Exercise 4

Measures of Central Tendency

1. What do we report when a distribution has two distinct, and non-adjacent, modes?

Ans: You should report both. Similarly, you should report the mode of non-zero scores if zero more appropriately means “non-applicable.”

2. When is the median most useful?

Ans: When we don’t want extreme scores to influence the result.

3.Give two advantages of the mean relative to the other measures.

Ans: The mean gives a more stable estimate of the central tendency of a population over repeated sampling. The mean can be used algebraically.

4. Why do we use trimmed samples?

Ans: To eliminate the influence of extreme scores.

5. What is a good percentage to trim from a sample?

Ans: 10% or 20% from each end.

6. Calculate mean,mode & median on below data

66, 75, 72, 71, 55, 56, 72, 93, 73, 72, 72, 73, 91, 66, 71, 56, 59

Ans: Mode: 72, Median: 72, Mean: 70.18

7.Make up a set of data for which the mean is greater than the median.

8. Make up a positively skewed set of data. Does the mean fall above or below the median?

9. Given the following set of data, demonstrate that subtracting a constant (e.g., 5) from every score reduces all measures of central tendency by that amount.

8, 7, 12, 14, 3, 7

10. Given the following data, show that multiplying each score by a constant multiplies all measures of central tendency by that constant.

8, 3, 5, 5, 6, 2

11. Create a sample of ten numbers that has a mean of 8.6. Notice carefully how you did this.

12. Why is the mode an acceptable measure for nominal data? Why are the mean and the median

not acceptable measures for nominal data?

Ans: The only measure that is acceptable for nominal data is the mode, because the mode is the only one that does not depend on the relationships among the points on the scale

13. Assume that you collected the following data on the number of errors that participants made in reading a passage under distracting conditions. Calculate the 10% trimmed mean for these data..

10, 10, 10, 15, 15, 20, 20, 20, 20, 25, 25, 26, 27, 30, 32, 37, 39, 42, 68, 77