Midterm: Do People Trust the Presidency?

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Follow the assignment step-by-step. Name your *.rmd* file *your_surname_midterm.rmd*. For example,

```
sichinava_midterm.Rmd
```

We've noticed that often people just simply type the code and add almost no interpretation to their analysis. In the midterm, we will evaluate how you make judgements based on data and interpret the results of the analysis.

Background to the Assignmnet

According to the recent constitutional amendments, Georgia will abolish direct elections of the nation's president. In this assignment we present the results of an experiment where we evaluated whether direct or indirect election of the president affected the public's attitudes towards the institute of the presidency. Being limited in resources, we administered a lab experiment among our undergraduate students at Tbilisi State University and asked them how they felt about presidency in Georgia on a so-called feeling thermometer. On a 101-point scale of the feeling thermometer, '0' stood for the 'cold', that is, negative attitudes towards the institute, whilst '100' corresponded to the 'warm' positive attitudes.

We had administered two experiments in our endeavor. In the first experimental group, the president was presented as directly elected by the people, whilst in the second group the president was elected by the electoral college (say, by the parliament). The control group did not receive any intervention and the students in this grouop just had to evaluate their general attitude towards presidency on a feeling thermometer. We also controlled for a couple of other measures, such as the students' political knowledge, their ideological leanings on the left-right scale and so forth. The table below summarizes the variables given in the dataset.

Data Management

First of all, create a new notebook and read the data to R. Do not forget to indicate the working directory. Download your data from dropbox or directly from this link: https://goo.gl/UFWFUS. Read downloaded *.csv* file to *r*. Name the new data frame *stud*.

Create a new variable *agegroup* from the initial variable *age*. Group together the respondents who are 20 year old or younger in group one and respondents who are older than 20 in the second group. Make *agegroup* variable factor and attach labels to the variable.

Table 1: Variable Description

Variable	Definition
age	Respondent's age
gender	Respondent's gender (1=Male, 2=Female)
q3_1	Respondent's attitude towards politicians in general, 0 - negative, 100-positive
q3_2	Respondent's attitude towards president Giorgi Margvelashvili, 0 - negative, 100-positive
q4_1	Political knowledge: president appoints ministers (their answer: 1 correct, 2 incorrect)
q4_2	Political knowledge: president has right to pardon (their answer: 1 correct, 2 incorrect)
q4_3	Political knowledge: president is the member of the executive branch (their answer: 1 correct, 2 incorrect)
q4_4	Political knowledge: president approves state budget (their answer: 1 correct, 2 incorrect)
q5_1	Income gap should be reduced vs. individual initiatives (1-left leaning, 7-right leaning)
q5_2	Public vs. private ownership (1-left leaning, 7-right leaning)
q5_3	Social protection as state responsibility vs. private responsibility (1-left leaning, 7-right leaning)
q5_4	Competition is bad vs. good (1-left leaning, 7-right leaning)
q5_5	Success is due to luck/connections vs. hard working (1-left leaning, 7-right leaning)
q5_6	Inclusive growth vs. inequality (1-left leaning, 7-right leaning)
exp	Experimental groups (0-Control, 1-Direct elections, 2-Indirect elections)
q6	Respondent's attitude towards the institute of the president, 0 - negative, 100-positive

Attach corresponding labels to the variable *gender*. Note that 1 here means $Male$ and 2 denotes $female$ participants.

Attach corresponding labels to the variable *exp*. Remember that *exp* indicates to which experimental or control groups were the respondents allocated. Consult table 1 for identifying groups and their names.

Now, calculate political knowledge score. Knowledge score is a summary index of correct answers to questions $q4\_1$, $q4\_2$, $q4\_3$ and $q4\_4$, that is, if the respondent answered to the question correctly, he or she would get extra one point of the index. As the result, the most knowledgeable respondent would have score 4 whilst the least knowledgeable would get 0. However, there is a trick: correct answers to the questions $q4\_1$ and $q4\_3$ are 'incorrect', therefore you should assign additional point to those who answered 'incorrect' to these two questions. Note that the dataset sometimes contains missing data in our variables of interest, therefore you should consider the following code:

```
stud$knowledge <- 0
### !is.na tells R to ignore missing values during calculation process

stud$knowledge[stud$q4_1 == 2 & !is.na(stud$q4_1)] <- stud$knowledge+1
```

Next you've got to calculate respondent's ideological score, which is also an additive index of answers to questions $q5\_1$, $q5\_2$, $q5\_3$, $q5\_4$, $q5\_5$ and $q5\_6$. Higher the score, more 'right-leaning' is the respondent in terms of ideology.

Descriptive statistics

Calculate summary statistics for questions gender, age, political knowledge, left-to-right score, q3_1, q6 and exp variables. Give a short interpretation to your results.

Explore your data

Examine how female and male students differ in terms of political knowledge, left-right leanings, their attutudes towards politicians and the presidency. You will need to calculate mean values by gender. Give a short explanation to your results.

Political knowledge is an important factor which often perfectly predicts one's political attitudes. Examine whether there is any difference among people with different political knowledge in terms of left-right attitudes and their attitude towards politicians. Give a short explanation to your results.

Now let's analyze the results of the experiment. Is there any difference between control and treatment groups when it comes to feelings towards the institute of presidency? Examine mean values and the standard deviations for each group. Give a short meaningful explanation to your results.

Indeed, the results look promising, however, consider the following: is there any correlation between how people think about Georgia's president Giorgi Margvelashvili and how they perceive presidency in general? Would this fact influence the results of the experiment? Give a short explanation to your analysis.

Submission

Zip the *whole folder* for the midterm. Name the file according to the following format: *surname_midterm.zip*. Upload the file to Dropbox which could be accessed through this link or by typing the following link to your browser: https://goo.gl/ngHSvo

Please submit your assignmnet by **23:59 Wednesday, December 13th** only via the link indicated above.

We wish you good luck!

Dato & Rati