

Writing a Research Paper

(Grab an assignment sheet)

Understanding Political Numbers

April 15, 2019

Let's write a paper

What to include

Abstract: One-paragraph summary on the title page.

Introduction: What's the topic and research question?

Theory and Hypotheses: What are your expectations and how did you form them?

Data and methods: Describe your data and your approach to analyzing them.

Analysis: What do the data show?

Conclusion: Discuss takeaways, limitations, implications beyond this study.

Assorted Tips for Students on Writing Research Papers

Posted on December 12, 2015 by steve in [Teaching](#)

“Engendering” Politics: The Impact of Descriptive Representation on Women’s Political Engagement in Sub- Saharan Africa

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Abstract

Globally, there is a significant gender gap in political engagement between men and women; however, this gender gap varies both across countries and within countries over time. Previous research has argued that the inclusion of women in elite political positions encourages women's political engagement at the citizen level—by augmenting women's symbolic representation—and can reduce this gender gap. Using Afrobarometer data from 20 African countries across four waves of surveys from 1999 to 2008, we employ an interactive multilevel model that controls for the sex of the respondent, the percentage of women in the legislature, and the interaction of these two variables. We find that as women's descriptive representation increases, the political engagement gender gap diminishes. This finding is robust across several measures of political engagement. Our findings suggest that the incorporation of women into political institutions encourages the political engagement of women at the citizen level.

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Introductions

"Get to the point and stay on point"

Across the globe, women's participation in the political arena lags behind that of their male counterparts. From elite levels including the holding of political office (Bauer & Tremblay, 2011; Inter-Parliamentary Union, 2010) to more fundamental activities such as talking about politics with friends and contacting elected officials (Burns, Schlozman, & Verba, 2001; Inglehart & Norris, 2003), women tend to engage the polity less frequently than do men. However, in recent decades, there has been an increasing presence of women in elite political positions worldwide. The purpose of this article is to contribute to the understanding of how the presence of women in elite positions of political power affects the political engagement of individual women. Our intuition is that women's increased political participation at the elite level—by augmenting women's symbolic representation—should encourage women's political engagement at the mass or citizen level. To test this hypothesis, we examine how the political presence of women in 20 sub-Saharan African legislatures affects women's individual-level political engagement in their respective countries.

This article makes two contributions to the literature on women in politics. First, it extends the study of descriptive representation and its relationship with women's political engagement to the African subcontinent. Previous literature examining this question has largely focused on the United States, Western Europe, and Latin America. To the best of our knowledge, this is the first empirical investigation that examines how descriptive representation influences women's political engagement across sub-Saharan Africa. For several reasons, sub-Saharan Africa is an ideal region to examine the relationship between women's descriptive representation and women's political

Theory and Hypotheses

How do you think the social world is working (theory), and what does that mean for your data (hypothesis)

Theories are **conceptual** and **logically consistent**

Hypotheses are **testable implications** of theory

It is argued that descriptive representation affects substantive representation through increased attention to “women’s issues” such as education, health care, and social welfare. Several studies have demonstrated that female legislators are more likely to promote legislation that serves women’s interest and spend more time debating and addressing women’s issues (Bauer, 2004, 2006; Bauer & Britton, 2006a; Bratton, 2005; Britton, 2002, 2005; Devlin & Elgie, 2008; Longman, 2006; Schwindt-Bayer, 2006; Tamale, 1999; Taylor-Robinson & Heath, 2003; Thomas, 1991; Tripp, Morna, & Konaté, 2006; Yoon, 2011). Although descriptive representation may also increase political engagement among women in the masses through increased attention to women’s issues, it has been demonstrated that increases in substantive representation are not necessary for the above relationship to hold (Schwindt-Bayer & Mishler, 2005).

Taken together, many scholars argue that increases in women’s descriptive representation will lead to increases in women’s political engagement. In a synthesis of several case studies on women’s representation in Africa, Bauer and Britton (2006a) maintain that “the presence of a large number of women MPs has changed cultural and societal perceptions about the nature of political leadership and governance” (pp. 18-19). These changes in perception are believed to facilitate increased political engagement of female constituents (Krook, 2006).

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We contribute to the understanding of this relationship by extending this body of literature to sub-Saharan Africa—a region that has experienced significant changes in women’s descriptive representation over the past two decades. We are explicitly interested in examining women’s political engagement in relation to men’s political engagement—the political engagement gender gap—so that we may gain leverage on understanding how women behave in relation to their male counterparts. Using data from 20 African countries from 1999 to 2008, we test the following hypothesis: *Increases in women’s descriptive representation will be associated with decreases in the gender gap between men and women’s political engagement.*

Hypothesis connects **theory** to the **data**

Data and Methods

Where did the data **come from**?

How are variables **measured**?

How is data **used** to test hypothesis?

Dependent Variables

Our dependent variable is political engagement. Because our study is cross-national, it is especially important to take into account both men and women's political engagement as the factors that compel or encourage political engagement vary across countries. Although it is instructive to look at women's political engagement in isolation—and these figures can be compared across countries—this approach does not tell us anything about overall citizen engagement in a country and ignores the fact that engagement may be systematically higher for both men and women in some countries than in others. Although we consider several types of political engagement, we operationalize the gender gap in the same manner for all measures.

We code engagement as 1 if the individual reports engaging in a given political activity and 0 otherwise. Building on previous research, we operationalize political engagement using the following indicators: (a) discussed politics with friends or neighbors, (b) attended a demonstration or

Independent Variables

Our first independent variable is the gender of the survey respondent. Each respondent is coded either 1 for woman or 0 for man. We label this variable *woman*. If there is a gender gap in political engagement, the coefficient on *woman* will be negative and significant, indicating that, *ceteris paribus*, women are less likely to participate than men. Then, following previous research, we use interaction terms between the independent variables of interest and the gender of the individual respondent to analyze which factors affect the gender gap (Desposato & Norrander, 2009; Lawless, 2004).

Our main independent variable of interest is women's descriptive representation. We measure this as the percentage of women in the national legislative chamber in the year prior to the survey year. These data were taken from the Inter-Parliamentary Union (2010) statistical archives. We do not have any reason to believe that there will be a significant relationship between the overall (men and women) level of political engagement in a given country and the percentage of women in the legislature. Rather, our hypothesis speaks only to how increases in women's numeric representation will be associated with women's reported levels of political engagement. Therefore we include

Data Analysis and Findings

We are testing whether increases in women's descriptive representation will be associated with decreases in the gender gap between men and women's political engagement by examining data from 20 sub-Saharan African countries over a 10-year period. To answer this question, we need an estimator that will provide within-country estimates. We can get within-country estimates by using a multilevel model (Gelman & Hill, 2007; Rabe-Hesketh & Skrondal, 2005).⁵ Given the binary structure of our dependent variable, and the dependencies that exist within our data structure (i.e., individual respondents nested within surveys and surveys nested within countries), we estimate a mixed logistic regression.

The mixed logistic regression provides accurate estimates of time-series effects while accounting for the dependencies in our data (i.e., dependence between respondents in the same survey and dependence between surveys in the same country; Gelman & Hill, 2007; Shor, Bafumi, Keele, & Park, 2007). This model allows us to examine if the relationship holds within countries and not just between countries, which is important for understanding how

Analysis

Regression **results, interpretation, and graphics**

Table I. Effects of Women's Descriptive Representation on Women's Political Engagement: Mixed Logistic Estimator using Afrobarometer Data (1999–2008).

| | Talk about Politics | Participate in Demonstration | Interest in Politics | Contact Member of Parliament | Contact Party Leader |
|---|----------------------|------------------------------|----------------------|------------------------------|----------------------|
| Woman | -0.863*** (0.136) | -0.740*** (0.144) | -0.837*** (0.115) | -0.965*** (0.202) | -0.926*** (0.225) |
| % Women in Legislature _{t-1} | 0.008 (0.010) | 0.015 (0.009) | 0.018* (0.008) | -0.003 (0.012) | 0.003 (0.010) |
| Woman X % Women in Legislature _{t-1} | 0.008* (0.003) | 0.008* (0.003) | 0.008** (0.003) | 0.015** (0.005) | 0.018*** (0.006) |
| Gender Development Index | -1.608 (1.066) | -0.178 (1.029) | -1.277 (0.892) | -1.355 (1.317) | -1.382 (1.189) |
| Woman X GDI | 0.359 (0.269) | 0.434 (0.282) | 0.463* (0.229) | 0.476 (0.393) | 0.206 (0.441) |
| Political Rights | 0.060 (0.086) | -0.096 (0.085) | 0.068 (0.075) | 0.105 (0.099) | -0.065 (0.120) |
| Civil Liberties | -0.132 (0.114) | 0.138 (0.109) | -0.202 (0.103) | -0.017 (0.132) | 0.011 (0.138) |
| Years Democratic | -0.007 (0.014) | 0.010 (0.013) | -0.002 (0.011) | -0.003 (0.017) | -0.010 (0.015) |

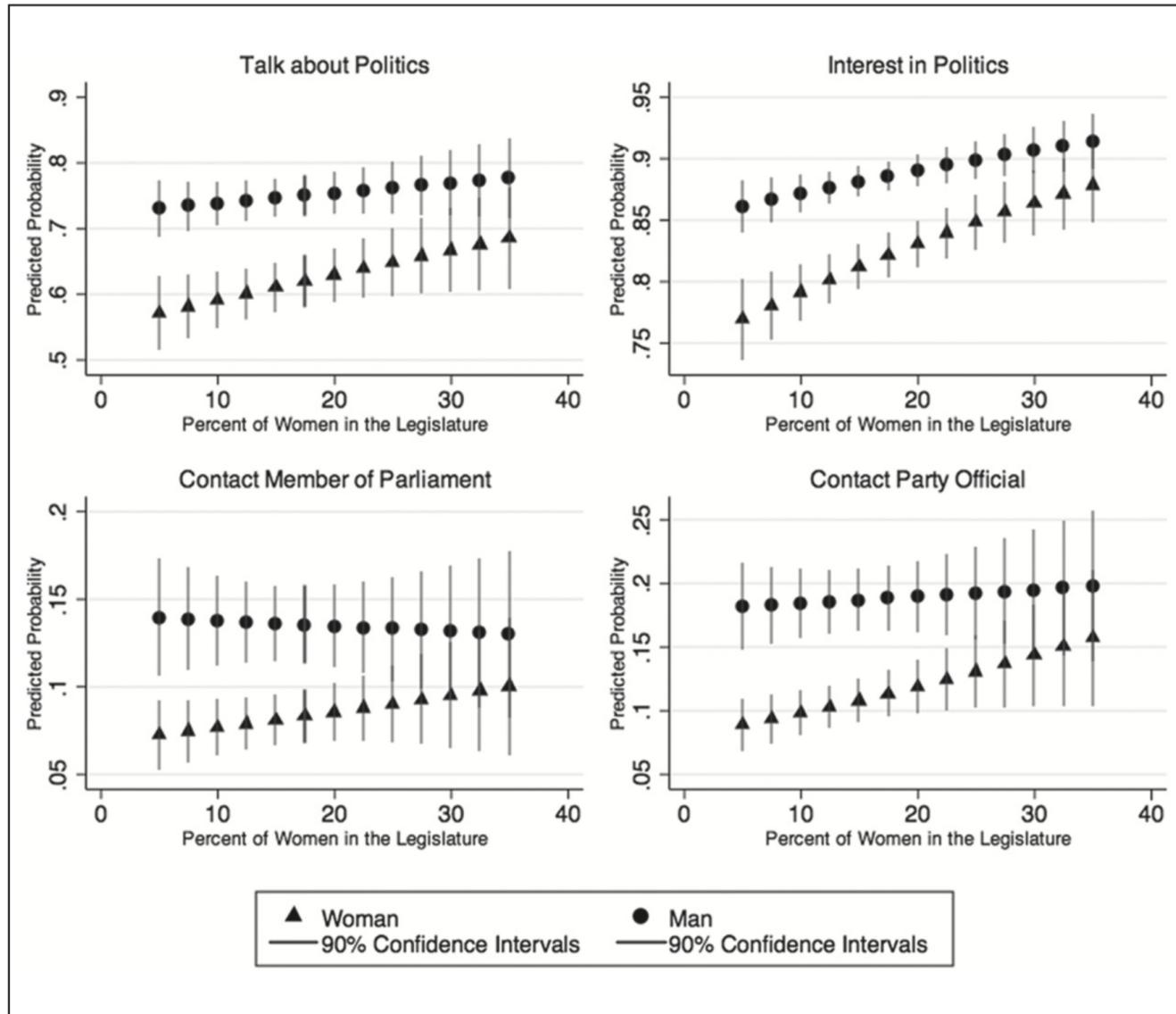


Figure 1. The political engagement gender gap.

Our findings are reported in Table 1. As expected, the coefficient on *woman* in each of the engagement models is negative and significant. This provides compelling evidence that, *ceteris paribus*, women are significantly less likely to engage in all types of political behaviors, confirming our suspicion that the gender gap in political engagement is present in sub-Saharan African countries.

Second, the interaction between the percentage of women in the legislature and *woman* is positive and significant in all of our political engagement models. This indicates that women are more likely to engage in politics as the percentage of women in the national legislature increases, resulting in narrowing of the gender gap. According to the multilevel model, the positive relationship between women's political engagement and women's descriptive representation holds within countries, resulting in a decrease in the gender gap. These estimates suggest that the relationship occurs not just when we look between countries (e.g., comparing women's political engagement in South Africa to women's political engagement in Malawi) but also when we compare women's political engagement in one country over time. Taken together, our results support the hypothesis that increases in women's descriptive representation are

Other tips

Summary Statistics

| Variable | Obs. | Mean | Std. Dev. | Min | Max |
|-------------------------|-------|------------------|-----------|-------|--------|
| English | 1670 | .588 | .492 | 0 | 1 |
| Male | 1670 | 0.741 | .438 | 0 | 1 |
| Age | 1670 | 2.169 (25-35) | .833 | 1 | 4 |
| Final Grades | 1410 | 11.649 | 2.858 | 3.288 | 19.971 |
| Complete any assign. | 23918 | .138 | .345 | 0 | 1 |
| Completion | 23918 | .0602 | .458 | 0 | 1 |

Summary statistics

```
# install if you'd like
library("skimr")

mtcars %>%
  select(mpg, wt, cyl) %>%
  skim()

## Skim summary statistics
## n obs: 32
## n variables: 3
##
## — Variable type:numeric ——————
##   variable missing complete   n   mean    sd    p0    p25    p50    p75    p100
##     cyl        0       32 32  6.19  1.79    4     4      6      8      8
##     mpg        0       32 32 20.09  6.03 10.4  15.43  19.2  22.8  33.9
##     wt         0       32 32  3.22  0.98  1.51  2.58  3.33  3.61  5.42
##   hist
##   
##   
##   
```

Tables for data analysis

Mean of y , across levels of x

```
# for manual vs. automatic cars
# - Mean gas mileage?
# - Num. of obs in each group?
mtcars %>%
  group_by(am) %>%
  summarize(`Mean MPG` = mean(mpg),
            `Std. Dev` = sd(mpg),
            n = n())
```

```
## # A tibble: 2 x 4
##       am `Mean MPG` `Std. Dev`     n
##   <dbl>      <dbl>      <dbl> <int>
## 1     0        17.1      3.83    19
## 2     1        24.4      6.17    13
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Steps to writing a technical report:

- doing the analysis (with code)
- transcribing results into the document

The more you can automate about the transcription process, the better!

Edit and proofread

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Simple, declarative statements

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Outlining and reverse outlining

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Enjoy the ride

Looking ahead

On Wednesday: Data in law and courts

- Probabilistic reasoning vs. legal standards of evidence
- Ethics of advocacy in research (read Mayer)

In section: begin presentations!

Next week:

- Monday: Election forecasting (more probability)
- Wednesday: killing science (so we can save it later)