

Exam 1 Study Guide

For Exam one you should:

Chapter 1

1. understand descriptive statistics (what are some of the ways to describe data);
2. understand why we study statistics
3. understand the general idea of inferential statistics (i.e., a probabilistic)
4. understand kinds of variables (Numeric vs. quantitative, equal-interval, rank-order, nominal)
 1. The idea of levels of measurement—scales of measurement
5. know/understand how to make a frequency table, a grouped frequency table/histogram/;
6. be able to describe the shape of a frequency distribution (e.g., unimodal, bimodal, multimodal, & rectangular), and the shape of a distribution (symmetrical, normal, +- skewed), as well as floor vs. ceiling effects;
7. be able to describe the shape of distribution using in terms of variability (e.g., heavy-tailed vs. light-tailed).
8. For 6 and 7, make sure that you are able to know the distributions just by looking at them.

Chapter 2

1. understand measures of central tendency (mean, mode, median) & know how to compute them;
2. why is the median a better choice for skewed distributions?
 1. Remember: To compute the median: $N+1/2$
3. Understand variation among a group of scores including understanding two specific measures of variation: SD^2 and SD and how to compute them;
4. understand definitional formulas $SD^2 = \frac{[\sum(X - M)^2]}{N} = SD^2 = \frac{(SS)}{N}$ and $Z = \frac{(X - M)}{SD}$

You should be able to understand every single part of the equation (deviation scores)
5. understand what a *z-score* is, computation, M and SD of *z-score*; when to use them.
6. Remember the tricky questions!!! Apple, Apple, Apple, Guava, Guava, Pear
 1. Compute the most likely measure of central tendency, or average for these fruits?
7. If you were to calculate the mean of 1, 2, 3, what would the Σx be?

Chapter 3

1. understand r (e.g., linear & curvilinear, perfect +-, or no correlation);
2. understand scatter diagrams/plots and how to make one & how to interpret it;
 1. You should be able to visually understand these graphs.
3. understand *Person's Correlation Coefficient* (r) and how to compute it;
4. understand the relationship between correlation and causation--specifically, the three possible directions of causality when two variables are correlated;
5. understand r^2 (*proportion of variance accounted for*), and how to compute it;
6. understand how to make predictions about scores on a criterion variable based on scores on a predictor variable, including what a standardized regression coefficient is;

OVERALL: Use your study guide to study, and take advantage of the pre-tests, study guides.