Pre-analysis plan: Traditional and distance training programs to develop female community animal health workers in Nepal Deviations in blue and labeled as "Deviation" *†

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Abstract

We randomly selected 150 of 300 rural Nepali women nominated by their local goat cooperative to be trained as a community animal health workers (CAHW). This government-sanctioned training is the only way to become a CAHW, thus the intervention amounts to a new technical career opportunity. Half of the selected candidates were randomly assigned to a traditional training course requiring 35 consecutive days away from home and half were assigned to a distance learning course requiring two shorter stays plus a tablet-based curriculum to be completed at home. We seek to answer the following three research questions: What is the impact of becoming a CAHW on candidate welfare (income, savings and empowerment), gender attitudes and aspirations? What is the impact becoming a CAHW on gender attitudes and aspirations of other household members? Is distance learning a viable method for training female CAHWs?

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1 Introduction

Women in developing countries typically have limited income generating opportunities, particularly in rural areas. Low levels of education, lack of capital, burdensome family responsibilities that limit mobility, and cultural norms all can prevent women from participating in labor markets or becoming successful entrepreneurs (Jayachandran, 2020; Bandiera et al., 2017; Duflo, 2012).

One common intervention to help women become successful entrepreneurs is business training. Rather than general business training or soft skills development, the training provided here targets a specific and highly technical skill set (given the local context). The training leads to government certification as a community animal health worker (CAHW), and opens the door to an entrepreneurial activity that is otherwise unavailable. The training is also relatively intense, traditionally requiring 35 consecutive days away from home at a training center. This makes it potentially very difficult for women to participate given their responsibilities at home, particularly women with small children (Cho et al., 2013), or due to family concerns about women's safety or behavior away from home (Dean and Jayachandran, 2019).

We randomly assign women from a pool of candidates to receive CAHW training. The type of training is also randomized, so that half of selected trainees undergo a traditional training (TT) course and half undergo a novel distance learning (DL) course with a tablet-based curriculum that requires less time away from home. We have three main research questions:

1. What is the impact of CAHW training on candidate welfare, gender attitudes and aspirations?
2. What is the impact of CAHW training on gender attitudes and aspirations of other household members?
3. Is distance learning a viable method for training female CAHWs?

To answer the first question, we will test the impacts of being offered any kind of training on outcomes including income (total household income, women's earned income, women's earned non-farm enterprise income, total income that the woman has sole control over, and total income that a woman has joint control over), savings (household and personal), empowerment (income control, mobility, intimate partner violence, and leadership), gender attitudes, and aspirations (for the both the candidate herself, and for her children).

To answer the second research question, we will collect data attitudes and aspirations data from a male and female relative, as well as from the candidate. In most cases, women are married. In these cases we will interview the woman's husband and mother-in-law. If a woman is unmarried, our first choice of male relative to interview will be the woman's father, followed by the oldest male in the household if neither of our first options is available. For females, if the woman is unmarried we will interview her mother. If our first choice of female relative to interview is unavailable, then we will interview the oldest female in the household. We will attempt to interview male and female relatives even if they are not household members as long as they reside in the same village as the sample household.

To answer our third research question, we will compare the traditional CAHW training system to the distance learning system using several approaches. First, we will consider impacts on livestock knowledge and management indicators observed for all households in our sample, and compare the impact of being offered each training system relative to not being offered any training. Second, we will compare average outcomes for each training system using indicators that are relevant only for CAHWs including CAHW training enrollment and completion, training performance, and a host of other CAHW job performance metrics. Lastly, we will test for differential treatment impacts for outcomes related to the first two research questions described above. We consider this last line of research exploratory because we are underpowered to do so, and also expect no difference conditional on completing training.

This pre-analysis plan was written after the completion of both courses, and we know the enrollment and completion rates and report them in this document. We believed it was critical to follow recruitment and course completion as it happened to see (a) if additional recruitment measures were necessary (they were not), and (b) if it made sense to collect data on outcomes that would not stand to change if course completion rates were low (they were not). This pre-analysis plan was also written after a two focus group discussions with training cohort in the middle of their training, two focus group discussions with cohorts at the end of their training, and one focus group discussion with a collection of CAHWs from different cohorts approximately six months after training to gauge satisfaction, or identify problems, with the courses and learn what kind of CAHW activities trainees were engaged in. These focus groups helped inform the design of the endline survey. This pre-analysis plan was written before any quantitative endline data beyond course enrollment and completion were available for analysis.

2 Intervention

The intervention is a training program for women to become CAHWs.The training comes in two forms: traditional training (TT) and distance learning (DL). The curriculum for both trainings was developed by our implementing partner, Heifer International-Nepal (HIN), in collaboration with the Government of Nepal.[1] Both training systems the government-approved CAHW curriculum.

TT requires that trainees leave their village and stay at one of three training centers with other trainees for 35 consecutive days to receive classroom instruction, conduct practical exercises, and sit for final examinations. DL requires that trainees leave their village and stay at a training center with other trainees for a five-day orientation where they meet their instructors, learn how to use the tablets, and are told how they will be monitored by training center personnel. Trainees then return to their villages where they have 30 days to complete the digitized version of the CAHW curriculum. Originally the amount of time spent at home was to be 20 days, but the training centers and HIN agreed to add a ten day grace period after some initial technical difficulties with the tablets. After spending 30 days at home, trainees return to the training center for ten consecutive days to conduct practical exercises and sit for final examinations. At the conclusion of the DL or TT course, a trainee who passes her final examinations can register with the government as an official CAHW. There is no difference in the level or type of qualification received based on training type.

The intervention began April 28, 2019 and ended June 25, 2019. Within this timeframe, exact training dates varied based on training center and instructor availability. Five sets of 18-23 students were trained, with all but one training center hosting a single TT group and a single DL group. One training center only hosted a single DL group because of a lack of demand for TT, and the few students closest to that training center who enrolled in TT were assigned to another center.

3 Experimental design and data collection

3.1 Sample and baseline data collection

As part of its programming in Nepal, HIN works with approximately 120 producer cooperatives, 105 of which participated in this study, and were asked how many additional CAHWs they would like trained to operate in their area. In each of these cooperatives, leadership

[1]Initially the government agency involved was the Nepal Ministry of Livestock Development. After a government reorganization, it was the Ministry of Agriculture

was asked to nominate women who met the following criteria to potentially be trained as a CAHW.

1. Completion of 8^{th} grade (imposed by the Government of Nepal)
2. Between 20-35 years old (to have a potentially long career as a CAHW ahead of them)
3. Married (because a woman who marries will typically move to her husband's village)

The second and third criteria were not always followed by the cooperatives, but women selected outside of those criteria remained in the study. All women on the lists initially provided by the cooperatives were included in the baseline survey, which took place from September 5 to October 8, 2018, and included 420 observations. In the baseline survey we asked candidates about their interest in both DL and TT courses. The 43 candidates with no interest at all were dropped from the sample at this point, reducing the sample to 377 candidates. We then needed to refine the sample so that the number of candidates from each cooperative was twice the number of CAHWs requested by the cooperative (usually one but sometimes two or three). We did this to make sure the ratio of treatment to control candidates in a cooperative was uncorrelated with the number of candidates given by that cooperative, as a longer list would likely have candidates of lower average potential quality which would cause bias.

In some cases cooperatives had too few candidates. We asked these cooperatives to add to their list so that there were twice as many as CAHWs requested. 46 additional candidates were added in this way and surveyed from January 5 to February 12, 2019. In other cases cooperatives nominated too many women. For these cooperatives we limited the number of candidates in a way that would preserve those most likely to enroll based on their stated interest. After adding and trimming candidates in this way we were left with 300 candidates across the 104 cooperatives, with 52 cooperatives assigned to TT and 52 to DL. One cooperative was dropped because all of its candidates were not interested in becoming CAHWs.

3.2 Treatment assignment

Treatment was assigned using a two-stage randomization over the 104 cooperatives and 300 candidates described above. First, we randomly assigned each cooperative to DL (52 cooperatives) or TT (52 cooperatives). Cooperatives were stratified using bins determined by cooperative-level variables (geographic zone, median household income, and median dependency ratio). Second, we randomly assigned which candidates within a cooperative would

to receive training of the type assigned to their cooperative, stratifying by cooperative and individual income. The remaining candidates in each cooperative would serve as controls. Our experimental design consists of four different types of individuals:

1. TT trainees (n = 73)
2. TT controls (n = 73)
3. DL trainees (n = 77)
4. DL controls (n = 77)

Tables 4 and 5 provide balance tables for the main two comparisons of interest, all treatment vs. all control (columns 1-4 of table 4) and TT treatment vs. DL treatment (columns 5-8 of table 4), and also DL treatment vs. DL control (columns 1-4 of table 5), and TT treatment vs. TT control (columns 5-8 of table 5). The sample is well balanced.

3.3 CAHW recruitment and course completion

Table 1 illustrates treatment assignment (recruited) and completion rates. Of the 77 candidates recruited to participate in DL training, just over half completed the training (40 candidates, or 52%). Of the 73 candidates recruited to participate in the TT training, just under one third (21 candidates, or 29%) completed the training. In addition, we observe some non-compliance by control individuals. Two candidates in the control group from DL cooperatives managed to sign up for and complete DL training. Four candidates from TT cooperatives managed to sign up for and complete TT training. Assignment to training increased the probability of becoming a CAHW from 0.04 to 0.407, an increase of about 37 percentage points ($p < 0.001$ with robust standard errors). Among women assigned to training, assignment to DL rather than TT increased the probability of completing training by 23 percentage points ($p < 0.005$ with standard errors clustered by cooperative), with 29% of women assigned to TT completing training versus 52% of women assigned to DL.

Table 1: Recruitment and completion by training format

	Treatment Group			**Control Group**		
	Nominated	Recruited	Completed	Nominated	Recruited	Completed
Distance Learning (DL)	77	77	40	77	0	2
Traditional Training (TT)	73	73	21	73	0	4
Total	150	150	61	150	0	6

3.4 Endline data collection

Two endline data collection efforts are planned. At each endline survey we intend to interview three respondents: the female candidate, a male relative, and a female relative, as described above. Our first endline survey was originally planned for March 2020 and our second endline survey was originally planned for September 2020. Due to the COVID pandemic the March 2020 data collection effort was moved to September 2020 and will be conducted over the phone in several stages, with different modules for different respondent types, as described in Table 2. The survey modules for candidates will be administered over the course of two calls, and the survey module for trained CAHWs will be administered during a third call. Male and female relatives will complete their survey modules over a single separate call. We expect that even with a phone survey attrition will be low because all study participants are cooperative members that work with HIN. Even if a respondent changes her phone number, or the number otherwise does not work, we will be able to contact her by phone through the cooperative. Nevertheless, we will test for systematic attrition and estimate Lee (2009) bounds if we find it is present.

Table 2: Survey modules by respondent type

	Income and savings	Women's empowerment	Livestock mgmt and knowledge	Gender attitudes and aspirations	Household chores	CAHW activities and performance
Candidate CAHW	X	X	X	X	X	
Male relative				X	X	
Female relative				X	X	
Trained CAHW only						X

A final endline survey (originally planned for September 2020) is tentatively rescheduled for early to mid 2021, and will be conducted in-person if local regulations and ethical concerns allow.

4 Outcomes

As described above, our research is focused on three research questions, and each research question has an associated set out of outcomes. Our primary outcomes are those that are related to research question #1 (i.e. impact of CAHW training on candidate welfare, gender attitude and aspirations). All other outcomes are considered secondary.

Each set of outcomes consist of one or more indicators. In some cases, we will aggregate indicators into inverse-covariance weighted standardized indices to reduce the dimensionality

of analysis (Anderson, 2008), while still reporting effects on individual indicators to identify where the intervention seems to have its largest effects. Primary indices for each outcome grouping are in **bold**. For income and savings outcomes we do not aggregate using an index for three reasons. First, we do not want to combine income or savings for the household with income or savings for the candidate herself. Second, we want to leave monetary outcomes in the money metric. Third, we want to avoid double counting money. In the lists to follow, survey questions from which specific indicators will be derived will be listed in brackets.

4.1 Candidate welfare, attitudes, and aspirations (primary outcomes)

We will estimate treatment effects of being offered any CAHW training relative to a control group that received no offer (equation 3 in Section 5.1). As a secondary analysis, we will also compare the DL and TT treatment groups to each other to test for differences in impacts based on training type (equation 6 in Section 5.1).

Deviation: Note that this pre-analysis plan combines planned analyses for two separate papers: a paper comparing the DL and TT treatment groups to one another as well as to control, and a second paper comparing the assignment/receipt of any CAHW training to control. In the annotations to this PAP, we indicate where the analysis presented in the first paper deviates from the initial plan. Deviations in the second paper will be reported at a later date.

4.1.1 Income

1. Total household annual income [HHR12, HHR14, HHR16, LST4, LST6, CRP5, NAB4, OI2]

2. Woman's total annual earned income (including agriculture and CAHW work) [HHR12, HHR14, HHR16, LST2a, LST2b, LST3a, LST3b, LST4, LST6, CRP3a, CRP3b, CRP4a, CRP4b, CRP5, NAB2a, NAB2b, NAB3a, NAB3b, NAB4, OI2, OI3][2]

3. Woman's annual non-farm enterprise income (including CAHW work) [NAB2a, NAB2b, NAB3a, NAB3b, NAB4]

[2]For salary and day labor, income is attributed to the laborer. For non-farm enterprise income, crop income (by crop), and livestock income (by animal type) will be attributed to either (a) the primary laborer, (b) equally among all laborers, (c) the primary manager, or (d) equally among all managers depending on which criteria generates the most in who the income should be attributed to.

4. Woman's annual solely controlled income [HHR13, HHR16, HHR19, LST4, LST5, LST6, LST7, CRP5, CRP10,NAB4, NAB7, OI2, OI3][3]

5. Woman's annual jointly controlled income [HHR13, HHR16, HHR19, LST4, LST5, LST6, LST7, CRP5, CRP10,NAB4, NAB7, OI2, OI3]

Deviation: Note that because of the likely impact of Covid-19 on CAHW earnings we opted not to present impacts on savings or income by training type in the paper comparing training systems. In lieu of these outcomes, we present results for number of clients served pre- and post-Covid lockdown in the paper. In this document, impacts by training system on income and savings are shown in Tables 29 and 30, respectively.

4.1.2 Saving

1. Personal savings deposits in past month [SAV3]

2. Household savings deposits in past month [SAV1]

3. Household total savings [SAV2]

4. Personal total savings [SAV4]

Deviation: Note that we opted not to present results for the outcomes described in subsections 4.1.3 through 4.2.4 in the paper comparing the DL and TT treatment groups to each other and to the control group. We decided that the analysis of DL versus TT should focus on core issues of training efficacy, i.e., knowledge and skills. Hence we limit ourselves to impacts along those dimensions, as well as training completion, in that paper.

4.1.3 Empowerment

1. Woman has control over some non-zero amount of income [HHR13, HHR16, HHR19, LST4, LST5, LST6, LST7, CRP5, CRP10,NAB4, NAB7, OI2, OI3]

2. Mobility

   (a) Number of visits to urban centers, markets, family and friends, public gatherings or meetings [EMP1]

[3]For each income source, the survey asks who decides to spend the income. If the respondent alone decides, it will be counted as solely controlled. If the respondent and anyone else in the household decides, it will be counted as jointly controlled income.

(b) Number of these places she can go to without permission [EMP2]

(c) Degree of accompaniment required to visit these places [EMP3]

(d) Mobility index (ICW index of a-c above with c entering negatively)[4]

3. Community/group leadership

(a) Hold a leadership position in any groups or in the community? [GM3]

(b) Are you comfortable speaking in front of a group of 10 or more people? [GM4]

(c) Number of women in the community who would ask respondent for advice? [ASPS4]

(d) Number of men in the community who would ask respondent for advice? [ASPS5]

(e) Leadership index (ICW index of a-d above)

4. Household chore sharing

(a) Candidate's chore participation [CH1]

(b) Male relative's chore participation [CH1]

(c) Female relative's chore participation [CH1]

(d) Chore sharing index (ICW of a-c above with a entering negatively)

5. **Empowerment index (ICW index of 1, 2d, 3d, and 4 above)**

4.1.4 Gender attitudes

1. Working outside home index [GA1.1-1.5]
2. Female mobility index [GA2.1-2.5]
3. Decision-making power index [GA3.1-3.5]
4. Chore-sharing index [GA4.1-4.4]
5. Son preference index [GA5.1-5.5]
6. Intimate partner violence acceptance index [GA6.1-6.5]
7. Acceptance of female CAHW [GA7.1-7.5]
8. **Candidate gender attitudes index (ICW index of 1-8 above with 5 and 6 entering negatively)**

[4]In the baseline survey, we only asked a version of (a) which is a categorical variable. To create mobility index at baseline, we gave higher score for higher frequency of visitation to different places and summed it up.

4.1.5 Aspirations

1. Self
   (a) Income aspirations [ASPS2]
   (b) Status aspirations (number of men and women you aspire to have seek your advice) [ASPS3]
2. Boy child aspirations (analysis done at child level)
   (a) What grade do you hope for your son to complete? [ASP10]
   (b) At what age do you hope for your son to marry? [ASP11]
   (c) Desired son's occupation is tier 1 or 2 [ASP12]
   (d) Desired son's occupation is tier 1 [ASP12]
   (e) Son aspiration index (ICW of a-d above)
3. Girl child aspirations (analysis done at child level)
   (a) What grade do you hope for your daughter to complete? [ASP10]
   (b) At what age do you hope for your daughter to marry? [ASP11]
   (c) Desired daughter's occupation is tier 1 or 2 [ASP12]
   (d) Desired daughter's occupation is tier 1 [ASP12]
   (e) Daughter aspirations index (ICW of a-d above)
   (f) **Candidate aspirations index (1a, 1b, 2e, 3e)**

4.2 Male and female relatives' attitudes and aspirations (secondary outcomes)

We will estimate treatment effects of being offered any CAHW training relative to a control group that received no offer (equation 3 in Section 5.1). We will also compare the two treatment groups to each other to test for differences in impacts based on training type (equation 6 in Section 5.1).

4.2.1 Male relative gender attitudes

1. Working outside home index [GA1.1-1.5]

2. Female mobility index [GA2.1-2.5]
3. Decision-making power index [GA3.1-3.5]
4. Chore-sharing index [GA4.1-4.4]
5. Son preference index [GA5.1-5.5]
6. Intimate partner violence acceptance index [GA6.1-6.5]
7. Acceptance of female CAHW [GA7.1-7.5]
8. **Male relative gender attitudes index (ICW index of 1-7 above with 5 and 6 entering negatively)**

4.2.2 Female relative gender attitudes

1. Working outside home index [GA1.1-1.5]
2. Female mobility index [GA2.1-2.5]
3. Decision-making power index [GA3.1-3.5]
4. Chore-sharing index [GA4.1-4.4]
5. Son preference index [GA5.1-5.5]
6. Intimate partner violence acceptance index [GA6.1-6.5]
7. Acceptance of female CAHW [GA7.1-7.5]
8. **Female relative gender attitudes index (ICW index of 1-7 above with 5 and 6 entering negatively)**

4.2.3 Male relative's aspirations

1. Aspirations for candidate
   (a) Income aspirations [ASPO2]
   (b) Status aspirations [ASPO3]
2. Boy child aspirations (analysis done at child level)
   (a) What grade do you hope for boy to complete? [ASP10]

(b) At what age do you hope for boy to marry? [ASP11]

(c) Desired boy's occupation is tier 1 or 2 [ASP11]

(d) Desired boy's occupation is tier 1 [ASP11]

(e) Boy aspiration index (ICW of a-d above)

3. Girl child aspirations (analysis done at child level)

(a) What grade do you hope for girl to complete? [ASP10]

(b) At what age do you hope for girl to marry? [ASP11]

(c) Desired girl's occupation is tier 1 or 2 [ASP11]

(d) Desired girl's occupation is tier 1 [ASP11]

(e) Girl aspiration index (ICW of a-d above)

4. **Male relative aspirations index (ICW of 1a, 1b, 2e, and 3e)**

4.2.4 Female relative's aspirations

1. Aspirations for candidate

(a) Income aspirations [ASPO2]

(b) Status aspirations [ASPO3]

2. Boy child aspirations (analysis done at child level)

(a) What grade do you hope for boy to complete? [ASP10]

(b) At what age do you hope for boy to marry? [ASP11]

(c) Desired boy's occupation is tier 1 or 2 [ASP11]

(d) Desired boy's occupation is tier 1 [ASP11]

(e) Boy aspiration index (ICW of a-d above)

3. Girl child aspirations (analysis done at child level)

(a) What grade do you hope for girl to complete? [ASP10]

(b) At what age do you hope for girl to marry? [ASP11]

(c) Desired girl's occupation is tier 1 or 2 [ASP11]

(d) Desired girl's occupation is tier 1 [ASP11]

(e) Girl aspiration index (ICW of a-d above)

4. **Female relative aspirations index (ICW of 1a, 1b, 2e, and 3e)**

4.3 CAHW job performance (secondary outcomes)

For the outcomes listed in sections 4.3.1-4.3.6, we will first assess the impact of being a CAHW on basic livestock knowledgeability and management practices. To do this, we will estimate treatment effects of being offered any CAHW training relative to a control group that received no offer (equation 3 in Section 5.1). We will also compare the two treatment groups to each other to test for differences in impacts based on assigned training type (equation 6 in Section 5.1). Note that we have already described how we will estimate the impact of being assigned DL rather than TT on training completion above.

For the outcomes listed in sections 4.3.3-4.3.6, data only exist for candidates who were invited to and completed their CAHW training. For these outcomes, we will estimate the average treatment effect of completing one's assigned CAHW training rather than the alternative form of training, but only for the subpopulation of individuals who completed CAHW training. We refer to this effect as the average treatment effect on the treated of assigned training (ATTAT). We will estimate the ATTATs using econometric methods for observational (i.e., non-randomized) studies as described in section 5.

If DL is to serve as a feasible replacement or complement to TT, the former must produce CAHWs of quality comparable to the latter. The estimated ATTATs will shed light on the extent to which the relative impacts of the two training systems are explained by differences in the systems themselves rather than self-selection of trainees.

To explore the role of self-selection, we will build predictive models of selection into each training system, using the subsample of individuals assigned to CAHW training.

4.3.1 Basic livestock knowledgeability

1. Percent of correct answers on easy livestock medical questions [LK1-3]
2. Percent of correct answers on intermediate livestock medical questions [LK4-6]
3. Percent of correct answers on difficult livestock medical questions [LK7-9]
4. Overall knowledge score (percent correct answers on all questions) [LK1-9]

Deviation: In the paper comparing DL and TT to one another as well as to the control group, we eliminated outcomes 2-4 from the list in subsection 4.3.1 because there were no differences in impacts by difficulty level. Also note that after the results shown in Tables **??** were obtained, an error was discovered in the code used to calculate the number of correct answers (the correct answer for one question was miscoded). Also note that "Overall

score" was scaled by 100 in the paper. These discrepancies as well as other changes to the econometric approach (described in subsection below) explain the differences between what is presented for knowledge outcomes in the paper and in this pre-analysis plan (see Table 31 in this document for estimated impacts on knowledge and own livestock management).

4.3.2 Livestock management (of household's own animals)

1. Total number of easy animal health practices candidate performed (or helped perform) on own household's animals [LM2][5]

2. Total number of hard animal health practices candidate performed (or helped perform) on own household's animals [LM2][6]

Deviation: In the paper comparing DL and TT to one another as well as to the control group, we eliminated outcomes 2-4 from the list in subsection 4.3.1 because there were no differences in impacts by difficulty level. See Table 31 in this document for estimated impacts on knowledge and own livestock management where impacts are disaggregated by difficulty. Note that after the results shown in Tables 31 were obtained, an error was discovered in the code used to calculate the number of correct answers (the correct answer for one question was miscoded). Also note that "Overall score" was scaled by 100 in the paper. These discrepancies as well as other changes to the econometric approach (described in subsection below) explain the differences between what is presented for knowledge outcomes in the paper and in this pre-analysis plan.

4.3.3 Recruitment and Completion of CAHW training

1. Enrolled in and completed CAHW training[7]

2. Training center test score

Deviation: Training center test scores were not comparable across centers because of how they were measured, so we eliminated this outcome from the paper.

[5] "Easy" animal health practices are: drenching, vaccination, treating wounds, selling seed, selling insurance, and selling feed concentrate.

[6] "Hard" animal practices are: castration, mastitis screening or treatment, kidding/calving, treating broken bones, administering antibiotics, treating prolapse, fecal examination with microscope, selling medicine, providing breeding advice, providing feeding advice, provide shed construction advice, and providing other animal husbandry advice.

[7] As noted in section 2, we have already analyzed these data.

4.3.4 Breadth and depth of service provision

1. Client base
   (a) Number of different clients served since beginning as CAHW [CAHW11]
   (b) Number of different clients served as CAHW in last month [CAHW12]
   (c) Number of different wards you have done CAHW work in since beginning [CAHW13]
   (d) Number of different wards you have done CAHW work in in the last month [CAHW14]
2. Services provided as a CAHW (not on own household's livestock)
   (a) Count of distinct easy CAHW services performed at least once in past year [CAHW18]
   (b) Count of distinct hard CAHW services performed at least once in past year [CAHW18]

Deviation: We eliminated outcomes (c) and (d) from the paper comparing DL to TT and each treatment group to control. They are redundant given that we are estimating impacts on number of clients. Also note that we replaced (a) with number of clients served in the month before Covid-19 lockdown policies went into place. Comparing clients pre- and post-lockdown is an essential component of explaining what happened to CAHW activity levels following training.

4.3.5 Independence and competence

1. Success rates
   (a) Percent of easy services successfully provided [CAHW19]
   (b) Percent of hard services successfully provided [CAHW19]
2. Frequency of needing assistance or consultation
   (a) Percent of times did not need to consult with another professional when providing easy services [CAHW20]
   (b) Percent of times did not need to consult with another professional when providing hard services [CAHW20]

Deviation: In the paper comparing DL and TT to one another and the control group, independence and competence outcomes were combined into a single outcome: percent of services successfully performed. We saw little difference in impacts by category as organized above, and to save space relied on just a single outcome.

4.3.6 CAHW income and investment

1. CAHW gross income [NAB4]
2. CAHW operating costs [NAB6a-6c OR CAHW14-16]
3. CAHW net income [NAB4, CAHW14-16]
4. How was CAHW seed money used [CAHW10]
5. Investment in CAHW business [CAHW14-16]

Deviation: In the paper comparing DL and TT to one another and the control group, we eliminated income and cost-based measures of CAHW outcomes because of the impact of Covid lockdown on CAHW services. In addition, power calculations indicate that impacts on client visits are much more likely to be precisely estimated than impacts on CAHW earnings. Power calculations indicate a minimum detectable effect for the distance training LATE of 0.83 standard deviations, and a minimum detectable effect for the traditional training LATE of 1.87 standard deviations, when using CAHW earnings in the past 12 months as the outcome. For client visits in the past month, these same figures are 0.55 and 0.43 standard deviations, respectively.

5 Analysis

5.1 Effects of being trained as a CAHW (relative to control)

We will estimate both local average treatment effects (LATE) and intent to treat (ITT) effects of being a CAHW (or being invited to CAHW training) relative to not being a CAHW (or not being invited to CAHW training) on the outcomes in 4.1 to 4.2. For these outcomes we are primarily interested in the impacts of becoming a CAHW, by either training training mechanism. In section 5.2 we discuss when and how we compare between training types.

LATE estimates the impact of becoming a CAHW on candidates who only become a CAHW when invited (compliers). In our case, there are a substantial number of candidates

who decline to become CAHWs when invited (52 of 73 invited to TT and 37 of 77 invited to DL), and very few candidates who managed to become CAHWs despite not being invited (4 of 73 not invited to TT and 2 of 77 not invited to DL). Thus, LATE will be a very close approximation to the treatment effect on the treated (TOT), which answers the question "What is the impact of becoming a CAHW on *E[Y]* among those who became CAHWs?" Thus, the LATE can be high for a program if it has a large impact on those that take advantage of it, even if few do.

ITT estimates capture the impact of inviting a woman *nominated as a viable candidate by her cooperative* to become a CAHW. Thus, it answers the question "how does being invited to training impact a candidate's *E[Y]*, regardless of whether she enrolled in or completed training, compared to a candidate who was not invited?" It captures both the recruitment rate and the impact of being effectively recruited. Thus, the ITT will be low for a program with low recruitment, even if it is very impactful on those who are recruited.

In this study we are primarily interested in the effect of becoming a CAHW rather than the effect of being invited to become a CAHW. Thus, we will draw our main conclusions from LATE results, looking at parameter estimates from both stages. We will also report ITT results because it captures the overall effect of offering a program, and because IV can be problematic with small samples whereas OLS is always consistent.

5.1.1 LATE

To estimate the impact of becoming a CAHW on compliers (LATE) on on outcome y_{ic} we will estimate the following:

$$y_{ic} = \beta_0 + \beta_1 \widehat{CAHW}_{ic} + \beta_2 y^0_{ic} + S_{ic} + [X'_{ic}\theta] + \varepsilon_{ic} \tag{1}$$

In equation 1, y^0_{ic} is the de-meaned outcome at baseline, dummied out if missing, S_{ic} is a stratification bin dummy[8], X is a vector of control variables selected using post-double-sellection (PDS) LASSO (Belloni, Chernozhukov, and Hansen, 2014), and ε_{ic} is an idiosyncratic error term.

To estimate $\widehat{CAHW}_{ic}$ we regress becoming a CAHW on being invited to attend *either* training type:[9]

[8]The stratification bin is the cooperative where there are two candidates. Where there are four or six candidates, the bins are pairs of candidates matched by candidate income at baseline.

[9]Alternatively, we could use two instruments, one for being invited to attend TT and one for being invited to attend DL, but this first stage regression has a lower F-statistic (45.0) than the regression using a single instrument (71.6).

$$CAHW_{ic} = \gamma_0 + \gamma_1 INV_{ic} + \gamma_4 y_{ic}^0 + S_{ic} + [X_{ic}'\phi] + \mu_{ic} \quad (2)$$

In equation 2 INV_{ic} is a variable for being invited to training and μ_{ic} is an idiosyncratic error term.

5.1.2 ITT

Although LATE is arguably the more policy-relevant estimate, instrumental variables estimators may perform poorly in small samples. To estimate the impact of being invited to any CAHW training (ITT effects) on outcome y_{ic} we will estimate the following:

$$y_{ic} = \beta_0 + \beta_1 INV_{ic} + \beta_3 y_{ic}^0 + S_{ic} + [X_{ic}'\theta] + \varepsilon_{ic} \quad (3)$$

where INV_{ic} is a dummy variable for being selected for training among the candidates in the cooperative, irrespective of the type of training offered.

5.2 Effects of DL training (relative to TT)

For all outcomes we will estimate the LATE and ITT effects of the distinct training types. For the outcomes in sections 4.1 and 4.2, we are most interested in the difference between candidates who become CAHWs (through either training type) and controls. However, we also test for effects by training types in case there are large differences in their impacts (e.g., one training type is totally ineffective whereas the other is not). For the outcomes in section 4.3.1 - 4.3.3 we are primarily interested in differences between candidates who become CAHWs through the different training types, but also want to use the control group as a benchmark. Thus, we will estimate LATE and ITT effects on these outcomes as follows.

5.2.1 LATE

To estimate the impact (LATE) of becoming a CAHW through a specific type of training on outcome y_{ic}, and comparing between training types, we will estimate the following:

$$y_{ic} = \beta_0 + \beta_1 \widehat{CAHW}_{ic}^{TT} + \beta_2 \widehat{CAHW}_{ic}^{DL} + \beta_3 y_{ic}^0 + S_{ic} + [X_{ic}'\theta] + \varepsilon_{ic} \quad (4)$$

where $\widehat{CAHW}_{ic}^{j}$ for $j = TT, DL$ is estimated as:

$$CAHW_{ic}^{j} = \gamma_0 + \gamma_1 INV_{ic} \times TT_c + \gamma_2 INV_{ic} \times DL_c + \gamma_4 y_{ic}^0 + S_{ic} + [X_{ic}'\phi] + \mu_{ic} \quad (5)$$

In equation 5, TT_c and DL_c are dummy variables for the cooperative being assigned to TT or DL training. We will test the null hypothesis $\gamma_1 = \gamma_2$ to compare the impacts of being offered TT versus being offered DL. Because training type is assigned at the cooperative level, in this specification we will cluster standard errors at the cooperative level.

5.2.2 ITT

To estimate the impact of being invited to a specific type of CAHW training (ITT effects) on outcome y_{ic}, and comparing between training types, we will estimate the following:

$$y_{ic} = \beta_0 + \beta_1 INV_{ic} \times TT_c + \beta_2 INV_{ic} \times DL_c + \beta_3 y_{ic}^0 + S_{ic} + [X_{ic}'\theta] + \varepsilon_{ic} \quad (6)$$

We will test the null hypothesis $\beta_1 = \beta_2$ to compare the impacts of being offered TT versus being offered DL. Because training type is assigned at the cooperative level, will cluster standard errors at the cooperative level.

Deviation: Sample attrition resulted in several strata holding only a single observation. Because of attrition, we used strata created during the cooperative-level randomization to form the fixed effects using in our regression models. Also, note that we do not present results from the PDS Lasso in the paper comparing DL to TT and each to the control group. As can be seen in the results presented at the end of this document, PDS Lasso estimation yielded results very similar to those of models with no covariates other than the lagged outcome.

5.2.3 Outcomes specific to CAHW job performance

Some outcomes are only observed for those who have completed CAHW trainings, e.g., indicators of clients served and exam scores. For all CAHW-specific outcomes other than exam scores, we can impute missing values as zeroes. For example, an individual who is not a CAHW visited zero clients as CAHW. In these cases we will estimate equation and 4 and compare the resulting LATE estimates. For exam scores we will explore different methods of estimating the impact of training system given that outcome data are missing, e.g., sample-selection models.

Deviation: Since there was some non-compliance in the control group, not all values

of clients served or percent of services offered were zeroes among women not assigned to treatment. This is reflected in the estimated impacts shown in the paper comparing DL to TT and each to the control group. As mentioned above, we did not use exam scores as an outcome because of measurement issues.

5.2.4 Distinguishing selection into training type from quality of training type

Difference in LATEs by training system could emerge because of observed and unobserved differences in the type of candidate selecting into each system and because of differences in the systems themselves. To shed light on these questions, we will present differences in observed characteristics for individuals completing each type of training. We will also explore different approaches to estimating counterfactual outcomes under the alternative training system for each group of trainees, e.g., the average number of clients served among TT CAHWs that would have been observed had the same group of trainees instead completed DL. In this way, we will hold trainee characteristics fixed while estimating the impact of a change in training system, thereby isolating the importance of the latter in generating our LATE results.

Possible approaches to estimating outcomes under alternative training include doubly-robust techniques that model the conditional mean of the outcome as well as the propensity score and yield consistent estimates if either model is correct (Słoczyński and Wooldridge, 2017), control function models that allow treatment effects to vary with observed and unobserved characteristics Wooldridge (2015), and full maximum likelihood models that jointly estimate the selection and outcome equations (Heckman, 1974).

Deviation: In an early draft of the paper comparing DL to TT and each to the control group, we used a Heckman selection model to impute the outcomes that women completing TT training would have experienced had they instead completed DL training. This allowed us to separate the effect of selection from training quality by holding characteristics of TT trainees fixed and estimating whether they would have done better with DL. But ultimately we decided that this approach was not credible because it required estimating a model with many parameters (one for every covariate used to impute "with DL" outcomes for the TT CAHWs as well as the coefficient on the inverse Mills ratio) with a few dozen observations.

5.2.5 Comparing DL and TT: hypothesis testing

Our results will yield ITTs and LATEs for each training system as well as estimated impacts of switching to the alternative training system for each respectively group of trainees. In our view, the most policy-relevant question that can be addressed with the estimates just described is whether the higher uptake rates generated by moving to a hybrid distance

learning training system for CAHWs would cause a noticeable drop in quality. Therefore, in addition to standard hypothesis testing we we will use one-sided non-inferiority tests as described by Walker and Nowacki (2011). When using a non-inferiority test, rejection of the null hypothesis indicates that DL-training is non-inferior to TT training along the tested metric. This approach puts the statistical burden of proof (rejection of a null hypothesis) on us to show no substantial difference between the two training types, as opposed to showing that there is a difference between the two (non-rejection of a null hypothesis).

Deviation: We decided the non-inferiority approach was an unnecessary complication given the estimates we obtained, which make it quite clear that there is no dropoff in knowledge or performance when comparing DL and TT impacts.

5.3 Control variables

Control variables selected using post-double-selection (PDS) LASSO (Belloni, Chernozhukov, and Hansen, 2014). Candidate control variables include all baseline outcomes included in the balance tables reported in this pre-analysis plan.

5.4 Heterogenous effects

Given the small sample size, we will only conduct exploratory tests for heterogenous effects.

6 Power calculations

In this section, we estimate the minimum detectable effects (MDEs) using our baseline data set. The statistical power (1-β) is set at 0.80, and the significance level (α) at 0.05. To estimate MDE's on compliers (LATE), we estimate the following equations:

$$y_{ic} = \beta_0 + \beta_1 \widehat{CAHW}_{ic} + S_{ic} + \varepsilon_{ic} \tag{7}$$

$$CAHW_{ic} = \gamma_0 + \gamma_1 INV_{ic} + S_{ic} + \mu_{ic} \tag{8}$$

In equation 7 and 8, S_{ic} is a stratification bin dummy and ε_{ic} and μ_{ic} are idiosyncratic error terms, respectively. We estimate $\widehat{CAHW}_{ic}$ in equation 7 by regressing becoming a CAHW on being invited to attend either training type. In equation 8, INV_{ic} is a variable for being invited. The parameter β_1 is the impact of becoming a CAHW on compliers (LATE).

To estimate MDE's of being invited to any CAHW training (ITT), we estimate the following equation:

$$y_{ic} = \beta_0 + \beta_1 INV_{ic} + S_{ic} + \varepsilon_{ic} \tag{9}$$

where INV_{ic} is a variable for being invited ε_{ic} is an idiosyncratic error term. The parameter β_1 is the average intent-to-treat (ITT) effect.

We then estimate the MDE for outcome y_{ic} as follows:

$$y_{ic} = (t_{\alpha/2} + t_{1-\beta}) se_{\hat{\beta}_1} \tag{10}$$

where $se_{\hat{\beta}_1}$ is the standard error of the estimated average LATE (from equation 7) and ITT effects (from equation 9). Our estimated MDEs are summarized in Table 3.

Power calculations are reported in Table 3.

Table 3: Minimum Detectable Effects

	(1)	(2)	(3)	(4)	(5)
		LATE		**ITT**	
	Mean	MDE	Standard Deviations	MDE	Standard Deviations
Baseline outcome variable					
Income					
Total household income	3334	1636	0.5982	838	0.3066
Total respondent income	138	270	0.5783	136	0.2925
Respondent non-farm income	43.5	167	0.6343	85.54	0.3248
Respondent sole control over income	258	584	0.6461	300	0.3318
Respondent joint control over income	1081	995	0.6003	511	0.3085
Empowerment					
Respondent control some income (0/1)	0.593	0.286	0.5817	0.147	0.2980
Mobility Index	12.98	1.827	0.5091	0.923	0.2573
Number of women that would seek your advice	8.08	4.849	0.5735	2.478	0.2930
Empowerment Index (ICW)	1.12E-09	0.530	0.5300	0.268	0.2680
Aspirations					
Aspired Income	2552	1661	0.6087	845	0.3098
Aspired number of women seeking help	37.457	73.835	0.6307	37.759	0.3226
Livestock knowledge					
Percent of easy correct	0.847	0.153	0.5421	0.079	0.2780
Percent of intermediate correct	0.218	0.138	0.5287	0.071	0.2717
Percent of difficult correct	0.843	0.219	0.6007	0.112	0.3085
Knowledge Score (percentage)	0.595	0.111	0.5146	0.057	0.2642
N	300	300	300	300	300

The above MDE calculations include stratum fixed effects.

7 IRB information

This project was approved by the University of Florida's Institutional Review Board on January 17, 2017 (IRB201602316). Continuation of approval was granted on October 15, 2017 and again on August 30, 2019 (through August 30, 2022). IRB approval to conduct phone surveys as opposed to in-person surveys was granted on July 15, 2020.

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A Endline 2 modules

We wanted to ask the following modules in the first round, but because the survey is conducted through phone interviews we had to be trim out these modules. We plan to include the following modules in next round which we hope will be face-to-face data collection.

1. Intimate partner violence
    (a) Frequency of yelling or threatening violence [RC2a, RC2e, RC2f]
    (b) Frequency of actual violence [RC2b, RC2c, RC2d]
    (c) Frequency of controlling behavior [RC2g, RC2h, RC2i, RC2i]
    (d) Intimate partner violence index (ICW index of a-c above)
2. Time use
    (a) Candidate's time use
    (b) Male relative's time use

B Balance tables

Table 4: Balance table: All sample and DL vs TT

Variable	(1) All Control Mean/SD	(2) All Treatment Mean/SD	(3) t-test (p-value) (1)-(2)	(4) Normalized difference (1)-(2)	(5) TT Treatment Mean/SD	(6) DL Treatment Mean/SD	(7) t-test (p-value) (5)-(6)	(8) Normalized difference (5)-(6)
Baseline outcome variables								
Income								
Total household income	3203	3467	0.404	-0.0966	3330	3596	0.538	-0.101
	[2840]	[2628]			[2473]	[2777]		
Total respondent income	108	169	0.26	-0.13	157	179	0.805	-0.0405
	[368]	[549]			[534]	[567]		
Respondent non-farm income	35.1	51.9	0.58	-0.064	75.6	29.5	0.369	0.147
	[202]	[314]			[411]	[178]		
Respondent sole control over income	261	256	0.957	0.0063	321	194	0.367	0.148
	[948]	[863]			[876]	[852]		
Respondent joint control income	1019	1144	0.516	-0.0752	1010	1272	0.359	-0.15
	[1572]	[1743]			[1434]	[1994]		
Empowerment								
Respondent control some income (0/1)	0.587	0.6	0.815	-0.0271	0.534	0.662	0.111	-0.261
	[.494]	[.492]			[.502]	[.476]		
Mobility Index	12.8	13.2	0.404	-0.0966	13	13.3	0.683	-0.067
	[3.52]	[3.66]			[3.67]	[3.67]		
Number of women that would seek your advice	7.84	8.32	0.624	-0.0568	8.6	8.05	0.691	0.0653
	[8.5]	[8.44]			[10.1]	[6.59]		
Empowerment Index (ICW)	-0.0442	0.0442	0.445	-0.0883	-0.0289	0.113	0.377	-0.145
	[1.02]	[.983]			[1.14]	[.81]		
Aspirations								
Aspired income	2297	2808	0.105	-0.187	3094	2537	0.271	0.18
	[2298]	[3090]			[3332]	[2837]		
Aspired number of women seeking help	41.1	33.9	0.595	0.0614	45.1	23.2	0.143	0.24
	[138]	[91.2]			[125]	[35.8]		
Livestock knowledge								
Percent of easy correct	0.853	0.84	0.684	0.0471	0.801	0.877	.0924*	-0.275
	[.293]	[.274]			[.297]	[.245]		
Percent of intermediate correct	0.22	0.217	0.912	0.0127	0.192	0.24	0.246	-0.19
	[.268]	[.255]			[.245]	[.264]		
Percent of difficult correct	0.84	0.847	0.874	-0.0183	0.808	0.883	0.206	-0.207
	[.368]	[.362]			[.396]	[.323]		
Knowledge Score (percentage)	0.597	0.592	0.831	0.0247	0.559	0.623	.0627*	-0.304
	[.22]	[.212]			[.213]	[.208]		
Demographic controls								
Respondent								
Age (years)	26.9	27	0.925	-0.0108	26.3	27.7	0.14	-0.242
	[6.41]	[5.91]			[5.62]	[6.13]		
Education (years)	10.5	10.1	0.115	0.182	10.1	10.1	0.9	-0.0206
	[1.73]	[2.38]			[2.22]	[2.55]		
Married (0/1)	0.787	0.78	0.889	0.0162	0.74	0.818	0.249	-0.189
	[.411]	[.416]			[.442]	[.388]		
Household								
Household size	5.76	5.9	0.616	-0.0581	6	5.81	0.633	0.0784
	[2.34]	[2.48]			[2.38]	[2.59]		
Number of children under 12 years	0.987	1.1	0.32	-0.115	1.08	1.12	0.843	-0.0325
	[.897]	[1.07]			[1.04]	[1.1]		
Number of respondent children under 12 yrs	0.827	0.84	0.894	-0.0155	0.89	0.792	0.482	0.115
	[.873]	[.852]			[.891]	[.817]		
Belongs to high caste (0/1)	0.413	0.407	0.907	0.0135	0.411	0.403	0.918	0.017
	[.494]	[.493]			[.495]	[.494]		
Age of household head (years)	47.1	48.3	0.44	-0.09	49.5	47.3	0.33	0.161
	[13.5]	[13.8]			[14.1]	[13.5]		
Female head (0/1)	0.282	0.259	0.652	0.0525	0.229	0.286	0.433	-0.13
	[.451]	[.439]			[.423]	[.455]		
Has a Migrant (0/1)	0.507	0.513	0.908	-0.0133	0.534	0.494	0.621	0.0812
	[.502]	[.501]			[.502]	[.503]		
Owns livestock (0/1)	0.973	0.96	0.522	0.0742	0.959	0.961	0.947	-0.0109
	[.162]	[.197]			[.2]	[.195]		
Interest in CAHW training								
High interest in DL (0/1)	0.807	0.82	0.768	-0.0342	0.822	0.818	0.953	0.00969
	[.396]	[.385]			[.385]	[.388]		
High interest in TT (0/1)	0.74	0.72	0.698	0.045	0.699	0.74	0.573	-0.0924
	[.44]	[.451]			[.462]	[.441]		
High interest in DL and TT (0/1)	0.68	0.687	0.902	-0.0143	0.671	0.701	0.694	-0.0646
	[.468]	[.465]			[.473]	[.461]		
Access to technology								
Owns a smartphone (0/1)	0.813	0.853	0.354	-0.107	0.877	0.831	0.434	0.128
	[.391]	[.355]			[.331]	[.377]		
Have social media account (0/1)	0.713	0.74	0.606	-0.0597	0.74	0.74	0.994	-0.00121
	[.454]	[.44]			[.442]	[.441]		
Observations	150	150			73	77		

The value displayed for t-tests are p-values.
***, **, and * indicate significance at the 1, 5, and 10 percent critical level.
All monetary outcomes are in dollars.

Table 5: Balance Table: DL and TT sample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	DL Control Mean/SD	DL Treatment Mean/SD	t-test (p-value) (1)-(2)	Normalized difference (1)-(2)	TT Control Mean/SD	TT Treatment Mean/SD	t-test (p-value) (5)-(6)	Normalized difference (5)-(6)
Baseline outcome variables								
Income								
Total household income	3338	3596	0.595	-0.0861	3060	3330	0.503	-0.111
	[3218]	[2777]			[2392]	[2473]		
Total respondent income	123	179	0.491	-0.111	91.8	157	0.351	-0.155
	[444]	[567]			[266]	[534]		
Respondent non-farm income	51.9	29.5	0.538	0.0997	17.3	75.6	0.24	-0.195
	[265]	[178]			[97.8]	[411]		
Respondent sole control over income	178	194	0.901	-0.0202	350	321	0.867	0.0278
	[707]	[852]			[1148]	[876]		
Respondent joint control income	919	1272	0.206	-0.204	1125	1010	0.663	0.0725
	[1393]	[1994]			[1744]	[1434]		
Empowerment								
Respondent control some income (0/1)	0.597	0.662	0.407	-0.134	0.575	0.534	0.62	0.0824
	[.494]	[.476]			[.498]	[.502]		
Mobility Index	12.9	13.3	0.513	-0.106	12.7	13	0.598	-0.0877
	[3.2]	[3.67]			[3.84]	[3.67]		
Number of women that would seek your advice	7.7	8.05	0.753	-0.051	7.99	8.6	0.707	-0.0625
	[7.19]	[6.59]			[9.73]	[10.1]		
Empowerment Index (ICW)	-0.0253	0.113	0.314	-0.163	-0.0641	-0.0289	0.852	-0.031
	[.893]	[.81]			[1.14]	[1.14]		
Aspirations								
Aspired income	2371	2537	0.695	-0.0635	2218	3094	.0645*	-0.306
	[2360]	[2837]			[2245]	[3332]		
Aspired number of women seeking help	46.9	23.2	0.2	0.207	34.8	45.1	0.608	-0.0852
	[158]	[35.8]			[116]	[125]		
Livestock knowledge								
Percent of easy correct	0.851	0.877	0.561	-0.0942	0.856	0.801	0.256	0.189
	[.304]	[.245]			[.282]	[.297]		
Percent of intermediate correct	0.253	0.24	0.755	0.0505	0.185	0.192	0.876	-0.026
	[.252]	[.264]			[.283]	[.245]		
Percent of difficult correct	0.857	0.883	0.634	-0.077	0.822	0.808	0.833	0.0352
	[.352]	[.323]			[.385]	[.396]		
Knowledge Score (percentage)	0.613	0.623	0.765	-0.0483	0.581	0.559	0.539	0.102
	[.223]	[.208]			[.216]	[.213]		
Demographic controls								
Respondent								
Age (years)	27.4	27.7	0.768	-0.0478	26.4	26.3	0.859	0.0296
	[6.4]	[6.13]			[6.43]	[5.62]		
Education (years)	10.3	10.1	0.507	0.107	10.6	10.1	0.106	0.268
	[1.74]	[2.55]			[1.72]	[2.22]		
Married (0/1)	0.805	0.818	0.838	-0.0331	0.767	0.74	0.703	0.0633
	[.399]	[.388]			[.426]	[.442]		
Household								
Household size	5.81	5.81	1	0	5.71	6	0.437	-0.129
	[2.59]	[2.59]			[2.06]	[2.38]		
Number of children under 12 years	0.922	1.12	0.24	-0.19	1.05	1.08	0.862	-0.029
	[.943]	[1.1]			[.848]	[1.04]		
Number of respondent's children under 12 yrs	0.818	0.792	0.854	0.0298	0.836	0.89	0.699	-0.0643
	[.928]	[.817]			[.817]	[.891]		
Belongs to high caste (0/1)	0.377	0.403	0.743	-0.0531	0.452	0.411	0.619	0.0827
	[.488]	[.494]			[.501]	[.495]		
Age of household head (years)	46.8	47.3	0.825	-0.0359	47.4	49.5	0.373	-0.15
	[13.5]	[13.5]			[13.4]	[14.1]		
Female head (0/1)	0.237	0.286	0.495	-0.111	0.329	0.229	0.185	0.222
	[.428]	[.455]			[.473]	[.423]		
Has a migrant (0/1)	0.494	0.494	1	0	0.521	0.534	0.869	-0.0273
	[.503]	[.503]			[.503]	[.502]		
Owns livestock (0/1)	0.961	0.961	1	0	0.986	0.959	0.314	0.167
	[.195]	[.195]			[.117]	[.2]		
Interest in CAHW training								
High interest in DL (0/1)	0.792	0.818	0.686	-0.0654	0.822	0.822	1	0
	[.408]	[.388]			[.385]	[.385]		
High interest in TT (0/1)	0.662	0.74	0.294	-0.17	0.822	0.699	.0821*	0.288
	[.476]	[.441]			[.385]	[.462]		
High interest in DL and TT (0/1)	0.61	0.701	0.238	-0.191	0.753	0.671	0.276	0.181
	[.491]	[.461]			[.434]	[.473]		
Access to technology								
Owns a smartphone (0/1)	0.779	0.831	0.419	-0.131	0.849	0.877	0.633	-0.0794
	[.417]	[.377]			[.36]	[.331]		
Have social media account (0/1)	0.701	0.74	0.593	-0.0866	0.726	0.74	0.853	-0.0309
	[.461]	[.441]			[.449]	[.442]		
Observations	77	77			73	73		

The value displayed for t-tests are p-values.
***, **, and * indicate significance at the 1, 5, and 10 percent critical level.
All monetary outcomes are in dollars.

Table 6: The impact of training on income

	Total household annual income	Woman's total annual income	Woman's non-farm annual income (0/1)	Woman's annual solely controlled income (0/1)	Woman's annual jointly controlled income
ITT	254.903	60.281	0.058	0.051	58.645
	(297.908)	(138.072)	(0.053)	(0.060)	(208.190)
ITT PDS LASSO	254.903	27.822	0.058	0.049	45.546
	(219.620)	(96.933)	(0.039)	(0.042)	(146.599)
LATE	717.494	169.871	0.163	0.143	166.276
	(576.707)	(269.173)	(0.100)	(0.117)	(408.477)
LATE PDS LASSO	717.494	79.023	0.163	0.138	128.956
	(614.771)	(274.840)	(0.123)	(0.127)	(413.775)
Control mean	2777.087	743.305	0.212	0.285	1574.522
Observations	276	276	276	276	276

Notes: * p <0.10, ** p <0.05, *** p <0.01. Robust standard errors are in parenthesis. All specifications include stratum fixed effects and de-meaned outcome variable at baseline.In ITT and LATE PDS LASSO, control variables are selected using post-double-selection (PDS) LASSO. All income outcomes are in dollars.

Table 7: The impact of training on weekly income

	Total household weekly income	Non-agriculture weekly income	CAHW weekly income	N. of clients visited in a week
ITT	-2.662	-9.224	-5.567	1.341***
	(9.666)	(6.604)	(7.108)	(0.423)
ITT PDS LASSO	-5.129	-9.545**	-5.567	1.341***
	(6.714)	(4.724)	(5.276)	(0.314)
LATE	-7.432	-25.801*	-15.599	3.756***
	(18.616)	(13.242)	(14.100)	(0.700)
LATE PDS LASSO	-14.297	-26.713*	-15.599	3.756***
	(18.653)	(14.678)	(17.717)	(0.882)
Control mean	87.409	27.570	8.545	0.661
Observations	274	274	274	274

Notes: * p <0.10, ** p <0.05, *** p <0.01. Robust standard errors are in parenthesis. All specifications include stratum fixed effects and de-meaned outcome variable at baseline.In ITT and LATE PDS LASSO, control variables are selected using post-double-selection (PDS) LASSO. All income outcomes are in dollars.

Table 8: The impact of training on weekly income

	Livestock weekly income (0/1)	Crop weekly income (0/1)	NAB weekly income (0/1)	CAHW weekly income (0/1)	Shop weekly income (0/1)	Trader weekly income (0/1)	Other weekly income (0/1)
ITT	0.0902	-0.0337	0.1124*	0.2353***	-0.0211	-0.0263	-0.0235
	(0.0604)	(0.0569)	(0.0607)	(0.0534)	(0.0392)	(0.0305)	(0.0603)
ITT PDS LASSO	0.0893**	-0.0337	0.1124**	0.2353***	-0.0243	-0.0263	-0.0204
	(0.0414)	(0.0421)	(0.0449)	(0.0396)	(0.0281)	(0.0226)	(0.0441)
LATE	0.2527**	-0.0940	0.3150***	0.6593***	-0.0593	-0.0736	-0.0659
	(0.1242)	(0.1091)	(0.1069)	(0.0724)	(0.0776)	(0.0590)	(0.1175)
LATE PDS LASSO	0.2497**	-0.0940	0.3150**	0.6593***	-0.0687	-0.0736	-0.0568
	(0.1231)	(0.1256)	(0.1234)	(0.0914)	(0.0829)	(0.0746)	(0.1355)
Control mean	0.6222	0.3926	0.4000	0.1185	0.1185	0.0741	0.5185
Observations	274	274	274	274	274	274	274

Notes: * p <0.10, ** p <0.05, *** p <0.01. Robust standard errors are in parenthesis. All specifications include stratum fixed effects and de-meaned outcome variable at baseline.In ITT and LATE PDS LASSO, control variables are selected using post-double-selection (PDS) LASSO. All income outcomes are in dollars.

Table 9: The impact of training on weekly income

	Livestock weekly income	Crop weekly income	NAB weekly income	CAHW weekly income	Shop weekly income	Trader weekly income	Other weekly income
ITT	-0.0029	0.2314	-9.2241	-5.5668	-11.1882	-0.4051	-0.0624
	(0.1218)	(1.5238)	(6.6043)	(7.1077)	(6.8188)	(0.7621)	(0.2955)
ITT PDS LASSO	-0.0029	0.2314	-9.5445**	-5.5668	-11.1882**	-0.4051	-0.0624
	(0.0901)	(1.1275)	(4.7240)	(5.2765)	(5.0452)	(0.5638)	(0.2187)
LATE	-0.0079	0.6484	-25.8006*	-15.5993	-31.3427**	-1.1256	6.0183
	(0.2272)	(2.9719)	(13.2420)	(14.0996)	(13.8749)	(1.4670)	(13.9416)
LATE PDS LASSO	-0.0079	0.6484	-26.7125*	-15.5993	-0.0789	-1.1256	-0.1733
	(0.2494)	(3.2821)	(14.6778)	(17.7170)	(0.0853)	(1.8548)	(0.6381)
Control mean	0.622	0.393	0.400	0.119	0.119	0.074	0.519
Observations	274	274	274	274	274	274	274

Notes: * p <0.10, ** p <0.05, *** p <0.01. Robust standard errors are in parenthesis. All specifications include stratum fixed effects and de-meaned outcome variable at baseline.In ITT and LATE PDS LASSO, control variables are selected using post-double-selection (PDS) LASSO. All income outcomes are in dollars.

Table 10: The impact of training on savings

	Personal savings in past month	Household savings in past month	Household total savings	Personal total savings
ITT	-2.945	-37.742	248.101	8.639
	(5.514)	(28.351)	(223.335)	(71.519)
ITT PDS LASSO	-2.945	-35.248*	248.101	6.514
	(4.092)	(20.354)	(165.738)	(50.917)
LATE	-8.316	-106.590*	700.681	24.398
	(10.927)	(56.428)	(447.373)	(141.040)
LATE PDS LASSO	-8.413	-96.173*	703.515	24.050
	(11.749)	(55.916)	(478.276)	(140.305)
Control mean	25.201	136.489	1505.248	434.109
Observations	276	276	276	276

Notes: * p <0.10, ** p <0.05, *** p <0.01. Robust standard errors are in parenthesis. All specifications include stratum fixed effects and de-meaned outcome variable at baseline.In ITT and LATE PDS LASSO, control variables are selected using post-double-selection (PDS) LASSO. All savings outcomes are in dollars.

Table 11: The impact of training on mobility

	N. of visits	N. of visit without permission	Accompaniment to visit Urban Center	Accompaniment to visit Market	Accompaniment to visit Family	Accompaniment to visit Friends	Accompaniment to visit Community Center	Mobility Index ICW
ITT	6.893*	0.148	-0.080	0.041	0.033	0.033	-0.066	0.172
	(4.044)	(0.165)	(0.077)	(0.057)	(0.061)	(0.031)	(0.054)	(0.114)
ITT PDS LASSO	6.893**	0.148	-0.080	0.041	0.033	0.033	-0.066	0.172**
	(2.991)	(0.123)	(0.060)	(0.045)	(0.048)	(0.023)	(0.042)	(0.084)
LATE	19.471**	0.418	-0.203	0.123	0.100	0.088	-0.172	0.486**
	(8.190)	(0.332)	(.)	(0.111)	(0.118)	(0.058)	(.)	(0.231)
LATE PDS LASSO	19.471**	0.418	-0.203	0.123	0.100	0.088	-0.172	0.486**
	(8.726)	(0.378)	(0.184)	(0.152)	(0.164)	(0.074)	(0.127)	(0.246)
Control mean	39.474	2.219	1.250	1.162	1.162	1.022	1.158	-0.059
Observations	276	276	184	239	229	269	200	276

Notes: * p <0.10, ** p <0.05, *** p <0.01. Robust standard errors are in parenthesis. All specifications include stratum fixed effects and de-meaned outcome variable at baseline.In ITT and LATE PDS LASSO, control variables are selected using post-double-selection (PDS) LASSO. In degree of accompaniment, higher number means higher accompaniment requirement.

Table 12: The impact of training on group leadership

	Holds a leadership//position	Comfortable speaking in public	Aspired number of women seeking advice	Aspired number of men seeking advice	Leadership Index ICW
ITT	0.093	0.031	4.670	4.724	0.245**
	(0.061)	(0.057)	(6.426)	(3.079)	(0.116)
ITT PDS LASSO	0.093**	0.031	4.670	4.724**	0.245***
	(0.046)	(0.042)	(4.753)	(2.285)	(0.086)
LATE	0.250**	0.088	13.169	13.341**	0.691***
	(0.116)	(0.112)	(12.646)	(6.227)	(0.241)
LATE PDS LASSO	0.250*	0.088	13.169	13.341*	0.691***
	(0.142)	(0.134)	(13.519)	(6.889)	(0.256)
Control mean	0.446	0.577	21.051	8.095	-0.111
Observations	266	276	276	276	276

Notes: * p <0.10, ** p <0.05, *** p <0.01. Robust standard errors are in parenthesis. All specifications include stratum fixed effects and de-meaned outcome variable at baseline.In ITT and LATE PDS LASSO, control variables are selected using post-double-selection (PDS) LASSO.

Table 13: The impact of training on household chore sharing

	Candidate's chore participation	Male relative's chore participation	Female relative's chore participation	Chore Sharing Index ICW
ITT	-0.144	0.225	0.000	0.115
	(0.182)	(0.271)	(0.362)	(0.126)
ITT PDS LASSO	-0.144	0.225	0.000	0.115
	(0.135)	(0.215)	(0.322)	(0.093)
LATE	-0.407	0.667	0.000	0.325
	(0.366)	(0.521)	(0.474)	(0.257)
LATE PDS LASSO	-0.407	0.667	0.000	0.325
	(0.414)	(0.686)	(0.774)	(0.275)
Control mean	5.810	3.062	4.633	-0.061
Observations	276	227	168	276

Notes: * p <0.10, ** p <0.05, *** p <0.01. Robust standard errors are in parenthesis. All specifications include stratum fixed effects and de-meaned outcome variable at baseline.In ITT and LATE PDS LASSO, control variables are selected using post-double-selection (PDS) LASSO.Higher chores value for candidate, male, and female relative indicates higher participation in daily chores.Chore sharing index (ICW) in column 4, candidate's chores are entered negatively and male and female relative's chores are entered positively.

Table 14: The impact of training on empowerment

	Candidate's control over income(0/1)	Mobility index ICW	Leadership index ICW	Chore Sharing index ICW	Empowerment index ICW
ITT	0.035	0.172	0.245**	0.115	0.261**
	(0.053)	(0.114)	(0.116)	(0.126)	(0.112)
ITT PDS LASSO	0.035	0.172**	0.245***	0.115	0.261***
	(0.040)	(0.084)	(0.086)	(0.093)	(0.083)
LATE	0.099	0.486**	0.691***	0.325	0.735***
	(0.105)	(0.230)	(0.241)	(0.257)	(0.242)
LATE PDS LASSO	0.099	0.486**	0.691***	0.325	0.735***
	(0.120)	(0.246)	(0.256)	(0.275)	(0.257)
Control mean	0.752	-0.059	-0.111	-0.061	-0.125
Observations	276	276	276	276	276

Notes: * p <0.10, ** p <0.05, *** p <0.01. Robust standard errors are in parenthesis. All specifications include stratum fixed effects and de-meaned outcome variable at baseline.In ITT and LATE PDS LASSO, control variables are selected using post-double-selection (PDS) LASSO.

Table 15: The impact of training on candidate gender attitudes

	Working outside home index	Female mobility index	Decision-making power index	Chore-sharing index	Son preference index	IPV index	Acceptance of CAHW index	Candidate gender attitude index
ITT	-0.120	0.047	-0.183*	-0.002	0.193	0.035	0.117	-0.073
	(0.103)	(0.120)	(0.102)	(0.109)	(0.124)	(0.117)	(0.098)	(0.102)
ITT PDS LASSO	-0.120	0.047	-0.179**	-0.002	0.174*	0.022	0.117	-0.073
	(0.075)	(0.088)	(0.070)	(0.080)	(0.089)	(0.085)	(0.072)	(0.075)
LATE	-0.332*	0.129	-0.506**	-0.006	0.532**	0.097	0.324*	-0.200
	(0.192)	(0.227)	(0.200)	(0.208)	(0.238)	(0.223)	(0.185)	(0.195)
LATE PDS LASSO	-0.327	0.180	-0.517***	0.015	0.461*	0.052	0.331*	-0.178
	(0.200)	(0.228)	(0.196)	(0.215)	(0.239)	(0.231)	(0.193)	(0.201)
Control mean	0.056	-0.041	0.079	-0.006	-0.086	-0.028	-0.068	0.026
Observations	276	276	276	276	276	276	276	276

Notes: * p <0.10, ** p <0.05, *** p <0.01. Robust standard errors are in parenthesis. All specifications include stratum fixed effects and de-meaned outcome variable at baseline.In ITT and LATE PDS LASSO, control variables are selected using post-double-selection (PDS) LASSO. Gender attitude subcategories in column 1-4 and 7, a higher index value reflects progressive gender attitudes. In column 5 and 6, a higher index value means regressive gender attitudes.

Table 16: The impact of training on candidate son aspirations

	Aspired son's education	Aspired son's marraige age	Aspired son's occupation is tier 1 or 2 (0/1)	Aspired son's occupation is tier 1 (0/1)	Son aspiration index ICW
ITT	0.077	0.216	0.021	-0.016	0.069
	(0.308)	(0.324)	(0.043)	(0.015)	(0.123)
ITT PDS LASSO	0.016	0.230	0.021	-0.016	0.069
	(0.237)	(0.247)	(0.033)	(0.012)	(0.095)
LATE	0.204	0.575	0.056	-0.041	0.183
	(0.598)	(0.638)	(0.084)	(0.031)	(0.239)
LATE PDS LASSO	0.042	0.621	0.056	-0.041	0.182
	(0.677)	(0.656)	(0.099)	(0.037)	(0.257)
Control mean	17.692	26.103	0.128	0.026	-0.033
Observations	309	309	309	309	309

Notes: * p <0.10, ** p <0.05, *** p <0.01. Robust standard errors are in parenthesis. All specifications include stratum fixed effects and de-meaned outcome variable at baseline.In ITT and LATE PDS LASSO, control variables are selected using post-double-selection (PDS) LASSO. Tier 1 occupation includes farmer, housewife, shop owner, migrant worker, driver, mechanic and construction worker. Tier 2 occupation includes CAHW, teacher, clerical work, trader, and other skilled worker.

Table 17: The impact of training on candidate daughter aspirations

	Aspired daughter's education	Aspired daughter's marraige age	Aspired daughter's occupation is tier 1 or 2 (0/1)	Aspired daughter's occupation is tier 1 (0/1)	Daughter aspiration index ICW
ITT	0.215	0.157	-0.049	-0.017	0.213*
	(0.288)	(0.251)	(0.041)	(0.012)	(0.125)
ITT PDS LASSO	0.215	0.150	-0.049	-0.017*	0.212**
	(0.220)	(0.192)	(0.030)	(0.009)	(0.094)
LATE	0.591	0.432	-0.135*	-0.048**	0.587**
	(0.567)	(0.500)	(0.081)	(0.024)	(0.248)
LATE PDS LASSO	0.591	0.409	-0.134	-0.048	0.585**
	(0.666)	(0.551)	(0.093)	(0.030)	(0.264)
Control mean	17.527	24.284	0.162	0.014	-0.092
Observations	297	297	297	297	297

Notes: * p <0.10, ** p <0.05, *** p <0.01. Robust standard errors are in parenthesis. All specifications include stratum fixed effects and de-meaned outcome variable at baseline.In ITT and LATE PDS LASSO, control variables are selected using post-double-selection (PDS) LASSO. Tier 1 occupation includes farmer, housewife, shop owner, migrant worker, driver, mechanic and construction worker. Tier 2 occupation includes CAHW, teacher, clerical work, trader, and other skilled worker.

Table 18: The impact of training on candidate aspirations

	Candidate's income	Aspired candidate's income	Son aspiration index ICW	Daughter aspiration index ICW	Candidate aspiration index ICW
ITT	87.319	25.248	0.060	0.182	0.059
	(95.122)	(533.113)	(0.109)	(0.120)	(0.106)
ITT PDS LASSO	96.217	25.248	0.060	0.179**	0.070
	(65.258)	(394.324)	(0.081)	(0.088)	(0.079)
LATE	249.279	71.170	0.165	0.515**	0.165
	(187.417)	(1042.725)	(0.204)	(0.238)	(0.208)
LATE PDS LASSO	265.665	69.692	0.163	0.503**	0.190
	(179.407)	(1112.060)	(0.224)	(0.256)	(0.213)
Control mean	576.876	2676.861	0.051	-0.062	-0.030
Observations	276	276	274	276	276

Notes: * p <0.10, ** p <0.05, *** p <0.01. Robust standard errors are in parenthesis. All specifications include stratum fixed effects and de-meaned outcome variable at baseline.In ITT and LATE PDS LASSO, control variables are selected using post-double-selection (PDS) LASSO.

Table 19: The impact of training on male relative's gender attitudes

	Working outside home index	Female mobility index	Decision-making power index	Chore-sharing index	Son preference index	IPV index	Acceptance of CAHW index	Male relative gender attitude index
ITT	0.030	-0.262*	-0.095	0.152	0.173	0.033	0.192	-0.026
	(0.140)	(0.133)	(0.141)	(0.133)	(0.142)	(0.142)	(0.128)	(0.128)
ITT PDS LASSO	0.028	-0.219**	-0.107	0.171	0.128	0.005	0.213**	0.002
	(0.113)	(0.106)	(0.116)	(0.106)	(0.115)	(0.116)	(0.097)	(0.102)
LATE	0.086	-0.758***	-0.277	0.439*	0.502*	0.094	0.557**	-0.076
	(0.248)	(0.261)	(0.261)	(0.241)	(0.264)	(0.254)	(0.237)	(0.230)
LATE PDS LASSO	0.077	-0.644*	-0.320	0.505	0.386	-0.005	0.635**	0.009
	(0.332)	(0.336)	(0.357)	(0.314)	(0.355)	(0.337)	(0.293)	(0.301)
Control Mean	-0.039	0.085	0.003	-0.090	-0.043	0.058	-0.096	-0.044
Observations	227	227	227	227	227	227	227	227

Notes: * p <0.10, ** p <0.05, *** p <0.01. Robust standard errors are in parenthesis. All specifications include stratum fixed effects and de-meaned outcome variable at baseline.In ITT and LATE PDS LASSO, control variables are selected using post-double-selection (PDS) LASSO. Gender attitude subcategories in column 1-4 and 7, a higher index value reflects progressive gender attitudes. In column 5 and 6, a higher index value means regressive gender attitudes.

Table 20: The impact of training on male relative's son aspirations

	Aspired son's education	Aspired son's marraige age	Aspired son's occupation is tier 1 or 2 (0/1)	Aspired son's occupation is tier 1 (0/1)	Son aspiration index ICW
ITT	-0.316	-0.239	-0.081	-0.036	0.007
	(0.370)	(0.434)	(0.068)	(0.032)	(0.165)
ITT PDS LASSO	-0.324	-0.325	-0.066	-0.044*	-0.010
	(0.329)	(0.350)	(0.057)	(0.023)	(0.139)
LATE	-0.892	-0.677	-0.229*	-0.101	0.019
	(0.728)	(0.860)	(0.132)	(0.062)	(0.319)
LATE PDS LASSO	-0.946	-0.884	-0.204	-0.098	-0.027
	(0.944)	(1.034)	(0.162)	(0.065)	(0.395)
Control mean	17.600	26.600	0.277	0.069	-0.021
Observations	256	256	256	256	256

Notes: * p <0.10, ** p <0.05, *** p <0.01. Robust standard errors are in parenthesis. All specifications include stratum fixed effects and de-meaned outcome variable at baseline.In ITT and LATE PDS LASSO, control variables are selected using post-double-selection (PDS) LASSO. Tier 1 occupation includes farmer, housewife, shop owner, migrant worker, driver, mechanic and construction worker. Tier 2 occupation includes CAHW, teacher, clerical work, trader, and other skilled worker.

Table 21: The impact of training on male relative's daughter aspirations

	Aspired daughter's education	Aspired daughter's marraige age	Aspired daughter's occupation is tier 1 or 2 (0/1)	Aspired daughter's occupation is tier 1 (0/1)	Daughter aspiration index ICW
ITT	-0.769*	0.172	-0.012	-0.022	0.005
	(0.415)	(0.351)	(0.070)	(0.016)	(0.169)
ITT PDS LASSO	-0.723**	0.168	0.010	-0.023*	0.010
	(0.308)	(0.294)	(0.055)	(0.014)	(0.133)
LATE	-2.230***	0.500	-0.036	-0.063**	0.014
	(0.853)	(0.680)	(0.135)	(0.032)	(0.327)
LATE PDS LASSO	-2.067**	0.464	0.027	-0.071	0.044
	(0.980)	(0.898)	(0.167)	(0.044)	(0.402)
Control mean	17.626	24.593	0.195	0.024	-0.026
Observations	246	246	246	246	246

Notes: * p <0.10, ** p <0.05, *** p <0.01. Robust standard errors are in parenthesis. All specifications include stratum fixed effects and de-meaned outcome variable at baseline.In ITT and LATE PDS LASSO, control variables are selected using post-double-selection (PDS) LASSO. Tier 1 occupation includes farmer, housewife, shop owner, migrant worker, driver, mechanic and construction worker. Tier 2 occupation includes CAHW, teacher, clerical work, trader, and other skilled worker.

Table 22: The impact of training on male relative's aspirations

	Candidate's income	Aspired candidate's income	Son aspiration index ICW	Daughter aspiration index ICW	Male relative's aspiration index ICW
ITT	19.729	-157.984	-0.012	0.011	0.003
	(121.329)	(587.814)	(0.179)	(0.178)	(0.142)
ITT PDS LASSO	-6.872	-229.827	-0.021	-0.001	-0.002
	(90.701)	(489.381)	(0.141)	(0.142)	(0.107)
LATE	58.506	-468.506	-0.034	0.034	0.009
	(226.184)	(1102.727)	(0.325)	(0.332)	(0.265)
LATE PDS LASSO	-7.684	-645.610	-0.060	0.003	0.004
	(264.168)	(1471.680)	(0.424)	(0.433)	(0.326)
Control mean	751.607	2741.696	0.055	-0.043	-0.034
Observations	227	227	224	227	227

Notes: * p <0.10, ** p <0.05, *** p <0.01. Robust standard errors are in parenthesis. All specifications include stratum fixed effects and de-meaned outcome variable at baseline.In ITT and LATE PDS LASSO, control variables are selected using post-double-selection (PDS) LASSO.

Table 23: The impact of training on female relative's gender attitudes

	Working outside home index	Female mobility index	Decision-making power index	Chore-sharing index	Son preference index	IPV index	Acceptance of CAHW index	Female relative gender attitude index
ITT	-0.032	-0.179	0.009	-0.183	0.250	-0.004	0.215	-0.059
	(0.254)	(0.259)	(0.266)	(0.214)	(0.239)	(0.219)	(0.237)	(0.263)
ITT PDS LASSO	-0.092	-0.191	-0.021	-0.193	0.234	-0.019	0.237	-0.077
	(0.214)	(0.226)	(0.210)	(0.189)	(0.201)	(0.189)	(0.192)	(0.232)
LATE	-0.072	-0.400	0.019	-0.408*	0.560*	-0.010	0.482*	-0.132
	(0.297)	(0.306)	(0.311)	(0.247)	(0.294)	(0.257)	(0.279)	(0.306)
LATE PDS LASSO	-0.207	-0.416	-0.046	-0.418	0.517	-0.033	0.525	-0.171
	(0.461)	(0.501)	(0.458)	(0.406)	(0.460)	(0.410)	(0.428)	(0.506)
Control mean	-0.007	0.053	-0.024	0.002	-0.024	0.057	-0.078	-0.024
Obervations	168	168	168	168	168	168	168	168

Notes: * p <0.10, ** p <0.05, *** p <0.01. Robust standard errors are in parenthesis. All specifications include stratum fixed effects and de-meaned outcome variable at baseline.In ITT and LATE PDS LASSO, control variables are selected using post-double-selection (PDS) LASSO. Gender attitude subcategories in column 1-4 and 7, a higher index value reflects progressive gender attitudes. In column 5 and 6, a higher index value means regressive gender attitudes.

Table 24: The impact of training on female relative's son aspirations

	Aspired son's education	Aspired son's marraige age	Aspired son's occupation is tier 1 or 2 (0/1)	Aspired son's occupation is tier 1 (0/1)	Son aspiration index ICW
ITT	-0.029	-0.059	0.071	-0.038	0.019
	(0.595)	(0.500)	(0.101)	(0.054)	(0.237)
ITT PDS LASSO	0.063	-0.164	0.056	-0.038	0.026
	(0.552)	(0.457)	(0.093)	(0.048)	(0.217)
LATE	-0.068	-0.136	0.164	-0.087	0.043
	(0.859)	(0.724)	(0.146)	(0.079)	(0.343)
LATE PDS LASSO	-0.068	-0.478	0.164	-0.087	0.043
	(1.238)	(1.014)	(0.212)	(0.117)	(0.478)
Control mean	16.957	26.237	0.269	0.075	-0.032
Observations	193	193	193	193	193

Notes: * p <0.10, ** p <0.05, *** p <0.01. Robust standard errors are in parenthesis. All specifications include stratum fixed effects and de-meaned outcome variable at baseline.In ITT and LATE PDS LASSO, control variables are selected using post-double-selection (PDS) LASSO. Tier 1 occupation includes farmer, housewife, shop owner, migrant worker, driver, mechanic and construction worker. Tier 2 occupation includes CAHW, teacher, clerical work, trader, and other skilled worker.

Table 25: The impact of training on female relative's daughter aspirations

	Aspired daughter's education	Aspired daughter's marraige age	Aspired daughter's occupation is tier 1 or 2 (0/1)	Aspired daughter's occupation is tier 1 (0/1)	Daughter aspiration index ICW
ITT	0.215	-0.510	-0.024	0.000	-0.057
	(0.508)	(0.583)	(0.107)	(0.000)	(0.163)
ITT PDS LASSO	0.183	-0.581	-0.021	0.000	-0.092
	(0.448)	(0.504)	(0.083)	(0.000)	(0.139)
LATE	0.511	-1.213	-0.056	-0.056	-0.135
	(0.708)	(0.841)	(0.151)	(0.151)	(0.228)
LATE PDS LASSO	0.506	-1.353	-0.081	-0.000	-0.122
	(1.078)	(1.237)	(0.200)	(0.000)	(0.328)
Control mean	16.851	24.402	0.310	0.023	0.080
Observations	180	180	180	180	180

Notes: * p <0.10, ** p <0.05, *** p <0.01. Robust standard errors are in parenthesis. All specifications include stratum fixed effects and de-meaned outcome variable at baseline.In ITT and LATE PDS LASSO, control variables are selected using post-double-selection (PDS) LASSO. Tier 1 occupation includes farmer, housewife, shop owner, migrant worker, driver, mechanic and construction worker. Tier 2 occupation includes CAHW, teacher, clerical work, trader, and other skilled worker.

Table 26: The impact of training on female relative's aspirations

	Candidate's income	Aspired candidate's income	Son aspiration index ICW	Daughter aspiration index ICW	Female relative's aspiration index ICW
ITT	-65.000	-1.0e+03	0.000	-0.050	-0.033
	(195.828)	(1047.285)	(0.226)	(0.164)	(0.160)
ITT PDS LASSO	-102.638	-1.1e+03	0.011	-0.087	-0.067
	(174.231)	(918.099)	(0.199)	(0.139)	(0.129)
LATE	-156.000	-2.5e+03*	0.001	-0.120	-0.078
	(261.454)	(1459.224)	(0.296)	(0.214)	(0.210)
LATE PDS LASSO	-243.089	-2.7e+03	0.037	-0.190	-0.155
	(432.851)	(2362.139)	(0.477)	(0.327)	(0.311)
Control mean	620.000	2762.154	0.053	0.142	0.055
Observations	168	168	168	168	168

Notes: * p <0.10, ** p <0.05, *** p <0.01. Robust standard errors are in parenthesis. All specifications include stratum fixed effects and de-meaned outcome variable at baseline.In ITT and LATE PDS LASSO, control variables are selected using post-double-selection (PDS) LASSO.

Table 27: The impact of training on livestock knowledge and management

	Percent correct, easy livestock questions	Percent correct, intermediate livestock questions	Percent correct, hard livestock questions	Overall score	Number of easy health practices, own livestock	Number of easy health practices, own livestock
ITT	7.036***	14.967***	5.563***	0.092***	0.564***	0.603***
	(2.356)	(4.320)	(1.995)	(0.020)	(0.207)	(0.172)
ITT PDS LASSO	7.036***	14.967***	5.563***	0.092***	0.563***	0.603***
	(1.743)	(3.196)	(1.475)	(0.015)	(0.148)	(0.128)
LATE	19.851***	42.286***	15.685***	0.260***	1.593***	1.703***
	(4.828)	(8.458)	(3.944)	(0.040)	(0.390)	(0.309)
LATE PDS LASSO	19.851***	42.286***	15.685***	0.260***	1.590***	1.703***
	(4.675)	(8.245)	(3.817)	(0.039)	(0.363)	(0.298)
Control Mean	87.35	60.10	52.07	0.66	1.72	0.99
Obervations	276	276	276	276	276	276

Notes: * p <0.10, ** p <0.05, *** p <0.01. Robust standard errors are in parenthesis. All specifications include stratum fixed effects and de-meaned outcome variable at baseline.In ITT and LATE PDS LASSO, control variables are selected using post-double-selection (PDS) LASSO.

Table 28: Impact on completion of training by training type

	Completed training
ITT, distance	0.493***
	(0.094)
ITT, traditional	0.193*
	(0.101)
Difference	0.299**
	(0.138)
ITT PDS LASSO, distance	0.493***
	(0.094)
ITT PDS LASSO, traditional	0.193*
	(0.101)
Difference	0.299**
	(0.138)
Control mean	0.044
Observations	276

Notes: * p <0.10, ** p <0.05, *** p <0.01. Robust standard errors are in parenthesis. All specifications include stratum fixed effects and de-meaned outcome variable at baseline.In ITT and LATE PDS LASSO, control variables are selected using post-double-selection (PDS) LASSO.

Table 29: The impact of training on income by training type

	Total household annual income	Woman's total annual income	Woman's non-farm annual income (0/1)	Woman's annual solely controlled income (0/1)	Woman's annual jointly controlled income
ITT, distance	124.905	28.085	0.014	0.151	142.534
	(580.049)	(187.741)	(0.103)	(0.099)	(464.243)
ITT, traditional	404.547	97.436	0.109	-0.065	-37.549
	(670.444)	(312.017)	(0.080)	(0.128)	(416.703)
Difference	-279.642	-69.351	-0.094	0.216	180.083
	(886.474)	(365.778)	(0.130)	(0.163)	(636.717)
ITT PDS LASSO, distance	124.905	28.085	0.014	0.164*	142.534
	(574.013)	(186.128)	(0.102)	(0.094)	(460.256)
ITT PDS LASSO, traditional	404.547	97.436	0.109	-0.086	-37.549
	(663.468)	(309.338)	(0.079)	(0.119)	(413.125)
Difference	-279.642	-69.351	-0.094	0.250	180.083
	(877.250)	(362.637)	(0.129)	(0.154)	(631.249)
LATE, distance	267.613	54.512	0.029	0.306**	294.859
	(796.843)	(262.550)	(0.143)	(0.140)	(652.703)
LATE, traditional	2036.462	501.468	0.565*	-0.341	-200.833
	(2328.851)	(1078.621)	(0.316)	(0.428)	(1512.662)
Difference	-1768.849	-446.956	-0.535	0.647	495.692
	(2442.557)	(1118.029)	(0.348)	(0.452)	(1688.582)
LATE PDS LASSO, distance	267.613	54.512	0.029	0.328*	294.859
	(1148.211)	(377.577)	(0.205)	(0.195)	(938.663)
LATE PDS LASSO, traditional	2036.462	501.468	0.565	-0.423	-200.833
	(3355.757)	(1551.184)	(0.454)	(0.572)	(2175.385)
Difference	-1768.849	-446.956	-0.535	0.751	495.692
	(3519.602)	(1607.857)	(0.501)	(0.602)	(2428.380)
Control Means	2777.087	743.305	0.212	0.285	1574.522
Observations	276	276	276	276	276

Notes: * p <0.10, ** p <0.05, *** p <0.01. Robust standard errors are in parenthesis. All specifications include stratum fixed effects and de-meaned outcome variable at baseline.In ITT and LATE PDS LASSO, control variables are selected using post-double-selection (PDS) LASSO. All income outcomes are in dollars.

Table 30: The impact of training on savings by training type

	Personal savings in past month	Household savings in past month	Household total savings	Personal total savings
ITT, distance	-1.739	-18.022	288.536	9.594
	(5.758)	(41.218)	(403.558)	(149.710)
ITT, traditional	-4.343	-60.611	201.210	7.531
	(16.950)	(72.273)	(506.797)	(151.434)
Difference	2.604	42.589	87.326	2.063
	(17.901)	(83.200)	(647.844)	(212.944)
ITT PDS LASSO, distance	-1.739	-18.022	288.536	23.791
	(5.719)	(40.939)	(400.093)	(147.425)
ITT PDS LASSO, traditional	-4.343	-60.611	201.210	-5.433
	(16.835)	(71.783)	(502.444)	(129.131)
Difference	2.604	42.589	87.326	29.224
	(17.780)	(82.637)	(642.281)	(197.490)
LATE, distance	-3.529	-36.574	585.559	19.471
	(8.127)	(56.987)	(573.792)	(210.219)
LATE, traditional	-22.470	-313.596	1041.043	38.965
	(61.696)	(299.145)	(1873.905)	(544.433)
Difference	18.940	277.022	-455.485	-19.495
	(62.229)	(304.525)	(1959.785)	(583.609)
LATE PDS LASSO, distance	-3.529	-36.574	585.559	47.692
	(11.665)	(81.795)	(823.576)	(294.727)
LATE PDS LASSO, traditional	-22.470	-313.596	1041.043	-27.522
	(88.553)	(429.370)	(2689.658)	(666.011)
Difference	18.940	277.022	-455.485	75.213
	(89.318)	(437.092)	(2812.923)	(733.787)
Control mean	25.201	136.489	1505.248	434.109
Observations	276	276	276	276

Notes: * p <0.10, ** p <0.05, *** p <0.01. Robust standard errors are in parenthesis. All specifications include stratum fixed effects and de-meaned outcome variable at baseline.In ITT and LATE PDS LASSO, control variables are selected using post-double-selection (PDS) LASSO. All savings outcomes are in dollars.

Table 31: The impact of training on livestock knowledge and management by training type

	Percent correct, easy livestock questions	Percent correct, intermediate livestock questions	Percent correct, hard livestock questions	Overall score	Number of easy health practices, own livestock	Number of easy health practices, own livestock
ITT, distance	9.884**	22.070***	6.635*	0.128***	1.130***	0.899**
	(4.789)	(8.076)	(3.931)	(0.044)	(0.376)	(0.349)
ITT, traditional	3.724	6.731	4.327	0.050	-0.092	0.261
	(4.195)	(8.715)	(3.963)	(0.035)	(0.369)	(0.374)
Difference	6.160	15.340	2.308	0.078	1.223**	0.638
	(6.329)	(11.896)	(5.632)	(0.056)	(0.527)	(0.511)
ITT PDS LASSO, distance	9.884**	22.070***	6.635*	0.128***	1.130***	0.899***
	(4.747)	(8.006)	(3.897)	(0.044)	(0.373)	(0.346)
ITT PDS LASSO, traditional	3.724	6.731	4.327	0.050	-0.092	0.261
	(4.159)	(8.640)	(3.929)	(0.035)	(0.367)	(0.371)
Difference	6.160	15.340	2.308	0.078	1.223**	0.638
	(6.275)	(11.793)	(5.583)	(0.056)	(0.524)	(0.508)
LATE, distance	20.115***	44.763***	13.370**	0.260***	2.294***	1.824***
	(6.476)	(11.591)	(5.354)	(0.059)	(0.541)	(0.456)
LATE, traditional	19.072	34.764	22.495	0.260*	-0.478	1.348
	(15.829)	(31.012)	(16.087)	(0.145)	(1.369)	(1.257)
Difference	1.043	9.999	-9.125	-0.000	2.772*	0.476
	(16.992)	(33.108)	(17.036)	(0.157)	(1.472)	(1.337)
LATE PDS LASSO, distance	20.115**	44.763***	13.370*	0.260***	2.294***	1.824***
	(9.313)	(16.669)	(7.700)	(0.085)	(0.776)	(0.655)
LATE PDS LASSO, traditional	19.072	34.764	22.495	0.260	-0.478	1.348
	(22.763)	(44.599)	(23.135)	(0.209)	(1.965)	(1.804)
Difference	1.043	9.999	-9.125	-0.000	2.772	0.476
	(24.437)	(47.613)	(24.500)	(0.226)	(2.113)	(1.919)
Control mean	87.348	60.097	52.068	0.659	1.715	0.993
Observations	276	276	276	276	276	276

Notes: * p <0.10, ** p <0.05, *** p <0.01. Robust standard errors are in parenthesis. All specifications include stratum fixed effects and de-meaned outcome variable at baseline.In ITT and LATE PDS LASSO, control variables are selected using post-double-selection (PDS) LASSO.