

Statistics on Spreadsheets and Calculators

November 18, 2019

1 Spreadsheets

- Spreadsheets provide a fast way to compute statistics.
- We typically will enter our cases as a column, maybe with some sort of column heading.
- The general “language” of spreadsheets is that each row is a case and each column is a variable within that case.

1.1 Calculating the Five Number Summary

- Label rows beneath the data with the five number summary variables: min , Q_1 , $median$, Q_3 , max
- Each of these can be calculated with a spreadsheet function:
 - $min = \text{min}(\text{range})$
 - $Q_1 = \text{quartile}(\text{range}, 1)$
 - $median = \text{median}(\text{range})$
 - $Q_3 = \text{quartile}(\text{range}, 3)$
 - $max = \text{max}(\text{range})$

1.2 Calculating Mean and Standard Deviation

- Label rows beneath the data with $mean$ and $stdev$.
- Both are calculated using a functions:
 - **Mean** $= \text{average}(\text{range})$
 - **Standard Deviation** $= \text{stdev}(\text{range})$

2 Calculator Statistics

Most scientific calculators can compute statistics as well.

2.1 TI-83/84 Plus

1. Press [STAT]
2. Select **Edit...**
3. Enter your data in one of the lists.
4. Press [STAT]
5. Select **CALC** from the top.
6. Select **1-Var Stats** and press enter
7. Press [2nd] and the corresponding L for your list. For instance, if you used **L1** press [2nd][1]
 - Press enter and your calculator will display all the statistics.
 - Note that you can use multiple lists, and that you can clear the lists from the the [STAT] mode.

2.2 TI-30X II

1. Press [2nd] [DATA]
2. Select **1-VAR** to enter Statistics Mode
3. Press [DATA]
4. Enter your values as follows:
 - (a) Enter your value in $X_1 =$.
 - (b) Press down arrow.
 - (c) Enter the number of times this value occurs in $FRQ =$.
 - (d) Only enter unique values.
5. Press [STATVAR] and scroll through the statistics it generates:
 - n – Number of cases
 - \bar{x} – Mean
 - Sx – Sample Standard Deviation
 - σx – Population Standard Deviation
 - Σx – Sum of all cases
 - Σx^2 – Sum of the square of all cases
6. Press [2nd][DATA] right right enter to clear data.
7. Press [2nd][STATVAR] to exit statistics mode.

2.3 Casio Calculators

Mode [.] to enter statistics mode (may vary by model)

1. Enter each case, pressing [M+] (or [Σ +] after each entry.
2. Use [Shift] to see variables. Look for \bar{x} , σn , $\sigma n - 1$, Σx^2 , Σx , and n . These are the mean, population standard deviation, sample standard deviation, sum, sum of squares, and number of cases respectively.