Do Women Promote Different Policies than Men? Part II: Computing and Interpreting Means

Let's continue working with the data from the experiment in India. As a reminder, Table 1 shows the names and descriptions of the variables in this dataset, where the unit of observation is villages.

variable	description
village	village identifier ("Gram Panchayat number _ village number")
female	whether village was assigned a female politician: 1=yes, 0=no
water	number of new (or repaired) drinking water facilities in the village since random assignment
irrigation	number of new (or repaired) irrigation facilities in the village since since random assignment

Table 1: Variables in "india.csv"

In this problem set, we practice how to compute and interpret means, among other things.

As always, we start by loading and looking at the data:

```
## load and look at the data
india <- read.csv("india.csv") # reads and stores data
head(india) # shows first observations
##          village female water irrigation
## 1 GP1_village2      1    10          0
## 2 GP1_village1      1     0          5
## 3 GP2_village2      1     2          2
## 4 GP2_village1      1    31          4
## 5 GP3_village2      0     0          0
## 6 GP3_village1      0     0          0
```

1. Use the function mean() to calculate the average of the variable *female*. Please provide a full substantive interpretation of what this average means. Make sure to provide the unit of measurement. (10 points)
2. Use the function mean() to calculate the average of the variable *water*. Please provide a full substantive interpretation of what this average means. Make sure to provide the unit of measurement. (10 points)
3. If we wanted to estimate the average causal effect of having a female politician on the number of new (and repaired) drinking water facilities: (10 points)
    a. What would be the treatment variable? Please just provide the name of the variable
    b. What would be the outcome variable? Please just provide the name of the variable
4. If we wanted to estimate the average causal effect of having a female politician on the number of new (and repaired) irrigation facilities: (10 points)

a. What would be the treatment variable? Please just provide the name of the variable
b. What would be the outcome variable? Please just provide the name of the variable

5. In both analyses above: (10 points)

a. What would be the treatment group?
b. What would be the control group?