

## Microsoft Excel for Descriptive Statistics

Dr. K. A. Korb  
University of Jos

## Outline

- Descriptive Statistics for Continuous Data
  - Mean
  - Variance: Range or Standard Deviation
- Descriptive Statistics for Categorical Data
  - Frequency
  - Percent

## Categorical vs. Continuous Data

- **Categorical Data:** Variables with distinct categories
  - Cannot be numbered
  - Nominal data
  - Examples: Gender, Marital Status
- **Continuous Data:** Variables that can be expressed numerically
  - Interval and Ratio data
  - Examples: Height, Academic performance, Job satisfaction, Resilience

## Overview of Formulas

- Two ways to create a formula
  - Type if you know it
  - *Insert function* button if you do not know it
- In formulas
  - Equals sign = indicates formula
  - Letters indicate what function
  - Brackets () indicate the details of the data
  - Commas , separate aspects of the data
  - Colons : indicate ranges
  - Quotes " indicate strings (of letters)

### Descriptive Statistics: Mean

- Mean: =average(range)
  - Note: For the range, if all of the cells are together, then the two cells at the two edges will be separated with a colon in the formula
  - If the cells are not together, separate each cell with a comma
- **CHECK:** Check the formulas
  - Use logic to ensure the values are reasonable

### Descriptive Statistics: Variance

- Range:
  - =min(range)
  - =max(range)
- Standard Deviation: =stdev(range)
- **CHECK:** Check the formulas
  - Use logic to ensure the values are reasonable

### Descriptive Statistics: Frequency

- =countif(range,criteria)
  - If the criteria is a number, then type in the number
  - If the criteria is a letter(s), type the letters within "Quotes"
- To calculate frequency based on two variables, use the countifs function
  - =countifs(range,criteria,range,criteria)
- **CHECK:** Add up the frequencies to ensure they equal the total

### Descriptive Statistics: Percentage

- =part/whole
  - Use the percentage button to convert the decimal to a percent
  - Use the decimal buttons to make the appropriate number of decimal places (typically 2)
- **CHECK:** Add up the percentages to ensure they equal 100