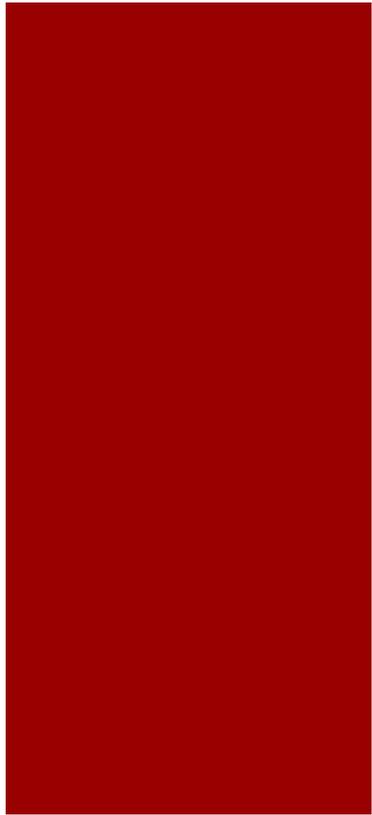


EDUC 890 Class 8

Assignment 4 Presentations

Chapter 8—Quantitative Methods and Results (review)

Chapter 9—Qualitative Research Designs



Quantitative

Chapter 8

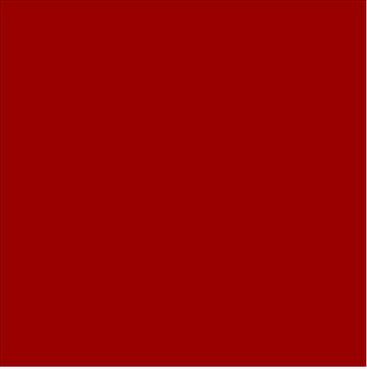
Data Analysis & Results

- Descriptive Statistics
- Inferential Statistics

What do **Descriptive Statistics** do?

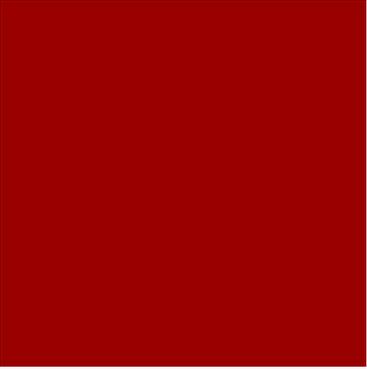
- Describe trends in data for single variables
- They do *NOT* describe how variables relate to each other
- *But...*they usually constitute the first step in correlational research, *i.e., measuring the independent, dependent and control variables before figuring out how they relate*
- See table of common descriptive stats p. 260





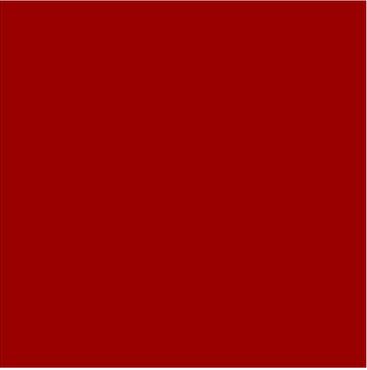
3 types of descriptive stats

- **Central tendency** (*mean & mode*)
- **Variability** (*range & standard deviation*)
- **Relative standing** (*percentile rank & z scores*)



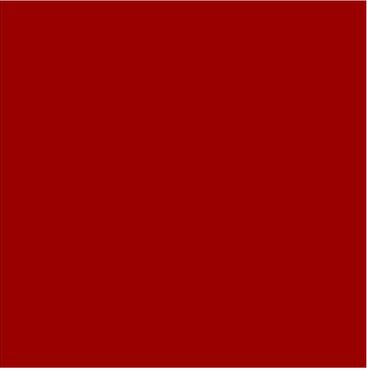
1st type of descriptive stats

- **Central tendency** (*mean & mode*)...overall tendency within scores
 - Mean
 - the average score
 - Used for continuous data, e.g. *average participant age is 12.6, self-esteem level, reading level, etc.*
 - Mode
 - Most frequent score in a list of scores (most common response)
 - Used for categorical data e.g. *preferred pastime:*
a) *reading (22)* **b) Netflix (34)** c) *video games (11)*



2nd type of descriptive stats

- **Variability** (*range & standard deviation*)...numbers that indicate the spread of scores
 - Range
 - Distance between highest and lowest
 - E.g., spelling test scores had a range of 60 (*scores ranged from 30% to 90%*)
 - Standard deviation
 - Average distance between the mean and all the other scores



3rd type of descriptive stats

- **Relative standing** (*percentile rank & z scores*)...describing one score in relation to the rest
 - Percentile rank
 - Percentage of those in the distribution with scores at or below a particular score
 - E.g., Scoring at the 73rd percentile on a math test means 73% of those who took the test scored lower
 - Z score
 - Score converted into units of standard deviations
 - E.g., If height has a z score of +2 then the participant's height scores at 2 standard deviations above the mean

Test yourself:

What's going on here?

- **Spelling test scores:**
 - Class A, $M=60$, $SD=5$
 - Class B, $M=75$, $SD=10$
 - Class C, $M=74$, $SD=2$

Which teacher is better?



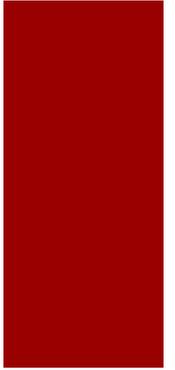
- Class A: the average of all scores is 60
 - 68% of the class scored between 55 and 65
- Class B: the average of all scores is 75
 - 68% of the class scored between 65 and 85
- Class C: the average of all scores is 74
 - 68% of the class scored between 72 and 76

What do *Inferential Statistics* do?

- Describe comparisons of groups in relation to a variable or variables
- Describe relationships between variables
- Why are they called '*inferential*' statistics?
 - ...because they allow researchers to *infer* that findings from a sample can predict what is going on in a larger population



Inferential Statistics

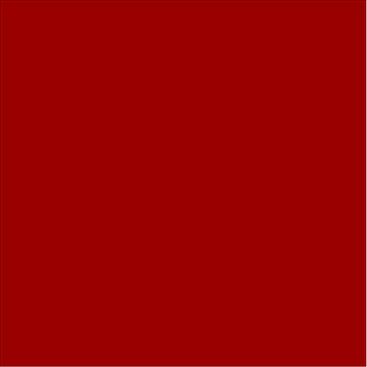


Describe comparisons of groups

- Do boys differ from girls in terms of self-esteem?
 - Researcher compares 2 groups on the *independent* variable **gender**...
 - ...in terms of the *dependent* variable **self-esteem**
- See table of common stats for comparing groups p. 266

Describe relationships of variables

- Does an optimistic attitude relate to satisfaction for graduate students?
 - Researcher relates the *independent* variable **optimistic attitude**...
 - ...to the *dependent* variable **satisfaction**
- See table of common stats for relating variables p. 267



5-step process (p. 264) for hypothesis testing in inferential statistics

- 1) Identify a hypothesis
- 2) Set the criteria for making a decision, i.e. for determining if the result is 'statistically significant' (the alpha level)
 - $\alpha = .05$
 - A 5% chance the result *does not* apply to the population
- 3) Collect data
- 4) Select and compute the statistic
- 5) Decide if the hypothesis is supported (by comparing the p value to the alpha level)

* The **p value** is the percentage chance that the result is a fluke, i.e., does not actually represent what is going on in the population

Test yourself:

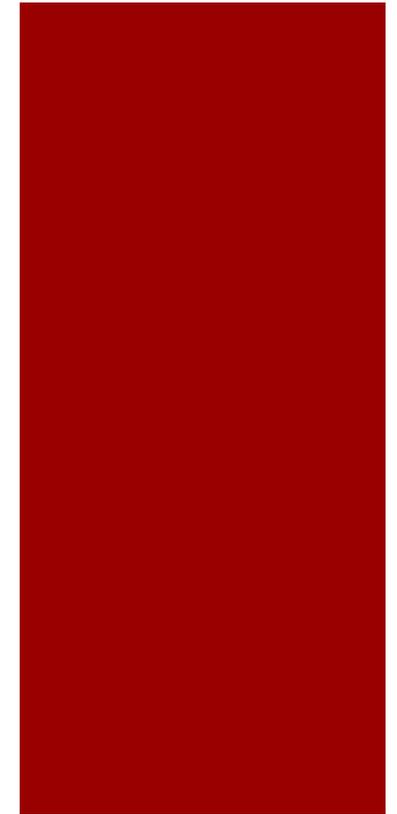
What's going on here?

- **Females reported greater use of avoidant coping strategies than males $t(1337) = -2.51, p < .05$**
 - Comparing genders in terms of variable: *use of avoidant coping strategies*
 - Researchers used the t statistic and found $p < .05$
 - Because $p < .05$ there IS a statistically significant difference, i.e.,
 - females in this population DO make greater use of avoidant coping strategies

** See bottom p. 276 for a diagram explaining what everything means in a statistical report*

** More test-yourself examples p. 269*

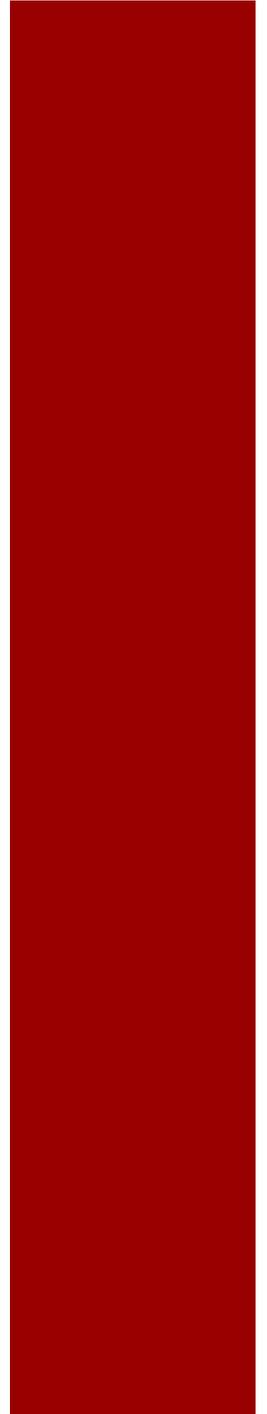


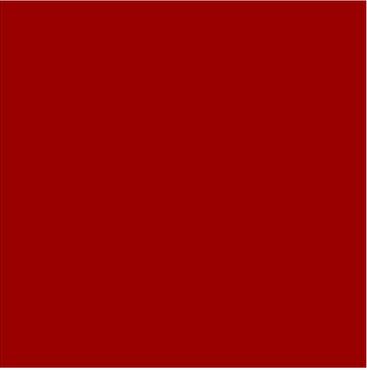


Qualitative

Chapter 9

Qualitative Research Designs





research designs differ in terms of...

- Central phenomenon of interest
 - (e.g., a group's culture or an individual's story)
- Intent
 - (e.g., to describe and interpret, or to develop a theory)
- Procedures
 - how data are collected, analyzed, interpreted,
 - how results are reported

Exploring Qualitative Designs

- In pairs...
 - Check out the different designs on p. 289
 - Choose a design you like
 - Imagine a study you might conduct that uses that design, and write a purpose statement
 - *The purpose of this study was to...*
 - Describe data collection and reporting of findings.
 - Data collection involved...
 - Findings include...
 - Report to the class
 - Hand in next class for homework



Exploring 4 Common Qualitative Designs

- In groups of 3-4, create a 7-minute powerpoint presentation to illuminate one of the following designs.
 - *describe characteristics and example research studies (from the textbook or elsewhere)*
- 1. Narrative**
 - 2. Case study**
 - 3. Ethnography**
 - 4. Grounded Theory**



Homework



- Read Ch. 10
- Read exemplar qualitative research report between Ch. 9 and 10
- Hand in, in pairs or alone, the “exploring qualitative design” task:
 - *Imagine a study you might conduct that uses a qualitative design of your choice from p. 289*
 - Identify the design,
 - write a purpose statement,
 - describe how you would collect data
 - describe how you would report findings.
 - *Hand-written is fine*