were aware that their endorsements would contribute to funding decisions. We observe a 12.6 pp increase in the likelihood of a WAC woman having a proposal endorsed by a leader. Treatment effects are evident

on the following: (i) clearly communicating the problem they faced in a town hall meeting; (ii) clearly communicating the problem to the most recent individual they contacted with influence over local service provision they contacted; (iii) clearly communicating what action they wanted the government to take; (iv) clearly communicating what action they wanted a local politician to take; (v) requesting an action that was within the local politician's authority; (vi) speaking on behalf of themselves or a group during a town hall meeting; and (vii) speaking on behalf of themselves or a group when contacting a local politician. For respondents who did not participate in a given activity (i.e., did not speak in a meeting or contact a leader), the corresponding item(s) were coded as zero.

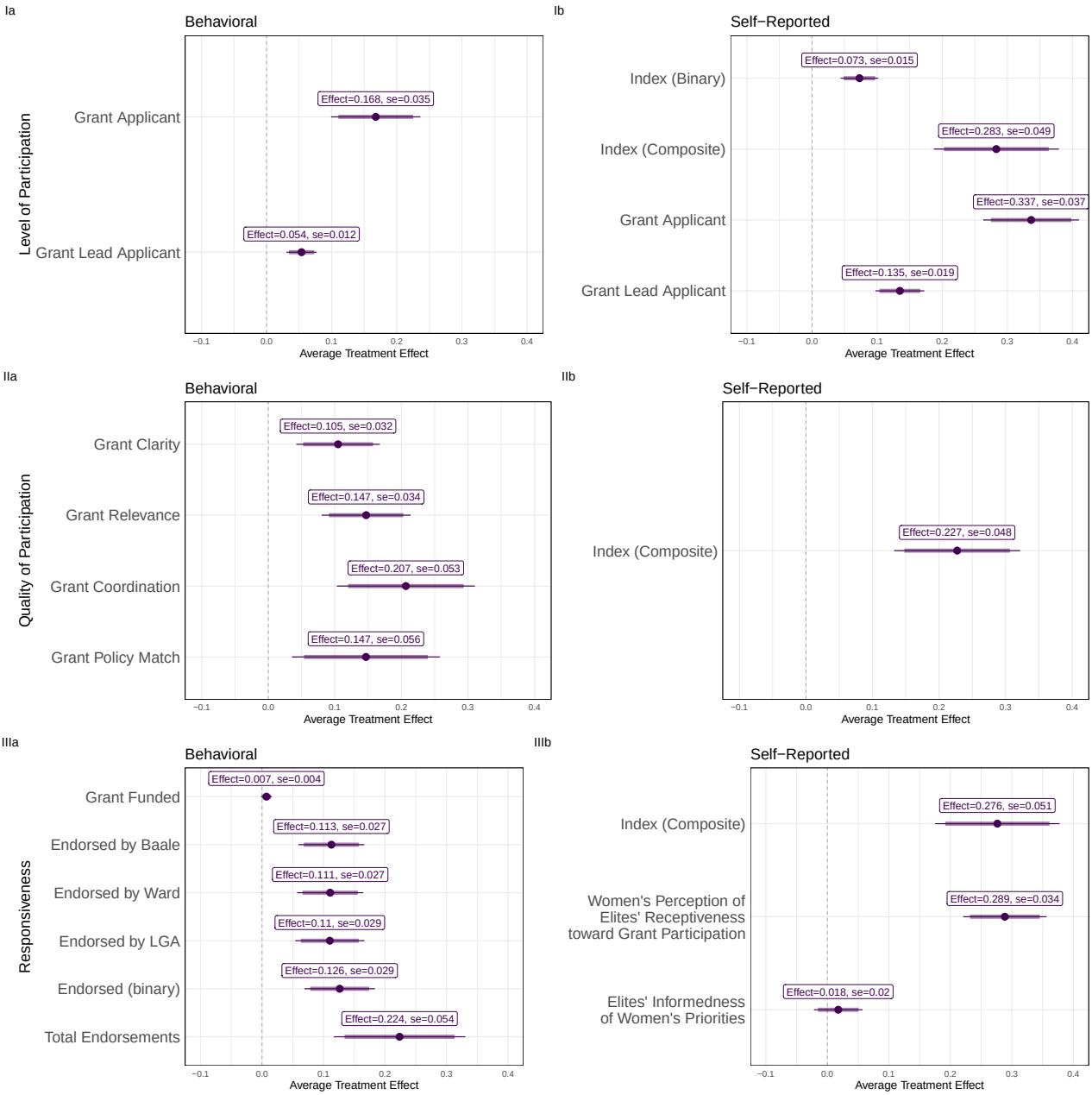
across all leadership tiers: relative to control, treated women are between 11.0 and 11.3 percentage points more likely to receive endorsements from the baale, ward councilor, and LGA chairperson. In aggregate, treatment increases the number of endorsements secured by 0.22 on average. In addition, treated women are 29 percentage points more likely to report that a local leader encouraged them to apply to the community grants program than their untreated counterparts (see panel IIIb of Figure 1).

Using our women's survey data, we additionally construct an index capturing key dimensions of perceived responsiveness, including whether women self-report that local leaders invited them to take part in other decision-making processes, and whether they made them feel heard and acknowledged in public fora (see panel IIIb of Figure 1).[19] Treated women reported a 0.28 SD increase in this responsiveness index relative to the control group. While some of these responses may reflect recognition of women's increased civic activity rather than a fundamental shift in elite attitudes, when considered in light of our behavioral measures, they provide evidence consistent with the intervention successfully raising the visibility, if not the legitimacy, of women's political participation.

To measure local elites' informedness, local leaders were surveyed about what they believed were women's policy priorities within their communities. We then estimate the Euclidean distance between elites' assessment of women's priorities by sector and women's responses indicating their priorities on the endline survey. We do not find evidence that elites from communities with treated women were more informed about women's preferences. However, we interpret this finding with caution, as this measure assumes that the priorities of the 13 women in the WACs represent the priorities of women in the community as a whole, which is not a trivial assumption.

[19]Specifically, the index comprises six variables: (i) a leader they contacted helped them solve the issue they raised; (ii) a leader tried to do something in response to what they said at a meeting; (iii) they felt a leader they contacted with influence over local services listened to them; (iv) they felt a leader they contacted with influence over local services acknowledged the issue they raised; (v) they think the local elite cares about their preferences; and (vi) in the past three months, the local elite approached them or other women they know to ask for input in local decision making. For respondents who did not participate in a given activity (i.e., did not speak in a meeting or contact a leader), the corresponding item(s) were coded as zero.

Figure 1: Effects of Women's Action Committees on Primary Outcomes



Notes: Point estimates are difference-in-means models that include block fixed effects. Averaged indices for level and quality of participation and responsiveness were standardized. The remaining measures are binary and reported as a proportion. Grant coordination, grant policy match, and elite informedness were analyzed at the group level using HC2 robust standard errors. Analysis for the remaining measures is at the individual level and standard errors are clustered at the women's group (community) level. Thinner bars indicate 95% confidence intervals while thicker bars indicate 90% confidence intervals. Units are either as a proportion (binary measures), in standard deviations (SD), or count (total endorsements measure). Coefficients presented in tabular format can be found in Appendix E.

4.4 Mechanisms of Change

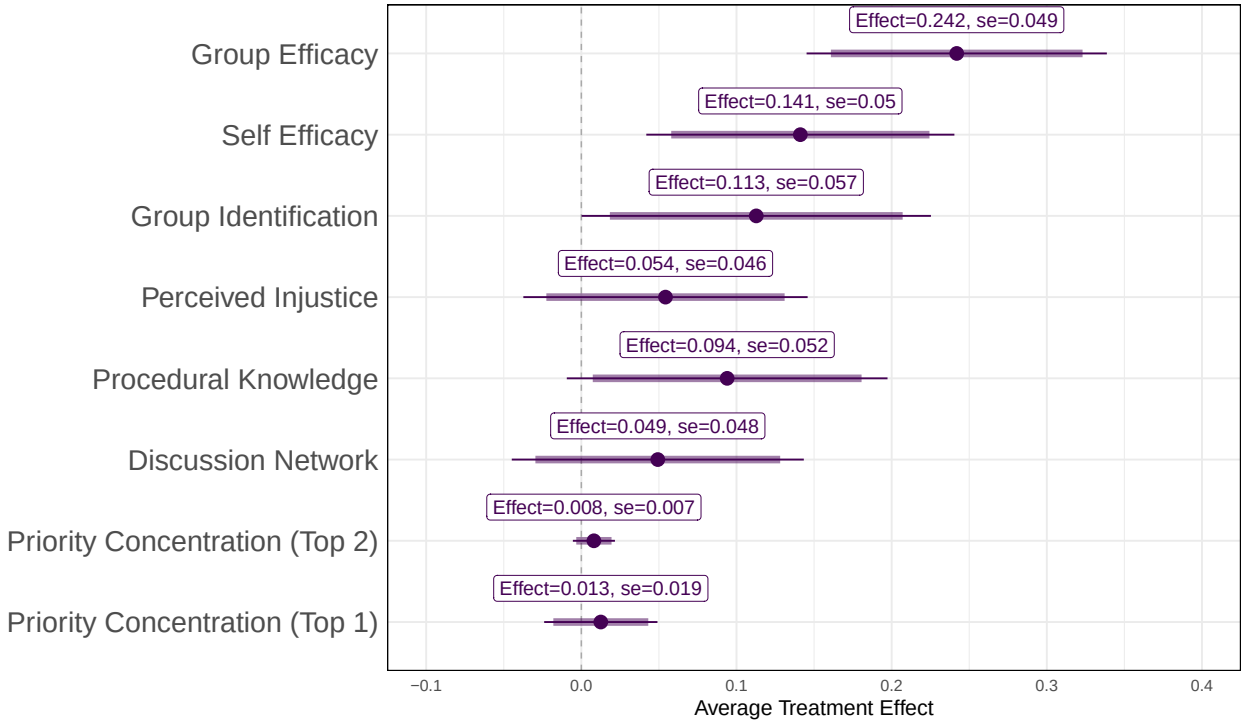
The intervention tested a set of pre-registered mechanisms theorized to mediate the effects of group-based training.[20] Statistically significant ($p< 0.01$) improvements in women's perceptions of group efficacy–defined as their confidence in mutual support, shared values, and trust among women in their community–emerged as a key mechanism. We find that treated women also exhibited statistically significant increases in self-efficacy, indicating greater confidence in their own ability to participate in political life (see Figure 2 and Table A7 in Appendix E for the average treatment effects of the women's training intervention on the seven pre-specified mechanisms). We also find modest increases in women's group identification ($p = 0.0497$)—capturing their sense of pride, solidarity, and belonging as women—along with improvements in women's increased procedural civic knowledge regarding representatives' identification, responsibilities, and processes to contact ($p = 0.07$). This set of results is generally consistent with the SIMCA framework, which identifies both perceived efficacy and group identity as central to mobilizing collective action.

By contrast, women in the treatment group did not exhibit greater recognition of gender-based injustice, greater homogeneity in their priority preferences, nor expanded their political discussion networks. One possible explanation is that participants entered the WACs with a high baseline awareness of gender-based discrimination, which limited the potential for further shifts in perceived injustice. In this context, lessons aimed at identifying discrimination against women may have had limited impact. Additionally, cultural norms that discourage open criticism of gender-based norms may have constrained how women expressed such grievances. Thus, rather than providing a channel for articulating new group-based grievances, the intervention may have provided a space to channel latent concerns into collective engagement. These null effects suggest that the activation of political engagement does not necessarily require a shift in perceptions of injustice or broader network exposure. Instead, the levers of change in our study appear to be driven by increases in perceived group

[20]The design did not allow us to perform a mediation analysis, so the results here remain suggestive.

and self-efficacy, group identification, and informational gains. Taken together, these findings are suggestive of the importance of psychological empowerment, rather than intensified grievance, as a pathway for increasing women's political participation. However, because the intervention may have also affected skills, confidence, or other unmeasured factors, we cannot rule out alternative explanations for these observed effects.

Figure 2: Mechanisms to Explain the Effects on Primary Outcomes



Notes: Point estimates are difference-in-means models that include block fixed effects. The first six measures are analyzed at the individual level with standardized units, and standard errors are clustered at the women's group (community) level. Analysis for the last two measures, priority concentration, is conducted at the group level and therefore uses HC2 robust standard error estimates. Thinner bars indicate 95% confidence intervals while thicker bars indicate 90% confidence intervals. Units are in standard deviations (SD). Coefficients can be found in Table A7 in Appendix E.

4.5 Heterogeneous Treatment Effects

We investigate heterogeneous treatment effects by two pre-registered demographic characteristics that we consider proxies for an individual's underlying baseline influence in their community: age (see Appendix E.2) and literacy status (see Appendix E.3). Age is an impor-

tant marker of respect and status in rural communities that correlates with influence. Prior research shows that younger members of society, particularly those under 35, tend to be less politically involved (Resnick and Casale, 2014) and may face marginalization (Van Gyampo and Anyidoho, 2019). Literacy status, in turn, may be a complement to trainings aimed at spurring women's political engagement, as newly galvanized women who are literate can act on the training content in written forms and possibly advocate more cogently for their needs, particularly in contexts with high barriers to participation (Resnick and Casale, 2014; Sanyal and Rao, 2018).

Treatment effects that were statistically significant overall remained so both when analyzing women under 35 and women over 35. In many cases, in fact, we identified no statistically significant differences in effects across age groups. However, modest heterogeneity emerged in specific areas. Younger women (under 35) appeared somewhat more responsive to the treatment's psychological empowerment approach, particularly in overall political participation (as captured by our binary, though not for our index, measure), quality of participation (as measured by our self-reported index), and perceptions of local leader responsiveness (as measured by the self-reported measure). However, these results are not robust to the inclusion of covariates. Interestingly, when revising the magnitudes of heterogeneous treatment effect for these outcomes, it appears that treatment helped younger women to almost exactly "catch up" to older women's higher average levels of political participation and perceived responsiveness. This is consistent with ceiling effects for older women. We find no evidence that effects on self-reported and behavioral measure of participation (either as co-signatory or sponsor) in the community grants competition varied with age.

For intermediate mechanisms, the treatment produced broad increases in group and self-efficacy across age groups, although group efficacy gains were significantly stronger among younger women. There was a larger effect of the treatment on older women's sense of group-based injustice; young women's views on group-based injustice were unchanged by the treatment. Moreover, there was a modestly larger effect of the treatment on younger

women on civic knowledge and discussion networks. In contrast, there was no significant age-based heterogeneity for group identity. Taken together, these results suggest that the group-based training activated distinct psychological pathways across age cohorts, while promoting the level and quality of civic engagement among women of all ages.

Regarding heterogeneity by literacy, statistically significant treatment effects remained both when analyzing literate women and when analyzing illiterate women. We do not find evidence that the treatment's impacts on the level or quality of political participation varied with literacy status. However, literate women were significantly more likely than illiterate women to serve as the sponsor of a community grant—whether we use our behavioral or our self-reported measures—possibly reflecting a deference to those with literacy skills, given that the application process required the completion of written forms. Regarding intermediate mechanisms, the intervention had a greater effect on enhancing group-based and self efficacy among literate women. However, for all other measured psychological pathways, we observe no significant differences in treatment effects by literacy status.

5 Conclusion

We observe robust evidence that group-based interventions can enhance women's political empowerment even in politically restrictive and patriarchal environments. The intervention employed structured, small-group trainings to meaningfully enhance the level and quality of women's participation in local governance, as well as local leaders' responsiveness to women's preferences. Notably, these gains were achieved without institutional reform or broader normative shifts, underscoring the potential of targeted psychological empowerment strategies in environments where women face entrenched exclusion due to weak democratic institutions and restrictive gender norms. The gains were also achieved at relatively low cost: total intervention costs were approximately $45 per treated individual, inclusive of costs of training the facilitators, implementation, training materials, supervision, and monitoring

costs.[21]

By leveraging existing community structures and working through trusted local facilitators, the study illustrates how civil society organizations like AAN can deliver culturally resonant and scalable programming. While AAN designed the training curriculum, implementation relied on locally-recruited facilitators with strong ties to communities, like teachers and social workers, rather than specialized professionals, suggesting that the training program could be scaled by other organizations with training and supervision infrastructure. The intervention worked through group-based trainings that enhanced women's shared sense of purpose and mutual accountability. These findings align with theories of collective action that emphasize psychological empowerment, particularly collective efficacy, as a critical pathway for expanding civic engagement in restrictive settings. At the same time, the study's design cannot definitively distinguish the role of collective efficacy from other plausible mechanisms, such as skills acquisition, suggesting the need for further research to parse these competing explanations.

Our findings also highlight important heterogeneity in how women respond to empowerment interventions. Age-disaggregated analyses suggest that psychological drivers may operate differently across life stages. Younger women benefited more from gains in efficacy, perceived responsiveness, and participation, while older women were more likely to express greater group-based injustice. These divergent patterns may reflect differences in life-stage experience and community standing—factors that shape how women engage with political opportunities. Future interventions may therefore benefit from adjusting training content to align with participants' demographic profiles.

The Nigeria experience further offers preliminary insights on scalability. A design that relied on community-based groups and non-material incentives suggests that this model could be expanded with modest resources. Nevertheless, there are potential costs that need to be taken into consideration. Sustaining participant engagement and ensuring consistent delivery

[21]This cost represents approximately 5% of annual per capita income in Nigeria.

of training would necessarily require an upfront investment in local capacity and facilitator training. Programs seeking to replicate this model on a larger scale would also need to build in sufficient flexibility to allow for responsiveness to local norms and constraints, which can vary widely in diverse states.

Looking ahead, the Nigeria study highlights promising directions for both scholarship and practice. It provides proof of concept for potentially scalable interventions that can generate meaningful shifts in women's political behavior even in the absence of institutional reform or normative change. Of course, it does so with the caveat that our observed changes—measured approximately 2–3 months following the completion of our interventions—could be temporary responses rather than durable behavioral shifts. Future work is needed to assess such programs' ability to confer enduring improvements in women's political participation. In addition, studies that disentangle the relative contributions of curriculum content versus repeated group interactions would inform scaling and cost-effectiveness considerations, given that the intervention combines multiple components. Notably, leveraging the placebo condition, we establish that group formation alone is insufficient to generate the effects we document. The study also points to the limits of current theoretical frameworks in capturing the full range of mechanisms through which empowerment can be activated. Future research should aim to disentangle these mechanisms more precisely and assess the durability of these effects over time. Doing so will be essential for advancing an agenda that not only promotes gender inclusion in governance, but also for sharpening our understanding of how collective action can emerge under the adverse political conditions found in many hybrid regimes around the world.

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Supplementary Appendix:

Training for Transformation:
Overcoming Barriers to Women's Political Participation

A Randomization

The data used for block randomization were the following, where point of collection is indicated for each:

1. Size of the initial Women's Action Committees (WACs) (collected at burn-in meeting based on total attendance by women)

2. Presence of an Electricity Grid (from the Supervisor Survey question: "Are the following services present in the community area? Electricity grid that most houses can access (Y/N)")

3. Presence of a Sewage System (from the Supervisor Survey question: "Are the following services present in the community area? Sewage system that most houses can access" (Y/N)")

4. Presence of Mobile Phone Service (from the Supervisor Survey question: "Are the following services present in the community area? Mobile Phone Service" (Y/N)")

5. Presence of a Borehole/Tube Well (from the Supervisor Survey question: "Are the following services present in the community area? Borehole or Tubewell" (Y/N)")

6. Presence of Post Office (from the Supervisor Survey question: "Are the following services present in the community area or in easy walking distance? Post Office" (Y/N)")

7. Presence of a School (from the Supervisor Survey question: "Are the following services present in the community area or in easy walking distance? School (public or private or both)" (Y/N)")

8. Presence of a Police Station (from the Supervisor Survey question: "Are the following services present in the community area or in easy walking distance? Police Station" (Y/N)")

9. Presence of a Health Clinic (from the Supervisor Survey question: "Are the following services present in the community area or in easy walking distance? Health Clinic (private or public or both" (Y/N)")

10. Presence of Market Stalls (from the Supervisor Survey question: "Are the following services present in the community area or in easy walking distance? Market Stalls (selling groceries and/or clothing" (Y/N)")

11. Presence of a Bank (from the Supervisor Survey question: "Are the following services present in the community area or in easy walking distance? Bank, money transfer point, mobile banking services or ATM" (Y/N)")

12. Presence of a Means of Transportation (from the Supervisor Survey question: "Are the following services present in the community area or in easy walking distance? Is there any kind of paid transport such as bus, taxi, moped, or other form, available on a daily basis" (Y/N)")

13. Presence of Police Road Blocks (from the Supervisor Survey question: "In the community, did you (or any of your colleagues) see any roadblocks set up by the police or army? (Y/N)")

14. Presence of Customs (from the Supervisor Survey question: "In the community, did you (or any of your colleagues) see any customs checkpoints? (Y/N)")

15. Presence of Private Road Blocks (from the Supervisor Survey question: In the community, did you (or any of your colleagues) see any roadblocks or booms set up by private security providers or by the local community? (Y/N)")

16. Road Conditions (from the Supervisor Survey question: "Thinking of the journey here: What was the condition of the road in the last 5 kilometers before reaching the start point of the community? Was the road in excellent or good condition and easy to traverse, or was it in poor or very poor condition, that is, difficult to traverse due to potholes, water-logging, or other issues, or was it impassable at any point (e.g., due to a collapsed bridge, fallen tree, flooding, etc.)? (Impassable, Very Poor, Poor, Fair, Good, Very Good)")

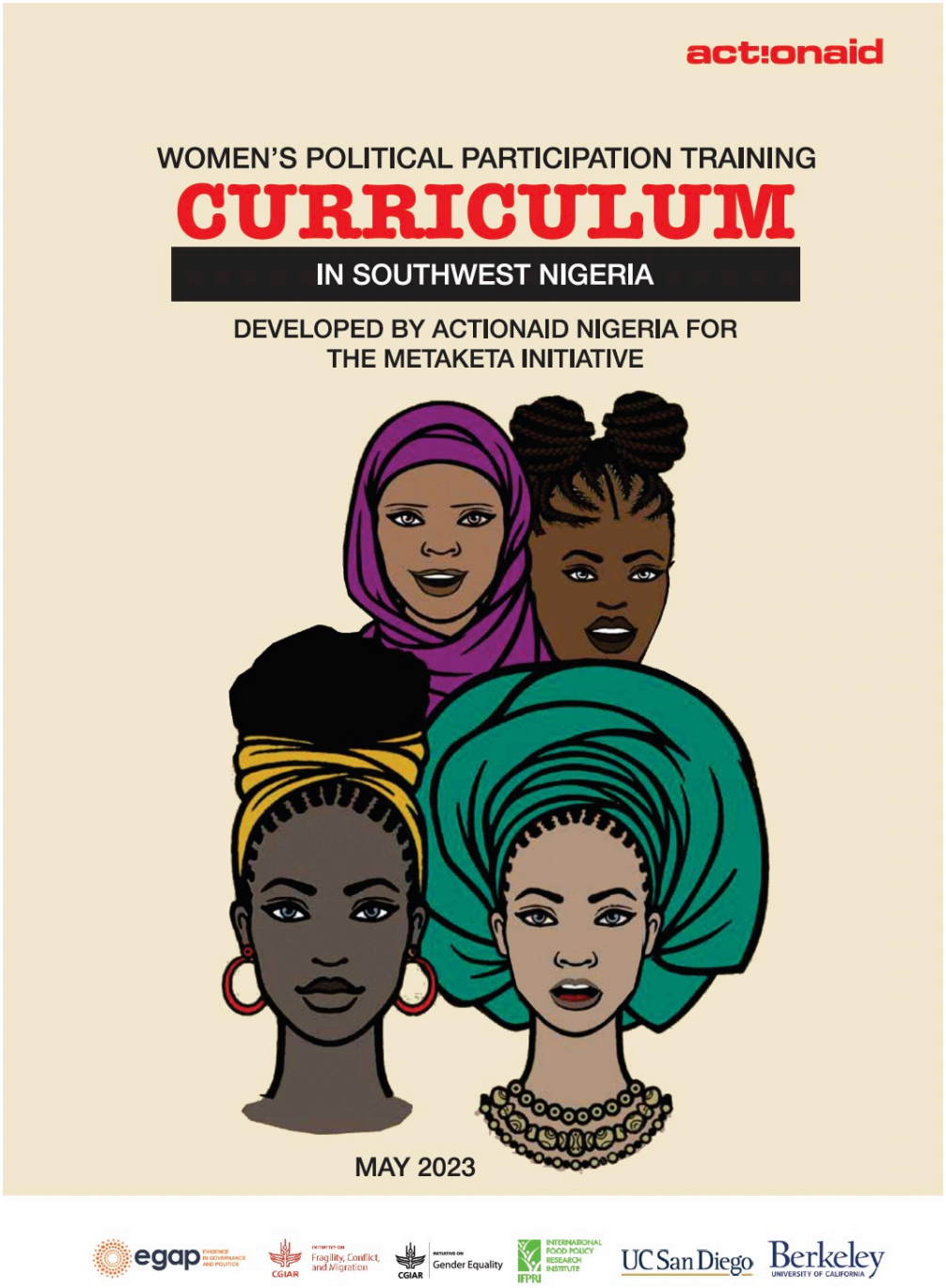
B Curriculum Details

All study participants attended the burn-in meeting, which was disseminated in a unidirectional way (i.e., not through engaging group activities). Treated women received additional training across five group-based sessions that facilitated dialogue aimed at increasing the following key components of the social identity model of collective action (SIMCA) that is core to Metaketa V: (1) recognition of shared injustices; (2) the salience of gender identity; and (3) the collective action capacity of the groups. A description of the burn-in meeting content and the AAN's activities aimed at activating each of these three aspects of the SIMCA model is provided below. The full curriculum can be accessed in English and Yoruba.

B.1 Burn-in Meeting

- Basic civil education and political information: background on the national identity of Nigerians (flag, coat of arms, national anthem and prayer, and how to promote national identity); the Nigerian constitution; participation opportunities (e.g., locations and periodicity/ timing of community meetings); and the identities of local leaders, as well

Figure A1: Cover of AAN's Women's Training Curriculum



as their responsibilities and contact information; government structures at different levels and how policy processes operate.

- Information on the new community grants program (being managed by Lofty, Inc.) for which any community member or group will be eligible to apply (with requested submission of applications at least 5 months out—and thus post-dating all training sessions in all study arms). As noted above, this community grants program will generate outcome data that will be part of the study.

B.2 A Sense of Group-Based Injustice

- Understand common grievances of women (e.g., over gender-based inequalities in public services)
  - Session 1: [Rights and Responsibilities of Duty-Bearers] Discussion that informs women about their rights and entitlements; and begins to explore group-based grievances by discussing whether women and men have the same rights in practice.
  - Session 1: [Situation Analysis A - Identifying Common Issues] Participatory activity enabling women to identify and discuss common grievances around their participation, economic rights, and access to public services.
  - Session 1: [Situation Analysis B - Identifying Public Goods and Services Available to Women] Participatory mapping activity to identify public goods and services, and who has power over them.
  - Session 1: [Take-Home Exercise] Talk to family members and each other about collective grievances surfaced in the session.

B.3 Politicized Group Identity

- Increase women's shared identity as women (e.g., guided discussions about shared experiences)
  - Session 2: [What It Means to Be a Woman in Nigeria] Guided discussion activity.
  - Session 2: [Group Identity] Introduction of what a shared identity is with a discussion of what brings women in the community together, noting relevant local women's groups.
- Identify common needs/goals (e.g., formulate common demands through group activities)
  - Session 2: [Common Values and Value Clarification Exercise] Discussion and participatory matrix-creation activity to collectively create a list of expectations of goods and services.
  - Session 2: [Working Towards the Common Interest of Women as a Group] Discussion of contextual case studies around problems commonly faced by women in Nigerian communities.

  - Session 2: [Identifying Common Needs and Goals of Women in the Community] Participatory card sort activity facilitating group to identify, list and prioritize common problems.
  - Session 2: [Take-Home Exercise] Practice discussing and articulating common needs, goals, and requests for support to partner, family members, other women and community members.

B.4 Perceived Efficacy

- Session 4: Understand the benefits of coordinated action (e.g., present success stories of WACs elsewhere in the country or abroad)
  - Session 4: [Concept of Advocacy and Stakeholders] Guided discussion on topics, including organizing group issues, target audience (stakeholders), and possible barriers, alliances, and ways to present the issues to the target audience.
- Process information about local decision-making processes (e.g., formal channels influence local decision-making)
  - Session 4: [Collective Dream Mapping] Participatory diagramming activity helping women articulate deprivations, risks and strengths of their community, and plan interventions together.
  - Session 4: Sourcing Information about Local Decision-Making and Funding Processes] Creating a directory of key stakeholders, decision-makers and influencers.
- Identify points of influence (e.g., provide contacts or meeting details for local level decision-making institutions)
  - Session 3: [The Role of Men] Discussion of actions that men can take to support women.
  - Session 3: [What Can Male Champions Do?] Identifying points of action that men can take at each level (household, community, outside community), specific actions, and which sub-groups of women they can support (e.g. younger, older, working, etc.) through a table listing exercise
  - Session 3: [Take-Home Exercise] Discussions with spouse about specific actions of support
  - Session 4: [Concept of Advocacy and Stakeholders] Guided discussion on topics, including organizing group issues, target audience (stakeholders), and possible barriers, alliances, and ways to present the issues to the target audience.
  - Session 4: [Peeling the Onion Activity] Participatory activity to uncover deeper understanding of different forms of power and specific points of influence related to specific issues.
  - Session 5: [Identifying Points of Influence, Chapati Diagram Exercise] Participatory exercise to explore relationships between stakeholders, local leaders, decision-makers, and women.

  - Session 5: [Gatekeeper Tool Exercise] Exercise to identify key gatekeepers and relationships that women need to make.

- Communicate effectively with decision-makers (e.g., conduct soft skills training)
  - Session 4: [Concept of Advocacy and Stakeholders] Guided discussion on topics, including organizing group issues, target audience (stakeholders), and possible barriers, alliances, and ways to present the issues to the target audience.
  - Session 6: [Effective Communication with Decision-Makers] Provision of information on how to communicate with gatekeepers, focusing on culturally appropriate communication approaches.

- Discuss feasible changes in the local context (e.g., present examples of successful changes that are viable at this level of government and safe to advocate)
  - Session 4: [Concept of Advocacy and Stakeholders] Guided discussion on topics, including organizing group issues, target audience (stakeholders), and possible barriers, alliances, and ways to present the issues to the target audience.
  - Session 5: [Locally Feasible Policy Changes Guided Discussion and Action Planning] Discussion and development of plans to generate community support and find external resources.

C Community Grants Competition

C.1 Localization of Community Grants Program

We partnered with Lofty, Inc. to administer the community grants program, which was developed to have a behavioral measure of whether the intervention caused an increase in the level and quality of political participation, as well as policy responsiveness.

The grants competition was heavily advertised only in the three project states. Flyers (see Figure A2) were distributed in each project ward, and a radio ad was released throughout the project states. Applications were distributed through the Baales (i.e., village head) in each ward. Applicants were instructed to return completed applications to the Baale, and Lofty, Inc. collected these applications with information on which application(s) the Baale endorsed.

Subsequently, these applications were shared with Ward Councilors and LGA heads to obtain their recommendations (that is, scores and endorsements). Next, the top 45 applications were chosen— based on an algorithm that considered the Baale, Ward, and LGA scores and endorsements, as well as whether the project met basic application instructions—to then be reviewed by a selection committee formed by Lofty, Inc. The committee scored each application individually before convening to select the winners. The research team monitored this meeting.

Fifteen winners (five winners per state) were selected and awarded the grants. Although the award amount was advertised as ₦1.8 million, given the rapid appreciation of the U.S. dollar (increasing the amount of Naira that Lofty, Inc. received) and inflation issues (affecting

Figure A2: Community Grants Flyer

the cost of projects) that occurred between the competition's announcement date and the date awards were issued, each winning team received ₦2.25 million. The award funds were distributed in three tranches, verifying that the funds were used for the winning projects between each disbursement. Table A1 provides the number of grant proposals submitted, awarded, and those awarded with at least one WAC member applicant.

D Research Ethics

The research team conducted this study in Nigeria in strict adherence to the highest standards of ethical research. The project addresses a critical gap in a political context characterized by incomplete democratization and currently classified as an electoral autocracy. Nigeria exhibits substantial gender inequality, reflected in low gender equality indicators and large disparities in civic engagement (e.g., 44% of men versus 22% of women report having contacted local officials in the past year). These conditions underscore the importance of increasing women's meaningful participation in local governance so that their concerns are reflected in public policy.

The intervention was implemented across three southwestern states. The selection of locations and the use of a randomized controlled trial were driven in part by cost and capacity constraints of the implementing partner, ActionAid Nigeria (AAN). Under these constraints, randomization constituted the fairest method for allocating limited organizational resources

Table A1: Grant Proposals Submitted and Awarded by Treatment

Condition	Submitted	Awarded	Awarded w/ WAC Sponsorship
Control	418	3	2
Treatment	540	9	6
Total	958	12	8

Notes: In a second treatment arm, 438 proposals were submitted and 3 were awarded, two of which had at least one WAC member applicant. The grants competition totaled 1396 submissions and 15 funded grants.

across eligible communities.

This study forms part of the Nigerian arm of the broader Metaketa V initiative, a coordinated set of experiments on "Improving Women's Political Participation through Collective Efficacy." The project was approved by the UC Berkeley Institutional Review Board (protocol #2022-08-15565), with the University of California San Diego and the International Food Policy Research Institute (IFPRI) operating under reliance agreements, and by the Nigerian National Health Research Ethics Committee (NHREC/01/01/2007–03/02/2023). The study adheres to the *Principles and Guidance for Human Subjects Research* of the American Political Science Association (approved by the APSA Council in 2020). We describe below how these principles informed the research design and implementation.

1. **Respect for autonomy, wellbeing, and ethical transparency.**

   The study was designed to maximize voluntary participation and minimize coercion. All participants provided informed consent after receiving detailed explanations of the study's purpose, procedures, risks, and benefits. Participants were compensated for survey participation using telephone credits at baseline and cash at endline, consistent with participant preferences.

   Participation in training sessions required substantial time commitments. Demand for participation was high, suggesting perceived value among participants. All women in training groups received laminated identification cards documenting group membership and skills acquisition, which carry social value in this context. Refreshments were provided during sessions, and all participants received a final gift of cooking oil, regardless of session attendance. This substituted for rice, which proved logistically infeasible to transport.

   Household dynamics posed a context-specific ethical concern. To mitigate risk, the research team engaged husbands during recruitment to avoid situations in which participation might expose women to harm. Communities were informed about the grants competition without deception, and all communities were eligible regardless of treatment status. Although participants were not fully debriefed at endline due to anticipated long-term follow-up, facilitators explained treatment arms and randomization

procedures during the initial burn-in meeting. No information about the general purpose, nature, or design of the study was withheld.

2. **Researcher responsibility beyond formal review.**

   While institutional review boards provided careful oversight, the research team engaged in continuous ethical reflection through internal discussions of pre-analysis plans and ongoing collaboration with an implementing partner with over 22 years of experience in Nigeria. The team engaged local authorities prior to baseline data collection to generate awareness and buy-in. Researchers remained attentive to ethical risks throughout fieldwork, including potential social backlash in contexts where gender norms are contested, and monitored emerging concerns through regular communication with field staff and on-site observation.

3. **Justification of deviations from ethical principles.**

   The research design was pre-registered to ensure transparency regarding hypotheses, methods, and analysis. The team remained open to revising procedures if ethical concerns arose, with a commitment to documenting and justifying any deviations in scholarly outputs. No such deviations were ultimately required.

4. **Power differentials and voluntariness of consent.**

   The study population includes women who may be considered vulnerable. Informed consent procedures were therefore designed to be context-sensitive and gender-responsive. Training materials were framed to empower women while remaining attentive to prevailing social norms.

   Facilitators were recruited from local or neighboring communities to enhance rapport and contextual understanding. These facilitators were typically social workers, healthcare workers, or teachers. This recruitment strategy helped minimize power differentials between facilitators and participants.

5. **Informed consent.**

   All participants in both treatment and control communities provided informed consent. Consent scripts were reviewed and approved by the relevant IRBs. Community leaders were informed that their communities were randomly assigned to treatment or control conditions.

6. **Use of deception.**

   No deception was employed. Participants were informed of the existence of three study arms and the role of random assignment. No compensation was promised that was not delivered.

7. **Consideration of potential harms.**

   The research team assessed potential risks in consultation with implementing and survey partners. Security risks were evaluated across all potential wards in the sampling frame; none required exclusion for security reasons. Accessibility concerns led to the exclusion of three wards in Osun State due to flooding risks.

To mitigate potential social backlash from challenging gender norms, the team engaged local leaders and husbands and relied on well-trained local facilitators. Facilitators were required to check in with participants at each session regarding any negative consequences associated with participation and to report serious incidents within 24 hours. Health risks, including COVID-19 transmission, were mitigated by holding sessions in open or well-ventilated spaces and monitoring local infection rates.

8. **Protection from trauma.**

   Although participants may have experienced prior trauma, the study did not directly solicit such experiences. Protocols described above were designed to minimize the risk of retraumatization.

9. **Confidentiality and anonymity.**

   All survey data were stored in encrypted, password-protected systems. Identifying information was stored separately from survey responses. Participants were informed that contact information could be retained for future research related to this project.

10. **Broader social impacts.**

    The research team carefully considered both individual- and community-level impacts. The community grants program was designed in collaboration with a local partner to align with existing practices. Members of the core research team conducted follow-up visits in October 2024 to solicit community feedback.

11. **Compliance with laws and regulations.**

    The research team complied with all applicable laws and regulations governing research activities, as reviewed by Nigerian and U.S. ethics boards.

12. **Collective responsibility for ethical research.**

    Ethical responsibility extended beyond the core research team. The project benefited from collaboration with other Metaketa V teams, experienced local partners, and institutional stakeholders, whose input was incorporated throughout the research process.

E Appendix Tables and Figures

This section provides the tabular results of our balance test, primary analyses of the effects of the intervention, along with the results from our heterogeneity tests for participants' age and literacy.

E.1 Main Results

Table A2: Balance Test

Variable	Placebo	Treatment	P-Value
Literacy: Able to read whole sentence	0.456	0.467	0.490
Literacy: Able to read only part of sentence	0.219	0.210	0.537
Literacy: Cannot read at all	0.324	0.322	0.872
Age	36.126	36.174	0.849
Marital situation: Unmarried	0.027	0.036	0.119
Marital situation: Sole Wife	0.657	0.664	0.650
Marital situation: Polygamous, Wife 1	0.147	0.142	0.629
Marital situation: Polygamous, Wife 2	0.134	0.125	0.430
Marital situation: Polygamous, Wife 3	0.027	0.028	0.931
Marital situation: Polygamous, Wife 4	0.006	0.005	0.509
Marital situation: Polygamous, Wife 5	0.001	0.001	0.999
Marital situation: Polygamous, Wife 6	0.000	0.001	0.318
Marital situation: Polygamous, Wife 7	0.001	0.000	0.157
Household Size	5.909	6.031	0.187
Number of Children	2.208	2.294	0.098
Asset Index Score	0.006	0.022	0.604
Religion: Christian	0.503	0.557	0.001
Religion: Muslim	0.488	0.425	0.000
Religion: African traditional religion	0.009	0.018	0.019
Religiosity: Not religious	0.021	0.014	0.087
Religiosity: Somewhat religious	0.185	0.186	0.928
Religiosity: Religious	0.794	0.800	0.638
Scores for component 1	0.111	0.105	0.573
Education: Some primary schooling	0.054	0.047	0.341
Education: Complete primary schooling	0.216	0.195	0.114
Education: Some secondary schooling	0.108	0.110	0.832
Education: Complete secondary schooling	0.372	0.389	0.270
Education: Some post-secondary (but not university) schooling	0.082	0.077	0.556
Education: Some tertiary schooling (university)	0.028	0.037	0.124
Education: Complete tertiary schooling (university)	0.029	0.039	0.093
Household income (naira) using mid-point of bin	76441.953	80944.266	0.133
Personal income (naira) using mid-point of bin	32803.543	36193.449	0.047
N	1940	1939	
Proportion	0.500	0.500	

Table A3: Effect of Treatment on Women's Level of Participation

	Behavioral				Self-Reported							
	Grant Applicant		Grant Lead Applicant		Grant Applicant		Grant Lead Applicant		Index (Binary)		Index (Composite)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Women's Training	0.168***	0.170***	0.054***	0.055***	0.337***	0.335***	0.135***	0.131***	0.073***	0.074***	0.283***	0.280***
	(0.035)	(0.033)	(0.012)	(0.012)	(0.037)	(0.037)	(0.019)	(0.018)	(0.015)	(0.015)	(0.049)	(0.048)
Observations	3879	3621	3879	3621	3625	3612	3625	3612	3634	3621	3632	3619
Covariate-Adjusted	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
R Squared	0.205	0.380	0.064	0.175	0.284	0.420	0.101	0.191	0.089	0.160	0.134	0.212
Adjusted R Squared	0.189	0.332	0.046	0.112	0.269	0.376	0.082	0.129	0.070	0.096	0.116	0.152

Notes:
Estimates employ either a difference-in-means model where only block fixed effects were included or a covariate-adjustment model for outcomes analyzed at the individual level, as indicated by the "Covariate-Adjusted" row. Standard errors are clustered at the women's group (community) level for measures analyzed at the individual level. Coefficients estimate the average treatment effects of the women's training on behavioral and self-reported measures of their participation level of participation. The composite index is measured in standard deviations and the remaining outcomes are proportions.
$+ \ p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A4: Effect of Treatment on Women's Quality of Participation

	Behavioral						Self-Reported	
	Grant Clarity		Grant Coordination	Grant Policy Match	Grant Relevance		Index (Composite)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Women's Training	0.105**	0.107***	0.207***	0.147**	0.147***	0.147***	0.227***	0.227***
	(0.032)	(0.031)	(0.053)	(0.056)	(0.034)	(0.033)	(0.048)	(0.049)
Observations	3879	3621	300	300	3879	3621	3625	3612
Covariate-Adjusted	No	Yes	No	No	No	Yes	No	Yes
R Squared	0.184	0.364	0.329	0.245	0.197	0.374	0.114	0.182
Adjusted R Squared	0.168	0.316	0.105	-0.008	0.181	0.326	0.096	0.119

Notes:
Estimates employ either a difference-in-means model where only block fixed effects were included or a covariate-adjustment model for outcomes analyzed at the individual level, as indicated by the "Covariate-Adjusted" row. Standard errors are clustered at the women's group (community) level for measures analyzed at the individual level. Measures analyzed at the group level ($N = 300$) use HC2 robust standard errors. Coefficients estimate the average treatment effects of the women's training on behavioral and self-reported measures of their quality of participation. The composite index is measured in standard deviations and the remaining outcomes are proportions.
$+ \ p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A5: Effect of Treatment on Behavioral Outcomes for Responsiveness

	Behavioral											
	Endorsed (binary)		Endorsed by Baale		Endorsed by LGA		Endorsed by Ward		Grant Funded		Total Endorsements	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Women's Training	0.126***	0.130***	0.113***	0.115***	0.110***	0.113***	0.111***	0.114***	0.007	0.008**	0.224***	0.229***
	(0.029)	(0.028)	(0.027)	(0.026)	(0.029)	(0.027)	(0.027)	(0.026)	(0.004)	(0.003)	(0.054)	(0.051)
Observations	3879	3621	3879	3621	3879	3621	3879	3621	3879	3621	3879	3621
Covariate-Adjusted	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
R Squared	0.172	0.320	0.187	0.336	0.173	0.330	0.189	0.347	0.152	0.332	0.192	0.348
Adjusted R Squared	0.156	0.268	0.171	0.286	0.157	0.279	0.173	0.297	0.135	0.281	0.176	0.298

Notes:
Estimates employ either a difference-in-means model where only block fixed effects were included or a covariate-adjustment model for outcomes analyzed at the individual level, as indicated by the "Covariate-Adjusted" row. Standard errors are clustered at the women's group (community) level for measures analyzed at the individual level. Coefficients estimate the average treatment effects of the women's training on behavioral measures of elite responsiveness. The unit of measurement for Total Endorsements is the number of endorsements, and the remaining outcomes are in proportions.
$+ \ p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A6: Effect of Treatment on Self-Reported Outcomes for Responsiveness

	Self-Reported				
	Elites' Informedness of Women's Priorities	Index (Composite)		Women's Perception of Elites' Receptiveness toward Grant participation	
	(1)	(2)	(3)	(4)	(5)
Women's Training	0.018	0.276***	0.276***	0.289***	0.287***
	(0.020)	(0.051)	(0.050)	(0.034)	(0.033)
Observations	290	3633	3620	3621	3608
Covariate-Adjusted	No	No	Yes	No	Yes
R Squared	0.212	0.112	0.197	0.232	0.352
Adjusted R Squared	-0.064	0.094	0.135	0.216	0.302

Notes:
Estimates employ either a difference-in-means model where only block fixed effects were included or a covariate-adjustment model for outcomes analyzed at the individual level, as indicated by the "Covariate-Adjusted" row. Standard errors are clustered at the women's group (community) level for measures analyzed at the individual level. Measures analyzed at the group level ($N = 300$) use HC2 robust standard errors. Coefficients estimate the average treatment effects of the women's training on self-reported measures of elites' informedness on women's priorities and women's perceptions of elites' responsiveness to their participation. Women's perception of elites' receptiveness is a proportion and the remaining outcomes are in standard deviations.
$+ \ p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A7: Effect of Treatment on Potential Mechanisms

	Discussion Network		Group Efficacy		Group Identification		Perceived Injustice		Priority Concentration (Top 1)	Priority Concentration (Top 2)	Procedural Knowledge		Self Efficacy	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Women's Training	0.049	0.043	0.242***	0.231***	0.113*	0.107+	0.054	0.054	0.013	0.008	0.094+	0.090+	0.141**	0.133**
	(0.048)	(0.046)	(0.049)	(0.046)	(0.057)	(0.056)	(0.046)	(0.043)	(0.019)	(0.007)	(0.052)	(0.052)	(0.050)	(0.049)
Observations	3627	3614	3633	3620	3634	3621	3633	3620	300	300	3634	3621	3632	3619
Covariate-Adjusted	No	Yes	No	Yes	No	Yes	No	Yes	No	No	No	Yes	No	Yes
R Squared	0.063	0.144	0.073	0.164	0.115	0.202	0.042	0.124	0.280	0.331	0.068	0.156	0.104	0.207
Adjusted R Squared	0.043	0.078	0.054	0.099	0.097	0.141	0.022	0.056	0.039	0.107	0.049	0.090	0.085	0.146

Notes:
Estimates employ either a difference-in-means model where only block fixed effects were included or a covariate-adjustment model for outcomes analyzed at the individual level, as indicated by the "Covariate-Adjusted" row. Standard errors are clustered at the women's group (community) level for measures analyzed at the individual level. Measures analyzed at the group level ($N = 300$) use HC2 robust standard errors. Units are in standard deviations. Coefficients estimate the average treatment effects of the women's training on
$+ \ p < 0.10$, $*\ p < 0.05$, $**\ p < 0.01$, $***\ p < 0.001$

Figure A3: Results for individual components of political participation composite index

E.2 Heterogeneity Test: Age

We conducted a heterogeneity test comparing women over 35 years of age with women 35 and younger. For these analyses, we used women's responses about their age from the baseline survey. The odd columns in each table are the results produced from a difference-in-means model using OLS with only block fixed effects. The even columns use the covariate-adjustment model described by Lin (2013) that includes block fixed effects and the following controls: literacy, age (continuous), marital rank, household size, number of children, an assets index, religious identity, religiosity, education level (in terciles), household and personal income, and a binary indicator of interview privacy from the endline survey.

Table A8: Heterogeneous Treatment Effect of Age on Behavioral Outcomes for Level of Participation

	Grant Applicant		Grant Lead Applicant	
	(1)	(2)	(3)	(4)
Treatment (T)	0.165***	0.171***	0.040**	0.055***
	(0.036)	(0.033)	(0.013)	(0.012)
Woman over 35	0.020	0.011	0.012	-0.010
	(0.019)	(0.029)	(0.008)	(0.014)
T × Woman over 35	0.005	0.007	0.027	0.014
	(0.031)	(0.046)	(0.017)	(0.026)
Constant	0.288	0.161***	0.022	0.028***
	(0.179)	(0.019)	(0.025)	(0.005)
Observations	3879	3621	3879	3621
Covariate-Adjusted	No	Yes	No	Yes
R Squared	0.205	0.380	0.068	0.175
Adjusted R Squared	0.189	0.332	0.050	0.111
p-value: T = 0	0.000	0.000	0.003	0.000
p-value: T + T×Literate = 0	0.000	0.003	0.000	0.018

Notes:
All models use block fixed effects. Standard errors are clustered at the women's group (community) level. Units are in proportions. $+ p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A9: Heterogeneous Treatment Effect of Age on Self-Reported Outcomes for Level of Participation

	Grant Applicant		Grant Lead Applicant		Index (Binary)		Index (Composite)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treatment (T)	0.344***	0.335***	0.139***	0.131***	0.091***	0.074***	0.308***	0.280***
	(0.041)	(0.037)	(0.023)	(0.018)	(0.017)	(0.015)	(0.059)	(0.048)
Woman over 35	0.030	0.016	0.014	0.026	0.035*	-0.037	0.134**	0.022
	(0.025)	(0.041)	(0.015)	(0.027)	(0.016)	(0.029)	(0.047)	(0.084)
T × Woman over 35	-0.014	-0.061	-0.007	-0.048	-0.037+	0.068+	-0.051	0.038
	(0.036)	(0.055)	(0.025)	(0.043)	(0.019)	(0.037)	(0.064)	(0.116)
Constant	0.422+	0.407***	-0.055	0.091***	0.812**	0.855***	-0.147	0.001
	(0.166)	(0.029)	(0.037)	(0.011)	(0.090)	(0.012)	(0.328)	(0.035)
Observations	3625	3612	3625	3612	3634	3621	3632	3619
Covariate-Adjusted	No	Yes	No	Yes	No	Yes	No	Yes
R Squared	0.285	0.421	0.101	0.192	0.090	0.161	0.137	0.212
Adjusted R Squared	0.269	0.376	0.082	0.129	0.071	0.096	0.118	0.152
p-value: T = 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
p-value: T + T×Literate = 0	0.000	0.000	0.000	0.070	0.002	0.000	0.000	0.012

Notes:
All models use block fixed effects. Standard errors are clustered at the women's group (community) level. Units are in standard deviations for the composite index, and in proportions for the remaining measures. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A10: Heterogeneous Treatment Effect of Age on Behavioral Outcomes for Quality of Participation

	Grant Clarity		Grant Relevance	
	(1)	(2)	(3)	(4)
Treatment (T)	0.104**	0.107***	0.139***	0.147***
	(0.033)	(0.031)	(0.035)	(0.033)
Woman over 35	-0.000	0.004	0.010	-0.001
	(0.017)	(0.024)	(0.019)	(0.029)
T × Woman over 35	0.002	-0.002	0.016	0.020
	(0.028)	(0.041)	(0.030)	(0.045)
Constant	0.255	0.107***	0.304	0.151***
	(0.176)	(0.017)	(0.184)	(0.019)
Observations	3879	3621	3879	3621
Covariate-Adjusted	No	Yes	No	Yes
R Squared	0.184	0.364	0.198	0.374
Adjusted R Squared	0.167	0.315	0.181	0.326
p-value: T = 0	0.002	0.001	0.000	0.000
p-value: T + T×Literate = 0	0.004	0.051	0.000	0.004

Notes:
All models use block fixed effects. Standard errors are clustered at the women's group (community) level. Units are in proportions. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A11: Heterogeneous Treatment Effect of Age on Self-Reported Outcomes for Quality of Participation

	Index (Composite)	
	(1)	(2)
Treatment (T)	0.303***	0.227***
	(0.058)	(0.049)
Woman over 35	0.154***	0.006
	(0.044)	(0.086)
T × Woman over 35	-0.152*	0.089
	(0.061)	(0.112)
Constant	0.115	-0.000
	(0.157)	(0.035)
Observations	3625	3612
Covariate-Adjusted	No	Yes
R Squared	0.117	0.182
Adjusted R Squared	0.098	0.119
p-value: T = 0	0.000	0.000
p-value: T + T×Literate = 0	0.007	0.010

Notes:
Both models use block fixed effects. Standard errors are clustered at the women's group (community) level. Units are in standard deviations. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A12: Heterogeneous Treatment Effect of Age on Behavioral Outcomes for Responsiveness

	Endorsed (binary)		Endorsed by Baale		Endorsed by LGA		Endorsed by Ward		Grant Funded		Total Endorsements	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Treatment (T)	0.122***	0.130***	0.101***	0.115***	0.111***	0.112***	0.100***	0.114***	0.004	0.008**	0.201***	0.229***
	(0.029)	(0.028)	(0.026)	(0.026)	(0.028)	(0.027)	(0.026)	(0.026)	(0.004)	(0.003)	(0.052)	(0.051)
Woman over 35	0.019	0.002	0.012	0.008	0.014	0.000	0.012	0.009	0.000	-0.002	0.024	0.017
	(0.016)	(0.025)	(0.015)	(0.024)	(0.015)	(0.025)	(0.015)	(0.025)	(0.002)	(0.002)	(0.030)	(0.049)
T × Woman over 35	0.009	0.053	0.024	0.052	-0.001	0.037	0.021	0.041	0.006	0.013	0.044	0.093
	(0.026)	(0.041)	(0.025)	(0.040)	(0.024)	(0.039)	(0.024)	(0.040)	(0.005)	(0.011)	(0.048)	(0.079)
Constant	0.251	0.124***	0.262	0.113***	0.109	0.111***	0.263	0.110***	-0.004	0.001	0.525	0.223***
	(0.155)	(0.016)	(0.158)	(0.014)	(0.157)	(0.015)	(0.159)	(0.014)	(0.004)	(0.001)	(0.316)	(0.029)
Observations	3879	3621	3879	3621	3879	3621	3879	3621	3879	3621	3879	3621
Covariate-Adjusted	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
R Squared	0.173	0.321	0.188	0.337	0.174	0.330	0.190	0.348	0.153	0.333	0.193	0.348
Adjusted R Squared	0.156	0.269	0.171	0.286	0.157	0.279	0.174	0.297	0.136	0.282	0.177	0.298
p-value: T = 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.297	0.008	0.000	0.000
p-value: T + T×Literate = 0	0.000	0.000	0.000	0.001	0.001	0.003	0.000	0.002	0.078	0.092	0.000	0.001

Notes:
All models use block fixed effects. Standard errors are clustered at the women's group (community) level. Total Endorsements is measured as count data, while the remaining measures are binary. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A13: Heterogeneous Treatment Effect of Age on Self-Reported Outcomes for Responsiveness

	Index (Composite)		Women's Perception of Elites' Receptiveness toward Grant Participation	
	(1)	(2)	(3)	(4)
Treatment (T)	0.401***	0.276***	0.290***	0.287***
	(0.062)	(0.050)	(0.038)	(0.033)
Woman over 35	0.203***	0.084	0.033	0.033
	(0.046)	(0.086)	(0.024)	(0.041)
T × Woman over 35	-0.249***	-0.136	-0.003	-0.092+
	(0.063)	(0.114)	(0.035)	(0.055)
Constant	0.061	-0.002	0.443+	0.378***
	(0.176)	(0.038)	(0.177)	(0.027)
Observations	3633	3620	3621	3608
Covariate-Adjusted	No	Yes	No	Yes
R Squared	0.118	0.197	0.233	0.353
Adjusted R Squared	0.099	0.135	0.216	0.303
p-value: T = 0	0.000	0.000	0.000	0.000
p-value: T + T×Literate = 0	0.009	0.259	0.000	0.003

Notes:
All models use block fixed effects. Standard errors are clustered at the women's group (community) level. Units are in standard deviations. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A14: Heterogeneous Treatment Effect of Age on Potential Mechanisms

	Discussion Network		Group Efficacy		Group Identification		Perceived Injustice		Procedural Knowledge		Self Efficacy	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Treatment (T)	0.137*	0.043	0.298***	0.231***	0.151*	0.107+	-0.006	0.054	0.154*	0.089+	0.175**	0.133**
	(0.061)	(0.046)	(0.058)	(0.046)	(0.067)	(0.056)	(0.057)	(0.043)	(0.060)	(0.052)	(0.066)	(0.049)
Woman over 35	0.079	0.110	0.122*	0.055	0.067	-0.130	-0.109*	0.014	0.112*	0.097	0.190***	-0.126
	(0.050)	(0.083)	(0.047)	(0.094)	(0.052)	(0.081)	(0.048)	(0.084)	(0.048)	(0.091)	(0.047)	(0.083)
T × Woman over 35	-0.174*	-0.230+	-0.113+	-0.084	-0.077	0.145	0.120+	0.144	-0.120+	-0.102	-0.069	0.110
	(0.070)	(0.118)	(0.066)	(0.114)	(0.077)	(0.117)	(0.069)	(0.114)	(0.064)	(0.119)	(0.066)	(0.111)
Constant	-0.199	0.001	-0.083	0.007	-0.119	-0.005	-0.258	-0.008	-0.371*	0.007	-0.143	0.003
	(0.379)	(0.035)	(0.202)	(0.039)	(0.090)	(0.042)	(0.227)	(0.030)	(0.102)	(0.038)	(0.108)	(0.038)
Observations	3627	3614	3633	3620	3634	3621	3633	3620	3634	3621	3632	3619
Covariate-Adjusted	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
R Squared	0.064	0.145	0.075	0.164	0.116	0.203	0.044	0.124	0.070	0.156	0.111	0.207
Adjusted R Squared	0.044	0.078	0.055	0.099	0.097	0.141	0.023	0.056	0.050	0.090	0.091	0.146
p-value: T = 0	0.025	0.358	0.000	0.000	0.023	0.056	0.916	0.211	0.010	0.085	0.008	0.006
p-value: T + T×Literate = 0	0.517	0.152	0.002	0.227	0.292	0.051	0.052	0.113	0.587	0.921	0.050	0.036

Notes:
All models use block fixed effects. Standard errors are clustered at the women's group (community) level. Units are in standard deviations. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

E.3 Heterogeneity Test: Literacy

We conducted a heterogeneity test between women who are literate and illiterate. We coded women's literacy as a dummy variable that takes the value of one if a respondent could read a full sentence at baseline, and zero if they could not or could only partially read the sentence. The odd columns in each table are the results produced from a difference-in-means model using OLS with only block fixed effects. The even columns use the covariate-adjustment model described by Lin (2013) that includes block fixed effects and the following controls: age, marital rank, household size, number of children, an assets index, religious identity, religiosity, education level (in terciles), household and personal income, and a binary indicator of interview privacy from the endline survey.

Table A15: Heterogeneous Treatment Effect of Literacy on Behavioral Outcomes for Level of Participation

	Grant Applicant		Grant Lead Applicant	
	(1)	(2)	(3)	(4)
Treatment (T)	0.155***	0.171***	0.034**	0.055***
	(0.038)	(0.033)	(0.011)	(0.012)
Literate Woman	0.009	-0.009	0.023**	0.008
	(0.020)	(0.017)	(0.008)	(0.009)
T × Literate Woman	0.028	0.041	0.042**	0.047**
	(0.031)	(0.028)	(0.016)	(0.017)
Constant	0.299	0.161***	0.024	0.028***
	(0.179)	(0.019)	(0.028)	(0.005)
Observations	3879	3621	3879	3621
Covariate-Adjusted	No	Yes	No	Yes
R Squared	0.206	0.380	0.076	0.175
Adjusted R Squared	0.190	0.332	0.057	0.111
p-value: T = 0	0.000	0.000	0.002	0.000
p-value: T + T×Literate = 0	0.000	0.000	0.000	0.000

Notes:
All models use block fixed effects. Standard errors are clustered at the women's group (community) level. Units are in proportions. $+ p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A16: Heterogeneous Treatment Effect of Literacy on Self-Reported Outcomes for Level of Participation

	Grant Applicant		Grant Lead Applicant		Index (Binary)		Index (Composite)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treatment (T)	0.325***	0.335***	0.107***	0.131***	0.081***	0.074***	0.304***	0.280***
	(0.041)	(0.037)	(0.021)	(0.018)	(0.018)	(0.015)	(0.059)	(0.048)
Literate Woman	0.003	0.019	0.012	0.012	0.023	0.027	0.067	0.034
	(0.026)	(0.026)	(0.016)	(0.017)	(0.016)	(0.020)	(0.049)	(0.059)
T × Literate Woman	0.026	0.024	0.062*	0.067*	-0.017	-0.030	-0.047	-0.002
	(0.034)	(0.036)	(0.025)	(0.027)	(0.019)	(0.025)	(0.068)	(0.081)
Constant	0.440+	0.407***	-0.048	0.091***	0.822**	0.855***	-0.096	0.001
	(0.165)	(0.029)	(0.038)	(0.011)	(0.091)	(0.012)	(0.325)	(0.035)
Observations	3625	3612	3625	3612	3634	3621	3632	3619
Covariate-Adjusted	No	Yes	No	Yes	No	Yes	No	Yes
R Squared	0.284	0.420	0.106	0.191	0.090	0.160	0.135	0.212
Adjusted R Squared	0.269	0.376	0.087	0.129	0.070	0.096	0.116	0.152
p-value: T = 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
p-value: T + T×Literate = 0	0.000	0.000	0.000	0.000	0.000	0.113	0.000	0.003

Notes:
All models use block fixed effects. Standard errors are clustered at the women's group (community) level. Units are in standard deviations for the composite index, and in proportions for the remaining measures. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A17: Heterogeneous Treatment Effect of Literacy on Behavioral Outcomes for Quality of Participation

	Grant Clarity		Grant Relevance	
	(1)	(2)	(3)	(4)
Treatment (T)	0.101**	0.107***	0.135***	0.147***
	(0.035)	(0.031)	(0.037)	(0.033)
Literate Woman	0.012	0.000	0.013	-0.005
	(0.016)	(0.012)	(0.019)	(0.016)
T × Literate Woman	0.009	0.002	0.026	0.034
	(0.026)	(0.022)	(0.029)	(0.027)
Constant	0.251	0.107***	0.307	0.151***
	(0.176)	(0.017)	(0.185)	(0.019)
Observations	3879	3621	3879	3621
Covariate-Adjusted	No	Yes	No	Yes
R Squared	0.184	0.364	0.198	0.374
Adjusted R Squared	0.168	0.315	0.182	0.326
p-value: T = 0	0.004	0.001	0.000	0.000
p-value: T + T×Literate = 0	0.001	0.006	0.000	0.000

Notes:
All models use block fixed effects. Standard errors are clustered at the women's group (community) level. Units are in proportions. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A18: Heterogeneous Treatment Effect of Literacy on Self-Reported Outcomes for Quality of Participation

	Index (Composite)	
	(1)	(2)
Treatment (T)	0.269***	0.227***
	(0.058)	(0.049)
Literate Woman	0.041	0.030
	(0.050)	(0.061)
T × Literate Woman	-0.091	-0.085
	(0.067)	(0.080)
Constant	0.183	-0.000
	(0.150)	(0.035)
Observations	3625	3612
Covariate-Adjusted	No	Yes
R Squared	0.115	0.182
Adjusted R Squared	0.096	0.119
p-value: T = 0	0.000	0.000
p-value: T + T×Literate = 0	0.003	0.128

Notes:
Both models use block fixed effects. Standard errors are clustered at the women's group (community) level. Units are in standard deviations. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A19: Heterogeneous Treatment Effect of Literacy on Bheavioral Outcomes for Responsiveness

	Endorsed (binary)		Endorsed by Baale		Endorsed by LGA		Endorsed by Ward		Grant Funded		Total Endorsements	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Treatment (T)	0.121***	0.130***	0.108***	0.115***	0.100**	0.113***	0.106***	0.114***	0.004	0.008**	0.214***	0.229***
	(0.032)	(0.028)	(0.030)	(0.026)	(0.031)	(0.027)	(0.030)	(0.025)	(0.005)	(0.003)	(0.060)	(0.051)
Literate Woman	0.005	-0.007	0.008	-0.002	-0.006	-0.015	0.005	-0.006	-0.004+	-0.000	0.013	-0.008
	(0.017)	(0.015)	(0.017)	(0.015)	(0.016)	(0.015)	(0.016)	(0.014)	(0.002)	(0.000)	(0.032)	(0.028)
T × Literate Woman	0.010	0.024	0.010	0.024	0.022	0.025	0.010	0.020	0.006	-0.001	0.020	0.044
	(0.026)	(0.025)	(0.025)	(0.023)	(0.025)	(0.024)	(0.024)	(0.022)	(0.005)	(0.005)	(0.048)	(0.045)
Constant	0.262	0.124***	0.268	0.113***	0.122	0.111***	0.270	0.110***	-0.002	0.001	0.538	0.223***
	(0.155)	(0.016)	(0.159)	(0.014)	(0.157)	(0.015)	(0.159)	(0.014)	(0.003)	(0.001)	(0.318)	(0.029)
Observations	3879	3621	3879	3621	3879	3621	3879	3621	3879	3621	3879	3621
Covariate-Adjusted	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
R Squared	0.172	0.321	0.187	0.337	0.174	0.330	0.190	0.347	0.152	0.333	0.192	0.348
Adjusted R Squared	0.156	0.268	0.171	0.286	0.157	0.279	0.173	0.297	0.135	0.281	0.176	0.298
p-value: T = 0	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.352	0.008	0.000	0.000
p-value: T + T×Literate = 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.050	0.247	0.000	0.000

Notes:
All models use block fixed effects. Standard errors are clustered at the women's group (community) level. Total Endorsements is measured as count data, while the remaining measures are binary. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A20: Heterogeneous Treatment Effect of Literacy on Self-Reported Outcomes for Responsiveness

	Index (Composite)		Women's Perception of Elites' Receptiveness toward Grant Participation	
	(1)	(2)	(3)	(4)
Treatment (T)	0.307***	0.276***	0.265***	0.287***
	(0.061)	(0.050)	(0.039)	(0.033)
Literate Woman	0.067	0.044	-0.015	-0.008
	(0.052)	(0.059)	(0.026)	(0.027)
T × Literate Woman	-0.067	-0.038	0.052	0.053
	(0.071)	(0.081)	(0.035)	(0.036)
Constant	0.146	-0.002	0.474+	0.378***
	(0.168)	(0.038)	(0.175)	(0.027)
Observations	3633	3620	3621	3608
Covariate-Adjusted	No	Yes	No	Yes
R Squared	0.113	0.197	0.233	0.352
Adjusted R Squared	0.094	0.135	0.216	0.302
p-value: T = 0	0.000	0.000	0.000	0.000
p-value: T + T×Literate = 0	0.000	0.011	0.000	0.000

Notes:
All models use block fixed effects. Standard errors are clustered at the women's group (community) level. Units are in standard deviations. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

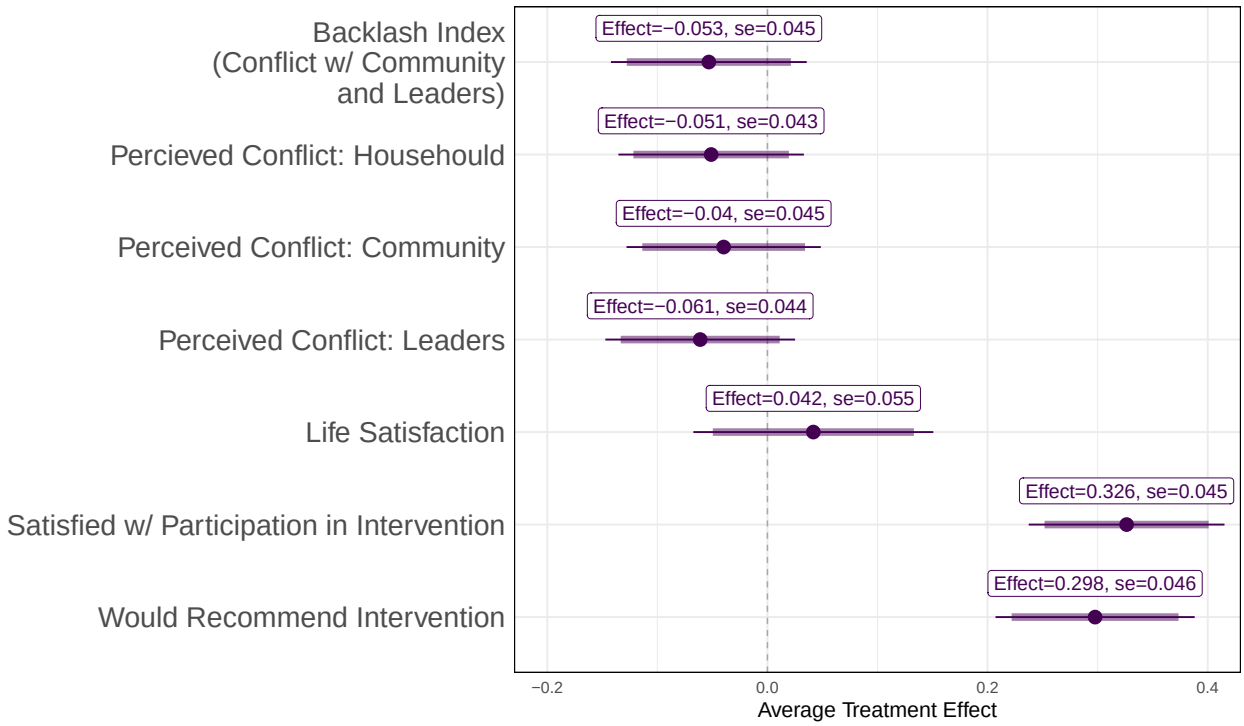
Table A21: Heterogeneous Treatment Effect of Literacy on Potential Mechanisms

	Discussion Network		Group Efficacy		Group Identification		Perceived Injustice		Procedural Knowledge		Self Efficacy	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Treatment (T)	0.048	0.043	0.183**	0.231***	0.074	0.107+	-0.001	0.054	0.090	0.090+	0.108+	0.133**
	(0.053)	(0.046)	(0.057)	(0.046)	(0.070)	(0.056)	(0.055)	(0.043)	(0.064)	(0.052)	(0.060)	(0.049)
Literate Woman	-0.047	-0.069	-0.106*	-0.099+	0.040	0.015	0.006	0.032	0.092+	0.078	0.077	-0.006
	(0.048)	(0.055)	(0.049)	(0.056)	(0.052)	(0.055)	(0.054)	(0.064)	(0.051)	(0.059)	(0.052)	(0.053)
T × Literate Woman	0.003	0.016	0.129*	0.195*	0.085	0.053	0.119	0.020	0.008	-0.082	0.071	0.128+
	(0.066)	(0.077)	(0.064)	(0.076)	(0.068)	(0.078)	(0.075)	(0.085)	(0.073)	(0.078)	(0.069)	(0.073)
Constant	-0.135	0.001	0.046	0.007	-0.092	-0.005	-0.319	-0.008	-0.346*	0.007	-0.054	0.004
	(0.371)	(0.035)	(0.208)	(0.039)	(0.086)	(0.042)	(0.231)	(0.030)	(0.107)	(0.038)	(0.108)	(0.038)
Observations	3627	3614	3633	3620	3634	3621	3633	3620	3634	3621	3632	3619
Covariate-Adjusted	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
R Squared	0.063	0.144	0.075	0.164	0.117	0.202	0.044	0.124	0.071	0.156	0.108	0.207
Adjusted R Squared	0.043	0.078	0.055	0.099	0.098	0.141	0.023	0.056	0.050	0.090	0.088	0.146
p-value: T = 0	0.367	0.358	0.001	0.000	0.292	0.056	0.992	0.210	0.160	0.084	0.072	0.006
p-value: T + T×Literate = 0	0.421	0.503	0.000	0.000	0.010	0.082	0.063	0.455	0.117	0.938	0.004	0.003

Notes:
All models use block fixed effects. Standard errors are clustered at the women's group (community) level. Units are in standard deviations. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

E.4 Supplemental: Backlash and Unintended Consequences

Figure A4: Effects of Treatment on Potential Backlash



Notes: Point estimates are difference-in-means models that include block fixed effects. The measures are analyzed at the individual level with standardized units, and standard errors are clustered at the women's group (community) level. Thinner bars indicate 95% confidence intervals while thicker bars indicate 90% confidence intervals.

Table A22: Effect of Treatment on Potential Backlash

	Backlash Index (Perceived Conflict w/ Community & Leaders)		Life Satisfaction		Perceived Conflict: Community		Perceived Conflict: Leaders		Perceived Conflict: Household		Satisfied w/ Intervention		Would Recommend Intervention	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Women's Training	-0.053	-0.045	0.042	0.041	-0.040	-0.031	-0.061	-0.054	-0.051	-0.038	0.326***	0.325***	0.298***	0.298***
	(0.045)	(0.045)	(0.055)	(0.054)	(0.045)	(0.045)	(0.044)	(0.043)	(0.043)	(0.043)	(0.045)	(0.046)	(0.046)	(0.045)
Observations	3621	3608	3629	3616	3618	3605	3613	3600	3619	3606	3580	3567	3576	3563
Covariate-Adjusted	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
R Squared	0.065	0.136	0.126	0.210	0.060	0.130	0.062	0.132	0.058	0.130	0.105	0.186	0.115	0.206
Adjusted R Squared	0.045	0.070	0.107	0.150	0.040	0.063	0.042	0.065	0.038	0.064	0.086	0.122	0.096	0.144

Notes:
All models use block fixed effects. Standard errors are clustered at the women's group (community) level. Units are in standard deviations.
+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

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