

Lab in Human Cognition -Gureckis

Exercise 1

In this exercise, you will use Excel to generate a description of some data.

Step 1 - Do together

Use Excel to generate a set of 25 random values. Label them at the top as "Data"

Step 2 - Do together

Your goal is to compute the following "descriptive statistics" about the data:

mean, median, sum of squared deviations, std. dev, variance,
Q1 value, Q3 value, Max, Min

You should do this two ways, first by hand by computing sums and deviations. Second, using excel's built in functions. Make sure the values match. For help, below is a cheat-sheet of excel functions.

Function	Excel Function Name
mean	=AVERAGE(DATA)
median	=MEDIAN(DATA)
std. dev.	=STDEV(DATA)
quartile	=QUARTILE(DATA, Q) where Q = 1,2,3,4
max	=MAX(data)
min	=MIN(data)

Step 3 - on your own

Create a second set of data (labeled Data 2), which is a copy of Data above but + 10 to each value. Which values will change and which won't? Recompute the descriptive statistics by hand and using excel's builtin functions. Make sure the values match. Were you right? Which were wrong? Think about why.

Step 4 - one your own

Create a fourth set of data (labeled Data 2), which is a copy of Data above but times 4 to each value. Which values will change and which won't? Is it different from step 3? Recompute the descriptive statistics by hand and using excel's built-in functions. Make sure the values match. Were you right? Which were wrong? Think about why.

Bonus:

Generate a new set of Data (3). However make it so that the mean of the data is 10. Recompute all the standard measures on it. Describe how you did this.