

Math 171
Project Part 1
2/6/15

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PINKY AND THE BRAIN

Everyone in class will use a ruler to measure their right pinky finger and their left thumb. Questions to consider: what units of measurement should we use? What estimation of the length is best? Should you measure on the outside of the hand, inside of the hand, or some other way? Any other issues? [This portion will be done in class and discussed to come up with common answers.]

PART 1 (DUE DATE: 2/6/15) Answer the first three in paragraph form.

1. Describe the collection techniques for the class data in a level of detail that would convince a reader that you had considered some potential problems.
Each classmate used a ruler to measure the length of their right pinky and left thumb. When measuring the lengths of the fingers, we had to decide which part of the finger we would measure, to ensure that it would be consistent throughout the class. We chose to measure the right pinky from the lower outside crease to the upper tip. The left thumb was measured from the lower outside crease to the upper tip as well. In order to reduce variability, we made sure that each student began their measurements from the designated spot on their finger.
2. Are there any lingering issues about the data set generated by the class? Discuss further issues related to the collection of the data as well as the potential of the data set to be an SRS of a certain population.
Despite the common starting point of the finger, variables are still present. It is nearly impossible for each student to begin their measurements at the exact place they were instructed to. Another issue is that not all of the classmates' thumbs were perfectly straight; therefore, students had to adjust their thumbs to create a straight line. This may have led to inaccurate measurements.

Because a simple random sample allows for each group to have the same chance of being chosen, it is just as likely for our data to be chosen in a simple random sample as it is for another group's data to be chosen. If our sample of data was chosen to represent the data of the entire population, however, our sample of data would not correctly represent the overall population's data. Though we expect the overall measurements to be similar, the measurements will certainly vary. Therefore, we cannot use our one sample of data to represent the entire population.
3. Are any of the issues in question 2 resolved or not a concern? Why/why not?
Although we attempted to resolve the accuracy issues mentioned in question two, we cannot ensure that these issues were completely resolved. Since we measured the length of the fingers in millimeters, it is very easy to not record the accurate measurement; however, two people measured each finger, which reduced the amount of variability in the measurements.

4. Please include a table below with your group's data, include name, sex, length of right pinky, length of left thumb.

Name	Sex	Right Pinky Length	Left Thumb Length
Rebecca Morra	Female	59mm	64mm
Amanda Patterson	Female	59mm	71mm
Jaylin Mason	Male	60mm	74mm