

Writing Assignment #2
PSYC 2202
Measures of Variability

Overview

In this assignment, you will calculate the standard deviation for a set of data. Then you will write a 1-2 paragraph explanation of the standard deviation to a naïve audience.

Learning Outcomes

- Correctly calculate and interpret measures of variability
- Demonstrate an ability to explain statistical calculation and analysis to others

Why Do this Assignment?

- Immediate Benefit: Conceptualizing the steps involved in calculating a SD will help you remember the steps when doing future calculations and it will you understand what aspect of your data the SD estimates.
- Thinking about how to explain the steps in calculating a statistic and thinking about to explain the reasoning behind an analysis will help you.
 - Write logical and clear research papers while in school
 - Help you write your capstone proposal and final project
 - Assist you in your career path, since employers will ask you to explain how you plan on doing a project, why you plan on doing it in that way, and to analyze outcomes

Specifics

Pretend you have been hired as a data scientist for an on-line store. It is a small company that is trying to minimize the number of days between receiving an order and the client receiving the order. The owners of the on-line store are clueless when it comes to statistics, which is why they have hired you. Your first task was to calculate the average number of days between ordering and receiving the order. You have completed that task. Now, because you are a good data scientist, you know that you need to calculate the variability in days between ordering and receiving an order. Calculate the standard deviation for the ordering data. Then write 1-3 paragraphs in which you:

- Explain measures of variability and their importance
- Describe how you calculated the standard deviation (explain the steps)
- Interpret the statistic for the owners (be sure to put the number in context of the mean/median you previously calculated)
- Write the first draft of the paper then bring it to class for peer review
- Write final draft based on peer feedback

Data

Order #	Days	Order #	Days	Order #	Days	Order #	Days
1	7	6	6	11	9	16	2
2	3	7	5	12	7	17	8
3	7	8	5	13	9	18	6
4	6	9	9	14	2	19	7
5	7	10	3	15	5	20	7