Effects of Messengers Gender on Government Learning:

An Analysis of Policy-Makers in Peru, Tanzania, and India

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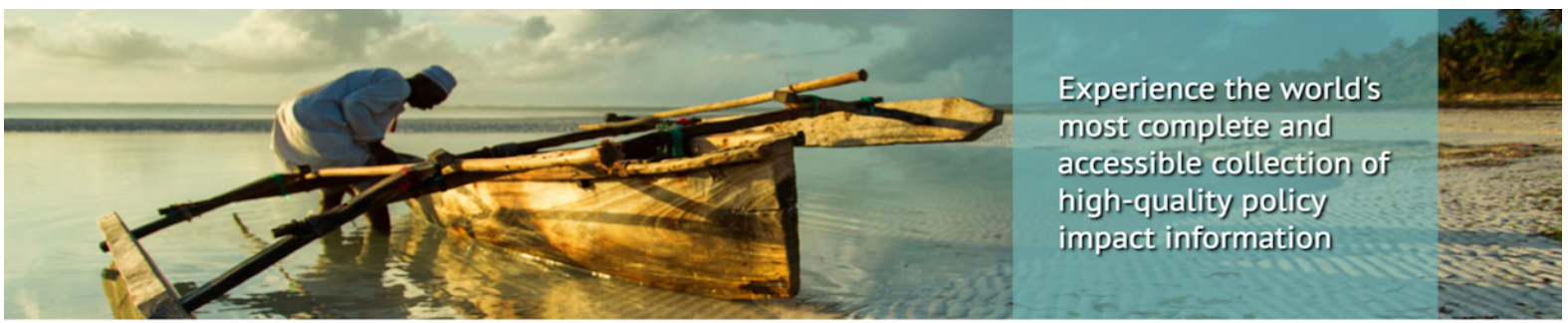
The Project

- Vision: Help policy makers have improved access to and usage of (over 400) evidence-based studies. Bridge the gap between academics and policy makers
- We experimented with how to best get the attention of policy makers (foreign vs. local enumerators, social proof treatment, gender, different website versions, and gamification)
- The purpose of this study is to evaluate the impact of messengers gender in securing meetings with government officials in Tanzania, Peru, and India in order to improve future efforts to disseminate policy knowledge.



The Website

< Back to Search Results

We are beta testing this new website;

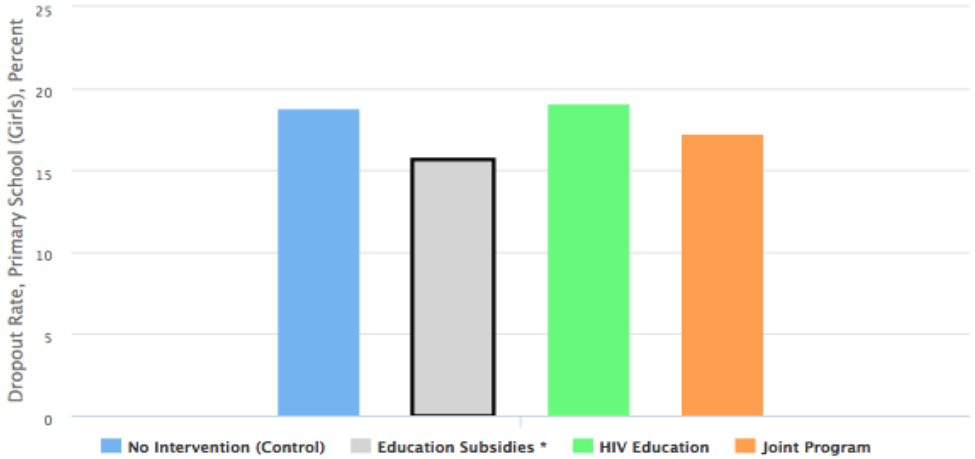
Education, HIV, and Early Fertility

Region: Africa **Country:** Kenya **Date:** 2014
Rural/Urban: Unspecified **Genders:** Both
Notes on Subjects: School-aged youth
Sectors: Education Health
Tools: Training / Meeting Subsidies / Matching Incentives

Main Insight: Education subsidies increased the number of grades adolescent girls completed, but had no effect on adolescent boys. HIV education courses had no effect on grades completed or HSV2 infection rates for boys or girls. Joint education subsidies and HIV education courses reduced the percentage of HSV2-positive girls, but had no effect on boys.

Questions: 1 2 3 4

What is the impact of education subsidies and abstinence education on drop-out rates among girls in primary school?



Next

* Solid black outline reflects a statistical significance.

Experimental Design

- Names and contact information were scraped from the web
- Messangers were assigned to each of the three countries, and government officials were randomly assigned to the different enumerators within each country
- Messangers contacted and met with the officials who agreed to a meeting to present the database

The Work

- 14,800 government officials
- 13,440 emails
- 4,900 phone calls
- 1,699 responses; 11.5 percent response rate
- 917 negative responses; 782 positive responses
- 331 appointments to demonstrate site with 641 officials

Hypotheses

- Male enumerators will elicit more positive responses from officials than women.
  - Female enumerators will elicit more positive responses than men when contacting female officials.
  - Male enumerators will elicit more positive responses than women when contacting male officials.
- Male enumerators will hold more appointments than women.
  - Female enumerators will hold more appointments than men when contacting female officials.
  - Male enumerators will hold more appointments than women when contacting male officials.

The Analysis

Outcome Measures:

- Positive Responses received
- Appointments Held

Analyses

- Difference of means tests using randomization inference to evaluate how the gender of the enumerator affects the outcome measures
- ANOVA test using randomization inference to evaluate how both the gender of the enumerator and the gender of the official affects the outcome measures
- Logit regression with covariates for alternative experimental conditions, gender of official, and country to test how the gender of the enumerator affects the outcome measures
- Two-stage regression to test how gender of the enumerator affects the likelihood of holding an appointment given that the subject gave a positive response.

Fisher's Permutation Test (Randomization Inference)

- A more robust way of analyzing experimental data
- Allows us to test differences under the strong null hypothesis: That the gender of the messanger has absolutely no effect on the outcome measures
- No distributional assumptions
- Compares the treatment effects in the experiment to analysis of treatment effects when the treatment are randomly reassigned.

Permutated Difference of Means Results

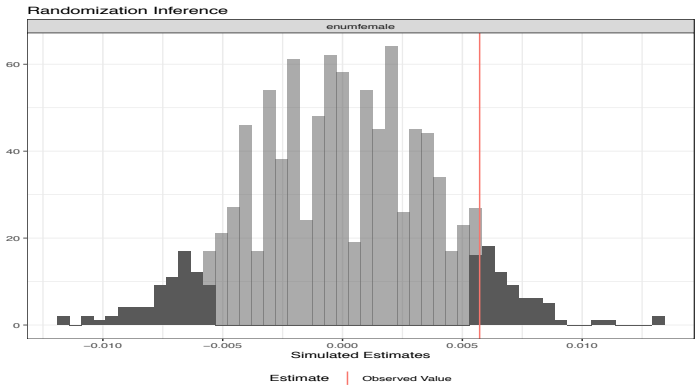


Figure: Overall - Positive Responses

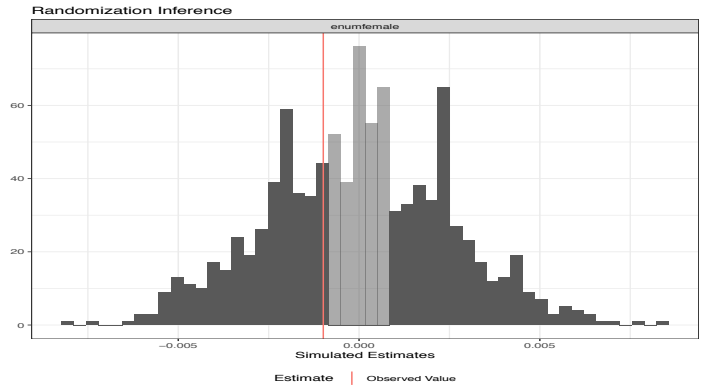


Figure: Overall - Appointments Held

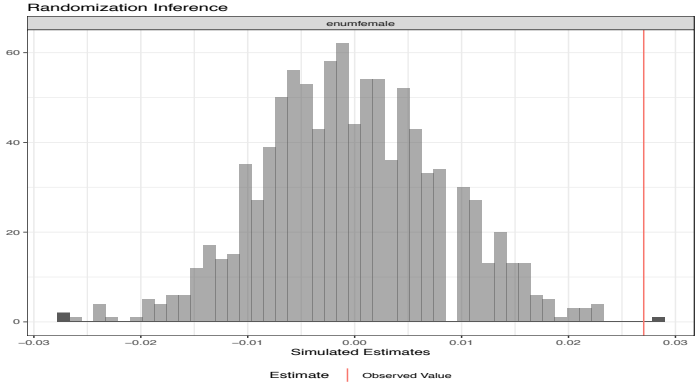


Figure: Peru - Positive Responses

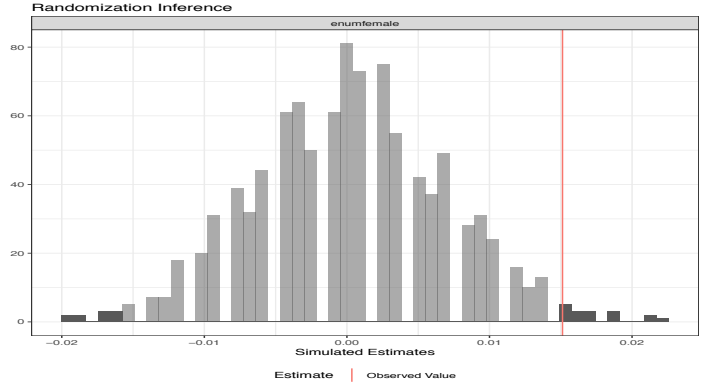


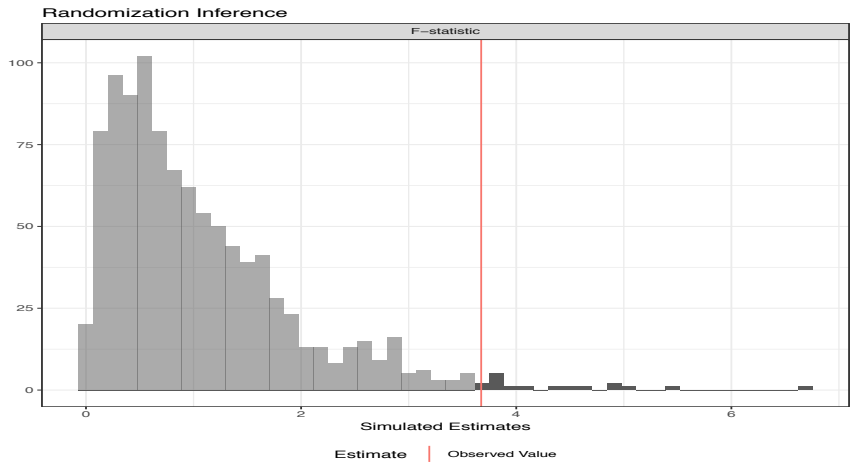
Figure: Peru - Appointments Held

Difference of Means Results

- Results were not significant for difference of means tests Overall, or in India and Tanzania for positive responses or appointments held given gender of the enumerator or the interaction between gender of the enumerator and gender of the official
- However, in Peru, we did see significant results... but not in the direction we expected
- Women enumerators were more likely to receive positive responses and hold appointments than men

ANOVA Results

Figure: Peru - Positive Responses



- The only significant result for gender of the enumerators and officials is Peru for positive response
- Peru: Female enumerators were significantly more successful in securing positive responses from female officials than male enumerators were with female officials.

Logistic Regression Results - Positive Response

Table: Logistic Regression Model Summary: Overall

Coefficient	Estimate	Standard Error	Test Statistic	p-value
(Intercept)	-1.31436	0.26253	-5.007	0.0000 ***
enumfemale	0.18905	0.09181	2.059	0.0395 *
westerner	-0.41110	0.07616	-5.398	0.0000 ***
officialfemale	-0.04846	0.12615	-0.384	0.7009
socialproof	-0.48873	0.07309	-6.686	0.0000 ***
CountryPeru	0.48147	0.08616	5.588	0.0000 ***
CountryTanzania	1.01136	0.10557	9.580	0.0000 ***
enumfemale:officialfemale	0.07074	0.16497	0.429	0.6680

- Gender has a significant and positive effect on the probability of receiving a positive response, when controlled for by the covariates.

Logistic Regression Results - Appointments Held

Table: Logistic Regression Model Summary: Overall

Coefficient	Estimate	Standard Error	Test Statistic	p-value
(Intercept)	-1.8259	0.3980	-4.588	0.00000 ***
enumfemale	0.2334	0.1400	1.667	0.09546 .
westerner	-0.3055	0.1152	-2.651	0.00803 **
officialfemale	0.1884	0.1780	1.058	0.28989
socialproof	-0.6783	0.1117	-6.070	0.00000 ***
CountryPeru	0.9688	0.1249	7.757	0.00000 ***
CountryTanzania	0.8692	0.1763	4.931	0.00000 ***
enumfemale:officialfemale	-0.3737	0.2486	-1.503	0.13286

- Gender is significant in Tanzania in the logistic model, and again, women were more successful than men

Two Stage Regression Model

- Stage One:

$$\text{Positive Response} = \beta_0 + \text{EnumFemale*}\beta_1 + \text{Westerner*}\beta_2 + \text{OfficialFemale*}\beta_3 + \text{SocialProof*}\beta_4 + \text{Email*}\beta_5 + \text{Call*}\beta_6 + \text{UnVisit*}\beta_7 + \text{EnumFemale*OfficialFemale*}\beta_8 + \text{CountryPeru*}\beta_9 + \text{CountryTanzania*}\beta_{10} + \epsilon,\ \epsilon_i \sim N(0, \sigma^2)$$

- Stage Two:

$$\text{Appointments Held} = \theta_0 + \text{EnumFemale*}\theta_1 + \text{Positive Response*}\theta_2 + \epsilon,\ \epsilon_i \sim N(0, \sigma^2)$$

Two Stage Regression Results

Table: Two Stage Regression Model Summary: Overall

Coefficient	Estimate	Standard Error	Test Statistic	p-value
(Intercept)	0.004070	0.001861	2.187	0.0288 *
enumfemale	-0.002987	0.002177	-1.372	0.1701
posresponse	0.373788	0.016848	22.185	0.0000 ***

Table: Two Stage Regression Model Summary: India

Coefficient	Estimate	Standard Error	Test Statistic	p-value
(Intercept)	0.003699	0.002072	1.785	0.0743 .
enumfemale	-0.005140	0.002447	-2.100	0.0357 *
posresponse	0.339338	0.017542	19.344	0.0000 ***

Conclusion

Gender is possibly a significant factor in securing meetings with government officials, however, if it is, it's not in the direction we predicted.

The results indicate that female messangers are either just as or more likely than male messangers to receive positive responses and secure meetings

This indicates that the gender bias we predicted existed in the receptiveness of officials in India, Tanzania, and Peru is at the very least not inhibitive of their willingness to meet