

# Incentivizing CHWs in Guinea-Bissau: Experimental Evidence on Social Status and Intrinsic Motivation

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## MOTIVATION

- In Sub-Saharan Africa (SSA) maternal and under-5 diseases remain the primary causes of death
- In most of the cases, deaths can be avoided through **simple preventative care** and through simple, **low cost treatments** delivered at home [WHO '17]
- **Community Health Workers (CHWs)** programs have been used for several decades in different contexts to provide this service

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- **Community Health Workers** (CHWs) programs have been used for several decades in different contexts to provide this service

“Community health workers should be members of the communities where they work, should be selected by the communities, should be answerable to the communities for their activities, should be supported by the health system but not necessarily a part of its organization, and have shorter training than professional workers” [WHO '89]

## MOTIVATION

- Mixed evidence on the impact of CHW programs in promoting health behavior
- Main problem: lack of incentives and sustainability [WHO '10]
- In many cases CHWs are **unpaid volunteers**
  1. High dropout rates
  2. Poor performance
- Remaining question: how to maximize the performance and impact of health workers in countries with poor state capacity?

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## RESEARCH QUESTIONS

Do **non-monetary incentives** improve the performance and retention rates of CHWs? and households health-related outcomes?

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Does **dissemination of information** at the community level improve the performance and retention rates of CHWs? and households health-related outcomes?

Are these interventions complementary?

## LITERATURE: INCENTIVES AND MOTIVATION

The design of optimal incentive contracts has been the subject of extensive theoretical and empirical research, most of it focuses on monetary incentives and on profit-oriented settings

Growing attention to incentives in pro-social and governmental organizations

- Education [Duflo et al, '12; Fryer '11; Glewwe et al, '10; Muralidharan et al, '11]
- Health [Miller et al, '12; Olken et al, '12; Singh '15; Björkman et al, '18]

### Non-monetary incentives

- [Ashraf et al, '14a]: Social visibility in community of origins increase performance even in absence of monetary benefits, but social comparison reduces it
- [Ashraf et al, '14b]: Non-monetary rewards are effective at improving performance, monetary and non-monetary rewards effects are stronger for pro-socially motivated agents.

## In this paper we focus on two channels to incentivize workers conducting pro-social tasks

### 1. Incentives to elicit reputational motivation

- Promote social recognition of CHWs in their neighborhoods (“Image Concern” or “Social Signaling motive”) [Bénabou and Tirole '06; Ashraf et al, '14]

### 2. Incentives to elicit intrinsic motivation

- Make salient the importance of the CHWs' motivation and effort for the health of the community (“Perceived Task Significance”) [Grant '08]
- Social Mission dimension of the job [Besley and Ghatak '05] they “believe” on the mission of the community health workers as providers of health services that may save lives.

# PRELIMINARY FINDINGS

## 1. Social Status

- Small positive effect on number of visits
- Positive effects on learning and supervisor evaluation scores
- Positive effects on health outcomes for kids under 5 and on households' knowledge of health practices promoted by the CHWs

## 2. Intrinsic Motivation

- Small significant effect on health outcomes for kids under 5 and use of family planning methods
- Positive effects on subjective measures of intrinsic motivation

## 3. Information Campaign

- No treatment effects

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## CONTEXT

- **Autonomous District of Bissau (SAB)** program run by the Health Directorate of SAB and VIDA NGO.
- $\approx$  **1,000 CHWs**
- Each CHW is assigned to  $\approx$  **50 households**
- Door-to-door visits, to promote 16 Essential Family Practices on: disease prevention, health/nutrition improvement, family planning and pre-natal care
- Target population: **Women in fertile age, pregnant women, children under 5**
- Marginal monetary compensation (maximum 12 euros/month)
- Training of 21 consecutive days on 16 practices + monthly coordination meetings and refresher training

## SOCIAL STATUS INTERVENTION

Intervention to **promote social recognition of CHWs in their neighborhoods**

System of awards granted to all CHWs performing above a threshold

- **Absolute threshold**
  - Monthly reports
  - Test Scores
  - Supervisors' Evaluations
- **Three rounds:** May, July and September '18

## SOCIAL STATUS INTERVENTION

### 1. We award a **honorific prize**



2. Agents receive the prize during a “private” ceremony with health authorities and community relevant figures
3. Households of the awarded CHW notified through SMS

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3. Households of the awarded CHW notified through **SMS**

Your ASC (name of the ASC) deserves congratulations! He/she will be awarded for having reached outstanding results in Bissau. Praise him/her for the good job done. He/she deserves!

# INTRINSIC MOTIVATION INTERVENTION

First person **video** that replicates **daily activities** of an agent, with three components:

## 1. Presentation

- The video shows a CHW visiting a household where she encounters a health problem

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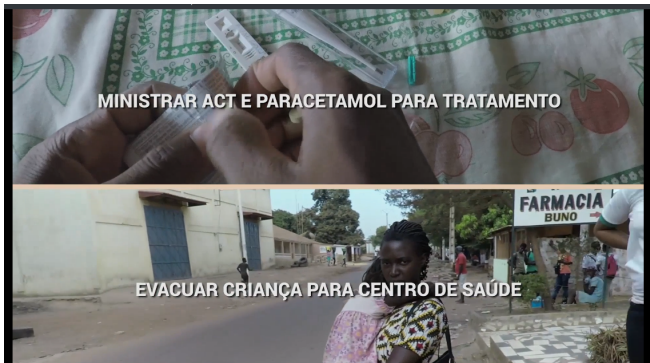
- The video shows a CHW visiting a household where she encounters a health problem



# INTRINSIC MOTIVATION INTERVENTION

## 2. Interactive decision and ending

- The agent needs to make a **single central - interactive decision** about how to solve the problem
- Two different results depending on the decision taken: a good result or a bad result
- Experience the “potential” consequences of actions



# INTRINSIC MOTIVATION INTERVENTION

## 3. **Speech of traditional healers** (3 min)

- Positive endorsement and messages of gratitude from eminent figures in the sphere of tradition and spirituality
- Healers use traditional methods, some scientifically based, but they also use spiritual powers to solve problems



## INTRINSIC MOTIVATION INTERVENTION

### Three groups:

1. Presentation - **Placebo Video**
2. Presentation + Interactive decision and ending - **Interactive Video**
3. Interactive Video + Speech of traditional healers - **Interactive Video and Beliefs**

### Each CHW visualized three different videos (rounds):

1. Dec '17 and Jan '18: Assistance to pregnant woman (7 mins)
2. April '18: Treatment of diarrhea (8 mins)
3. July '18: Treatment of severe malaria (8 mins)
  - Videos were watched individually in tablets using headphones
  - After watching the video CHWs participated in a focus group

## INFORMATION CAMPAIGN INTERVENTION

### **Intervention to raise awareness about the program among households**

- Households receive SMS with information about the CHW work
- Three rounds and 2-3 different messages by round

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#### 1st Round - Feb. '18

The Regional Health Directorate and VIDA NGO are proud to promote the program to improve the health of mothers and children in the Autonomous Sector of Bissau: the program of CHWs (Community Health Workers)!

#### 2nd Round - May. '18

Your CHW is ready to treat your children with malaria, diarrhea and pneumonia. Call or send him an SMS every time you need him!

#### 3rd Round - Aug. '18

With CHW, more children are completely vaccinated before completing one year of age. Let's keep improving with CHW! Make sure you are in contact with yours!

# SAMPLING AND EXPERIMENTAL DESIGN

## Sampling

- All CHW actively working in October 2017 → 1,015 CHWs
- Randomly select 2 households per CHW
  
- Neighborhood-level (76 neighborhoods)  
    Social Status Incentives: 38 Control & 38 Treated
- Agent-level within neighborhoods:
  - 1st Information Campaign: 508 Control & 507 Treated
  - 2nd Intrinsic Motivation Incentives: 254 Control
    - 1. Placebo: 254
    - 2. Interactive video: 254
    - 3. Interactive video and Beliefs: 253
- Everything is crossed- 15 treatment groups and a pure control group

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## IDENTIFICATION STRATEGY

### 1. Single difference:

$$y_i = \alpha + \beta_1 \text{Social Status}_i + \beta_2 \text{Interactive Video}_i + \beta_3 \text{Information}_i \\ + \beta_4 \text{Placebo Video}_i + X_i' \gamma + \epsilon_{ib}$$

### 2. ANCOVA:

$$y_i = \alpha + \beta_1 \text{Social Status}_i + \beta_2 \text{Interactive Video}_i + \beta_3 \text{Information}_i \\ + \beta_4 \text{Placebo Video}_i + X_i' \gamma + \delta y_{i0} + \epsilon_{ib}$$

- $X_i$  includes strata fixed effects, CHW and household-level controls
- $\epsilon_{ib}$  is an idiosyncratic error term clustered at the neighborhood level for CHWs' outcomes and at CHW level for households' outcomes
- $y_i$  is the outcome variable at endline and  $y_{i0}$  at baseline

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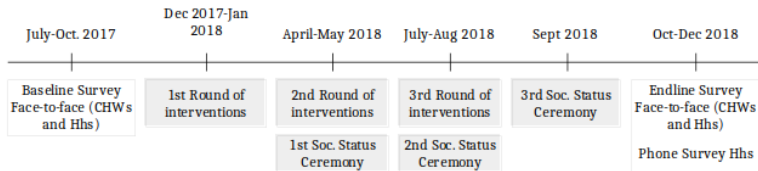
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# DATA

- 1. CHW questionnaire** (July 2017 & Oct 2018):
  - 1,015 CHWs interviewed at baseline
  - Attrition is 11% - Balanced across treatment arms Response Rates CHWs
- 2. Administrative data** (monthly)
  - Number of active months, drop-outs, monthly reports on household visits, test scores from monthly test on health practices and reports from the supervisor
- 3. Face-to-face Survey** (Aug 2017 & Nov 2018):
  - $\approx$  2,000 households interviewed face-to-face (Aug 2017 & Nov 2018)
  - Attrition is around 12% - Balanced across treatment arms Response Rates HHs
- 4. Phone Survey**
  - Around 4 households per CHW (only 502 CHWs) Response Rates Phone Survey
- 5. Registry books** of patients collected by the research team in every health center, clinic and hospital in SAB
  - data cleaning in progress

## TIMELINE



## CHWs DESCRIPTIVE STATISTICS

	Mean	s.d.	Min	Median	Max
<b>Baseline Data</b>					
Age	25.80	5.26	16.00	25.00	51.00
Female (=1)	0.45	0.50	0.00	0.00	1.00
Not married (=1)	0.92	0.28	0.00	1.00	1.00
Household head or spouse (=1)	0.12	0.33	0.00	0.00	1.00
Household members	9.86	5.36	1.00	9.00	48.00
Completed 12 grades (=1)	0.79	0.41	0.00	1.00	1.00
Currently studying (=1)	0.50	0.50	0.00	0.00	1.00
University studies (=1)	0.25	0.44	0.00	0.00	1.00
Worked last 12 months	0.48	0.50	0.00	0.00	1.00
Currently has a business (=1)	0.17	0.38	0.00	0.00	1.00
Community position Oct. 2017 (=1)	0.78	0.42	0.00	1.00	1.00
Volunteer at a health center (=1)	0.70	0.46	0.00	1.00	1.00
<b>Administrative Data: CHWs Activity</b>					
Dropped out (Nov-2018)	0.16	0.36	0.00	0.00	1.00
Numb. of Active Months	11.01	2.30	1.00	12.00	12.00
Numb. of Monthly Reports Submitted	5.51	3.22	0.00	7.00	9.00

## RESULTS AT THE EXTENSIVE MARGIN

All treatments

	Dropped out (Nov-2018)		Total Numb. visits		Total Numb. visits	
	Admin. Data		Phone Survey		Face-to-face Survey	
	(1)	(2)	(3)	(4)	(5)	(6)
Social Status (=1)	0.024 (0.025)	0.024 (0.025)	0.440* (0.235)	0.431* (0.234)	0.192 (0.225)	0.151 (0.230)
Interactive Video (=1)	0.025 (0.028)	0.024 (0.028)	0.028 (0.288)	0.041 (0.288)	0.052 (0.270)	-0.048 (0.274)
Obs.	1,015	1,015	1,819	1,809	1,534	1,504
Outcome Mean	0.0952	0.0952	3.087	3.087	1.774	1.774
P-value Social Status=Interactive video=0	0.300	0.316	0.169	0.183	0.685	0.789
P-value Social Status=Interactive video	0.977	0.986	0.225	0.250	0.685	0.570
CHW-level controls		YES		YES		YES
Household-level controls				YES		YES

Robust standard errors, in parentheses, clustered at neighborhood level in Columns (1) and (2), and at CHW level in Columns (3)-(6). \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ . All specifications include strata fixed effects and indicators variables for assignment to the information campaign treatment and to the placebo video treatment.

# LEARNING AND SUPERVISORS EVALUATION

All treatments

- Positive SS effects on test scores and supervisor reports

	Monthly Meeting Test Scores		Supervisor Report	
	Admin. Data		Admin. Data	
	(1)	(2)	(3)	(4)
Social Status (=1)	0.972** (0.396)	0.995** (0.412)	0.142* (0.077)	0.144* (0.078)
Interactive Video (=1)	-0.562 (0.404)	-0.498 (0.404)	-0.005 (0.057)	-0.004 (0.060)
Obs.	939	939	936	936
Outcome Mean	12.20	12.20	3.916	3.916
P-value Social Status=Interactive video=0	0.016	0.019	0.186	0.181
P-value Social Status=Interactive video	0.001	0.007	0.125	0.121
CHW-level controls		YES		YES

Robust standard errors, in parentheses, clustered at neighborhood level. \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ . All specifications include strata fixed effects and indicators variables for assignment to the information campaign treatment and to the placebo video treatment.

## HEALTH RELATED OUTCOMES: FACE-TO-FACE HOUSEHOLD SURVEY

All treatments

- Social Status increases the number of correct answers to questions regarding health practices across households
- Positive treatment effects on vaccination rate among kids under 5 and on probability of not getting sick

	Knowledge of 16 basic practices	Children under 5 in 2017					
		Vaccination Index				Child sick	
		Reported	Observed			(previous 15 days)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Social Status (=1)	0.343*** (0.080)	0.021* (0.011)	0.054* (0.028)	0.037* (0.020)	0.038* (0.023)	-0.075*** (0.026)	-0.080*** (0.030)
Interactive Video (=1)	0.020 (0.100)	0.020 (0.015)	-0.025 (0.034)	0.046* (0.025)	0.078*** (0.027)	0.003 (0.031)	-0.007 (0.036)
Obs.	1,711	1,584	1,041	1,219	648	1,657	1,101
Outcome Mean	22.16	0.887	0.431	0.774	0.774	0.234	0.234
P-val S.Status=Inter. video=0	0.0008	0.075	0.136	0.026	0.005	0.016	0.031
P-val S.Status=Inter. video	0.012	0.973	0.088	0.772	0.241	0.049	0.114
Baseline Outcome	NO	NO	YES	NO	YES	NO	YES

Robust standard errors, in parentheses, clustered at CHW level. \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ . All specifications include strata fixed effects, CHW and household-level controls and indicators variables for assignment to the information campaign treatment and to the placebo video treatment.

## OTHER HEALTH OUTCOMES

### **Social Status treatment effects on:**

- Getting a malaria test (kids under 5) (↑ 20%), receiving Vitamin A 45 days after birth (↑ 11 percentage points)

### **Intrinsic Motivation treatment effects on:**

- Use of low-risk contraceptive method (↑ 14%)

### **No treatment effects on:**

- Treatment of water before drinking
- Pre-natal care visits and giving birth in health facility
- Post-natal care visits and nursing

# HOUSEHOLDS' LEVEL OF SATISFACTION WITH THE CHWs (SCALE 1-5)

All treatments

	Phone Survey		Face-to-face Survey	
	(1)	(2)	(3)	(4)
Social Status (=1)	0.172** (0.083)	0.171** (0.084)	0.258*** (0.093)	0.251*** (0.095)
Interactive Video (=1)	0.231** (0.097)	0.231** (0.098)	-0.086 (0.101)	-0.092 (0.107)
Obs.	1,465	1,457	685	677
Outcome Mean	2.580	2.580	3.419	3.419
P-val S.Status=Inter. video=0	0.007	0.007	0.017	0.025
PP-val S.Status=Inter. video	0.649	0.644	0.016	0.022
CHW-level controls		YES		YES
Household-level controls		YES		YES

Robust standard errors, in parentheses, clustered at CHW level. \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ . All specifications include strata fixed effects and indicator variables for assignment to the information campaign treatment and to the placebo video treatment.

## RESULTS ON EXTRINSIC AND INTRINSIC MOTIVATION (SCALE 1-5)

## Questions

- Suggestive evidence of Interactive video increasing subjective measures of intrinsic motivation

	Extrinsic Motivation	Intrinsic Motivation		
		Perceived		
		Task Significance	Social Worth	Social Impact
	(1)	(2)	(3)	(4)
Social Status (=1)	0.01 (0.02)	0.01 (0.02)	0.02 (0.01)	0.05*** (0.01)
Information Campaign (=1)	0.01 (0.02)	0.00 (0.02)	0.00 (0.03)	-0.01 (0.02)
Placebo Video (=1)	-0.03 (0.03)	-0.02 (0.03)	0.01 (0.04)	0.02 (0.04)
Interact. Video (=1)	0.01 (0.04)	0.03 (0.04)	0.06** (0.03)	0.06* (0.04)
Interact. Video and Beliefs (=1)	-0.07* (0.03)	-0.04 (0.04)	-0.03 (0.04)	-0.04 (0.04)
Obs	902	900	900	900
Outcome mean	3.71	4.74	4.83	4.79
P-value Test Treatment	0.139	0.226	0.015	0.008
P-value Test Video	0.132	0.118	0.006	0.025
Baseline outcome	YES	YES	YES	YES

Robust standard errors, in parentheses, clustered at neighborhood level. \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ . All specifications include strata fixed effects and CHW-level controls.

## SUMMARY RESULTS: INFORMATION CAMPAIGN

Outcome	Source	Information Campaign (ITT)	
		(1)	(2)
Dropped out (Nov-2018)	Admin. Data	0.039* (0.020)	0.047** (0.019)
Total numb. of visits	Phone Survey	0.110 (0.215)	0.124 (0.215)
Total numb. of visits	Face-to-face Survey	0.266 (0.225)	0.222 (0.224)
Monthly meeting Test Scores	Admin. Data	0.094 (0.349)	0.050 (0.334)
Supervisor Evaluation	Admin. Data	-0.072* (0.041)	-0.078* (0.043)
Hh level of satisfaction with the ASC (1-5)	Phone Survey	-0.028 (0.081)	-0.037 (0.081)
Hh level of satisfaction with the ASC (1-5)	Face-to-face Survey	-0.020 (0.087)	-0.020 (0.089)
Knowledge of 16 basic practices	Face-to-face Survey	-0.014 (0.083)	-0.006 (0.080)
Vaccination Index	Face-to-face Survey	-0.001 (0.011)	-0.002 (0.011)
Child sick (previous 15 days)	Face-to-face Survey	0.018 (0.026)	0.027 (0.025)
Controls			YES

Robust standard errors, in parentheses, clustered at neighborhood level when employing CHW-level outcomes and at CHWs level when employing household-level outcomes. \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ . All specifications include strata fixed effects. Controls in column 2, include CHW-level controls for all outcomes and household-level controls when employing household-level outcomes.

## SUMMARY RESULTS: PLACEBO VIDEO

Outcome	Source	Placebo Video (ITT)	
		(1)	(2)
Dropped out (Nov-2018)	Admin. Data	-0.010 (0.030)	-0.002 (0.031)
Total numb. of visits	Phone Survey	-0.106 (0.351)	-0.097 (0.350)
Total numb. of visits	Face-to-face Survey	-0.209 (0.281)	-0.336 (0.289)
Monthly meeting Test Scores	Admin. Data	-0.766 (0.520)	-0.796 (0.523)
Supervisor Evaluation	Admin. Data	0.038 (0.065)	0.025 (0.067)
Hh level of satisfaction with the ASC (1-5)	Phone Survey	0.025 (0.121)	0.014 (0.121)
Hh level of satisfaction with the ASC (1-5)	Face-to-face Survey	-0.063 (0.114)	-0.054 (0.118)
Knowledge of 16 basic practices	Face-to-face Survey	-0.214* (0.124)	-0.182 (0.114)
Vaccination Index	Face-to-face Survey	0.017 (0.015)	0.014 (0.015)
Child sick (previous 15 days)	Face-to-face Survey	-0.002 (0.036)	0.006 (0.035)
Controls			YES

Robust standard errors, in parentheses, clustered at neighborhood level for CHWs outcomes and at CHWs level for household outcomes. \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ . All specifications include strata fixed effects. Controls in column 2, include CHW baseline controls for all outcomes and household controls for household level outcomes.

## CONCLUSION

- Non-monetary incentives elicit CHW's motivation and improve final health outcomes
  - Agents participating in the Social Status intervention elicit more effort on learning
  - Agents exposed to the interactive video report higher pro-social impact motivation
- No treatment effects from the information campaign
  - Except negative effect on drop-outs
- Pending: analysis of data from health centers, interaction effects and heterogeneous treatment effects.

THANK YOU!

## ATTRITION

Back

Table: Response Rate Across Treatment Arms (N=1,015)

	Surveyed in 2018	
Social Status (=1)	-0.022 (0.015)	-0.022 (0.015)
Information Campaign (=1)	-0.009 (0.018)	-0.011 (0.019)
Placebo Video (=1)	0.035 (0.026)	0.033 (0.026)
Interactive Video (=1)	-0.001 (0.030)	0.000 (0.029)
Interact. Video and Beliefs(=1)	0.007 (0.027)	0.009 (0.027)
Obs.	1,015	1,015
CHW-level controls	NO	YES
Outcome Mean	0.922	0.922
P-value Joint Significance Test Treatment	0.262	0.267
P-value Joint Significance Test X-List		0.791

Robust standard errors, in parentheses, clustered at neighborhood level. \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ . All specifications include strata fixed effects.

## RESPONSE RATE ACROSS TREATMENT ARMS- HOUSEHOLD SURVEY

Back

	Surveyed in 2018		Number of households Surveyed in 2018	
Social Status (=1)	-0.008 (0.012)	-0.009 (0.012)	0.010 (0.017)	0.009 (0.017)
Information Campaign (=1)	-0.017 (0.016)	-0.015 (0.016)	0.011 (0.026)	0.009 (0.026)
Placebo Video	-0.001 (0.024)	0.002 (0.023)	0.022 (0.046)	0.010 (0.045)
Interactive Video	0.013 (0.024)	0.014 (0.024)	0.013 (0.047)	0.007 (0.048)
Interact. Video and Beliefs	0.027 (0.023)	0.027 (0.023)	-0.015 (0.048)	-0.017 (0.050)
Obs.	1,998	1,998	972	972
CHW-level controls	NO	YES	NO	YES
Outcome Mean	0.882	0.882	2.143	2.143
P-value Joint Significance Test Treatment	0.457	0.474	0.838	0.908

Robust standard errors, in parentheses, clustered at CHW level. \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ . All specifications include strata fixed effects.

## ATTRITION

Back

Table: Response Rate Across Treatment Arms- Call Center

	Call center data available		Rate of households called by CHW	
Social Status (=1)	0.014 (0.029)	0.014 (0.029)	0.001 (0.013)	0.001 (0.013)
Information Campaign (=1)	-0.022 (0.028)	-0.022 (0.028)	-0.010 (0.013)	-0.010 (0.013)
Placebo Video (=1)	0.006 (0.041)	0.006 (0.041)	0.014 (0.018)	0.014 (0.018)
Interactive Video (=1)	0.035 (0.040)	0.035 (0.040)	0.028 (0.018)	0.028 (0.018)
Interact. Video and Beliefs (=1)	-0.054 (0.041)	-0.054 (0.041)	-0.016 (0.018)	-0.016 (0.018)
Obs.	1,015	1,015	1,015	1,015
CHW-level controls	NO	YES	NO	YES
Outcome Mean	0.505	0.505	0.227	0.227
P-value Joint Significance Test Treatment	0.261	0.261	0.162	0.162

Robust standard errors, in parentheses, clustered at CHW level. \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ . All specifications include strata fixed effects.

## RESULTS ON THE EXTENSIVE MARGIN

Back

	Dropped out (Nov-2018)		Total Numb. of Visits		Total Numb. of Visits	
	Admin. Data		Call Center		HH Survey	
	(1)	(2)	(3)	(4)	(5)	(6)
Social Status (=1)	0.024 (0.025)	0.024 (0.025)	0.439* (0.235)	0.431* (0.235)	0.193 (0.226)	0.151 (0.231)
Information Campaign (=1)	0.039* (0.020)	0.047** (0.019)	0.109 (0.215)	0.123 (0.216)	0.267 (0.225)	0.221 (0.224)
Video-Placebo (=1)	-0.010 (0.030)	-0.002 (0.031)	-0.107 (0.351)	-0.097 (0.350)	-0.210 (0.281)	-0.335 (0.289)
Interact. Video (=1)	0.007 (0.031)	0.008 (0.032)	0.072 (0.331)	0.088 (0.329)	0.077 (0.312)	-0.065 (0.318)
Interact. Video and Beliefs (=1)	0.044 (0.032)	0.041 (0.032)	-0.026 (0.319)	-0.018 (0.321)	0.026 (0.325)	-0.030 (0.328)
Obs.	1,015	1,015	1,819	1,809	1,534	1,504
Outcome Mean	0.0952	0.0952	2.639	2.639	1.774	1.774
P-value Test Treatment	0.216	0.359	0.441	0.459	0.779	0.728
P-value Test Video	0.303	0.494	0.956	0.951	0.766	0.644
CHW-level controls		YES		YES		YES
Household-level controls				YES		YES

Robust standard errors, in parentheses, clustered at neighborhood level in Columns (1) and (2), and at CHW level in Columns (3)-(6). \*p<0.1, \*\*p<0.05, \*\*\*p<0.01. All specifications include strata fixed effects and indicators variables

## RESULTS ON LEARNING AND SUPERVISORS EVALUATION

Back

	Monthly Meeting Test Scores		Supervisor Evaluation	
	Admin. Data			
	(1)	(2)	(3)	(4)
Social Status (=1)	0.972** (0.396)	0.995** (0.412)	0.142* (0.077)	0.144* (0.078)
Information Campaign (=1)	0.094 (0.350)	0.051 (0.335)	-0.072* (0.041)	-0.078* (0.043)
Video-Placebo (=1)	-0.766 (0.521)	-0.796 (0.523)	0.038 (0.065)	0.025 (0.067)
Interact. Video (=1)	-0.573 (0.445)	-0.490 (0.444)	-0.010 (0.068)	-0.009 (0.072)
Interact. Video and Beliefs (=1)	-0.551 (0.450)	-0.506 (0.456)	-0.000 (0.066)	0.002 (0.066)
Obs.	939	939	936	936
Outcome Mean	12.20	12.20	3.916	3.916
P-value Test Treatment	0.0399	0.0374	0.408	0.432
P-value Test Video	0.465	0.479	0.864	0.956
CHW-level controls		YES		YES

Robust standard errors, in parentheses, clustered at neighborhood level. \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ . All specifications include strata fixed effects.

## HEALTH RELATED OUTCOMES: HOUSEHOLD SURVEY

Back

	Knowledge of 16 basic practices	Children under 5 in 2017					
		Vaccination Index				Child sick	
		Reported		Observed		(previous 15 days)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Social Status (=1)	0.344*** (0.080)	0.021* (0.011)	0.018 (0.012)	0.037* (0.020)	0.037 (0.022)	-0.076*** (0.026)	-0.081*** (0.030)
Information Campaign (=1)	-0.005 (0.080)	-0.002 (0.011)	0.000 (0.011)	-0.007 (0.018)	-0.005 (0.020)	0.027 (0.025)	0.027 (0.029)
Placebo video (=1)	-0.182 (0.114)	0.014 (0.015)	0.027* (0.015)	0.035 (0.025)	0.051* (0.027)	0.006 (0.035)	0.002 (0.042)
Interactive video (=1)	0.081 (0.113)	0.026 (0.016)	0.072*** (0.016)	0.052* (0.028)	0.112*** (0.030)	-0.007 (0.036)	-0.022 (0.042)
Interact. Video and Beliefs(=1)	-0.046 (0.115)	0.013 (0.017)	0.025 (0.018)	0.041 (0.028)	0.045 (0.032)	0.014 (0.037)	0.010 (0.043)
Obs.	1,711	1,584	1,041	1,219	648	1,657	1,101
Outcome Mean	22.16	0.887	0.887	0.774	0.774	0.234	0.234
P-value Test Treatment	0.000	0.226	0.000	0.097	0.000	0.064	0.097
P-value Test Video	0.111	0.450	0.000	0.287	0.003	0.950	0.885
Baseline Outcome	NO	NO	YES	NO	YES	NO	YES

Robust standard errors, in parentheses, clustered at CHW level. \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ . All specifications include strata fixed effects, CHW and household-level controls.

## HOUSEHOLDS' LEVEL OF SATISFACTION WITH THE CHWs (1-5)

Back

	Call Center		Household Survey	
	(1)	(2)	(3)	(4)
Social Status (=1)	0.174** (0.083)	0.173** (0.083)	0.257*** (0.093)	0.251*** (0.095)
Information Campaign (=1)	-0.027 (0.081)	-0.036 (0.081)	-0.021 (0.087)	-0.020 (0.089)
Placebo video (=1)	0.024 (0.121)	0.013 (0.121)	-0.063 (0.114)	-0.055 (0.118)
Interactive video (=1)	0.186* (0.108)	0.190* (0.108)	-0.058 (0.120)	-0.058 (0.123)
Interact. Video and Beliefs (=1)	0.284** (0.114)	0.280** (0.114)	-0.114 (0.117)	-0.128 (0.123)
Obs.	1,465	1,457	685	677
Outcome Mean	2.692	2.692	3.419	3.419
P-value Test Treatment	0.0103	0.0096	0.081	0.103
P-value Test Video	0.037	0.033	0.809	0.783
CHW-level controls		YES		YES
Household-level controls		YES		YES

Robust standard errors, in parentheses, clustered at CHW level. \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ . All specifications include strata fixed effects.

## EXTRINSIC MOTIVATION [AMABILE, ET AL '94]

Back

### – Extrinsic Motivation

1. I am strongly motivated by the [money] I can earn.
2. I am keenly aware of the [GPA (grade point average)] [promotion] goals I have for myself.
3. I am strongly motivated by the recognition I can earn from other people.
4. I want other people to find out how good I really can be at my work.
5. I seldom think about [grades and awards.] [salary and promotions.] R
6. I am keenly aware of the [goals I have for getting good grades.] [income goals I have for myself.]
7. To me, success means doing better than other people.
8. I have to feel that I'm earning something for what I do.
9. As long as I can do what I enjoy, I'm not that concerned about exactly [what grades or awards I can earn.] [what I'm paid.] R
10. I believe that there is no point in doing a good job if nobody else knows about it.
11. I'm concerned about how other people are going to react to my ideas.
12. I prefer working on projects with clearly specified procedures.
13. I'm less concerned with what work I do than what I get for it.
14. I am not that concerned about what other people think of my work. R
15. I prefer having someone set clear goals for me in my work.

## INTRINSIC MOTIVATION [GRANT '07, '08]

Back

- Manipulation check: Perceived task significance
  1. My job provides opportunities to substantially improve the welfare of guests
  2. A lot of guests can be positively affected by how well my job gets done
  3. My job enhances the welfare of guests
  4. My job provides opportunities to have positive impact on guests on a regular basis
- Perceived social worth
  1. I feel that others appreciate my work
  2. I feel that other people value my contributions at work
- Perceived social impact
  1. My work really makes others' lives better
  2. I have positive impact on others in my work on a regular basis
  3. My work has positive impact on a large number of people