PERSONALITY RESEARCH METHODS

SOGANG UNIVERSITY, FALL 2023

WEEK 3, 09/18/2023

Instructor: Emily K. Hong, Ph.D.
Email: e.hong@soton.ac.uk

Class Hours: Mon 01:30-04:15 PM

MEASURING PERSONALITY: QUALITY OF DATA

- What makes a good measure of personality?

- 3 basic features to consider when thinking about a measure or data

Reliability

Validity

Generalizability

RELIABILITY

- Reliability is an estimate of how consistent a measure is
  - Over time, across items, or across raters
- A good measure should be dependable and stable.
- An unreliable measure will have error that distorts the true score.
  - True score ± error = observed score

UNRELIABLE DATA / MEASURES

- Example: **Myers-Briggs Personality Type Indicator (MBTI)**

  - You take the MBTI and it tells you that your personality type is INTJ

    - introversion, intuition, thinking, judging

  - 5 weeks later, you take the test again and your type is ISFJ

    - introversion, sensing, feeling, judging

    - [you actually do have about a 50% chance of getting a different result after 5 weeks]

  - Since your result isn't consistent over time, this is an example of low test-retest reliability

TYPES OF RELIABILITY

Type of Consistency	Type of Reliability	Facet of Generalizability
Temporal consistency	Test-retest	Across time
Internal consistency	Parallel forms	Across items (Grit)
	Split-half	
	Cronbach's alpha	
Rater consistency	Interrater reliability	Across raters

CONDITIONS THAT UNDERMINE RELIABILITY

- A poorly constructed measure
    - Might be too ambiguous or too broad
- Contextual factors
    - The state of the participant, experimenter, or environment

RELIABLE DATA / MEASURES

- Reliable data and measurements are consistent across time, items, and raters

- Some examples:
    - height, eye color, religious beliefs

IMPROVING RELIABILITY

- Take care when selecting or constructing a measure

- Measure something important to the person
  - Less likely influenced by contextual variables

- Aggregation
  - Average over multiple assessments

VALIDITY

- Validity is the extent to which a test measures what it is supposed to measure.
- There are different kinds of validity to consider.
  - Construct validity
  - Face validity
  - Criterion validity
  - Convergent validity
  - Discriminant validity

VALIDITY

- For example:
  - Convergent validity
    - A test produces results that are similar to other tests that are supposed to measure the same thing or something related
  - The textbook has more details on the other types of validity.

VALIDITY EXAMPLE

- Phrenology
  - The shape of the skull can tell us about people's personality
  - Different areas associated with different traits or functions
- Can be reliable, but not valid

GENERALIZABILITY

- What are the limitations and boundaries of a test?

- For what purpose is a test valid?

- Is the test valid in different groups of people, or under different conditions?

  - Children vs. adult assessments, different cultural contexts

- Generalizability can also apply to data and results

  - Sampling bias (use of volunteer samples)

  - Gender bias (e.g., more females than males in a study)

  - Cohort effect (shared life experiences of participants)

  - Across cultures

WEIRDOS (JONES, 2010)

- WEIRD
  - Western
  - Educated
  - Industrialized
  - Rich
  - Democratic

THE MULLER-LYER ILLUSION
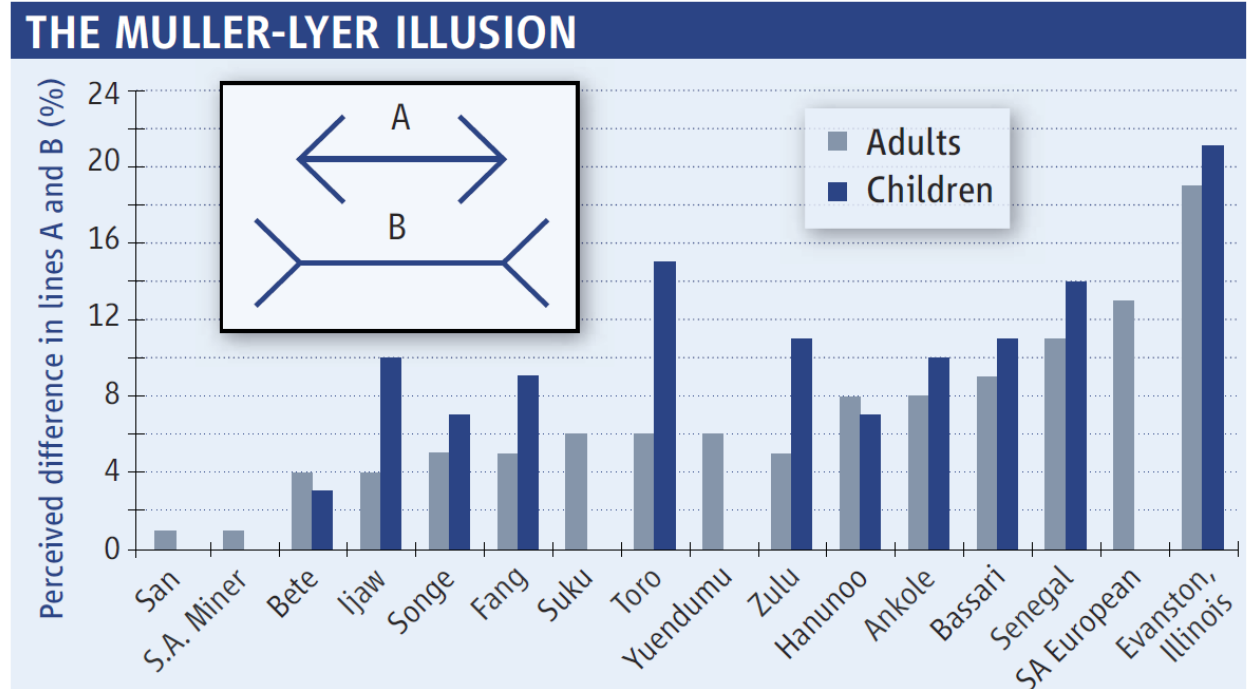
In the eye of the beholder. People in industrialized societies often think line A is shorter than line B, but that illusion is weaker or absent in some small-scale societies, whose members perceive the lines as equally long.

RESEARCH DESIGNS

- How do we collect data to test our hypotheses?
  - Case method
  - Experimental method
  - Correlational method

RESEARCH DESIGNS: CASE METHOD

- Case method
    - In depth analyses of individual cases
        - e.g., accidents, unique clients

RESEARCH DESIGNS: CASE METHOD

- Phineas Gage (1823-1860)

  - Railroad construction foreman who had an iron rod driven through his skull in 1848

  - Destroyed much of the left frontal lobe

  - Had profound effects on his personality

    - Friends said he was "no longer Gage"

RESEARCH DESIGNS: CASE METHOD

- Case method
  - Personality theorists often relied on case methods
  - Usually conducted by clinical psychologists
  - Captures the complexities of human personality
  - Useful in understanding the "person" as a whole
    - e.g., studies on US presidents

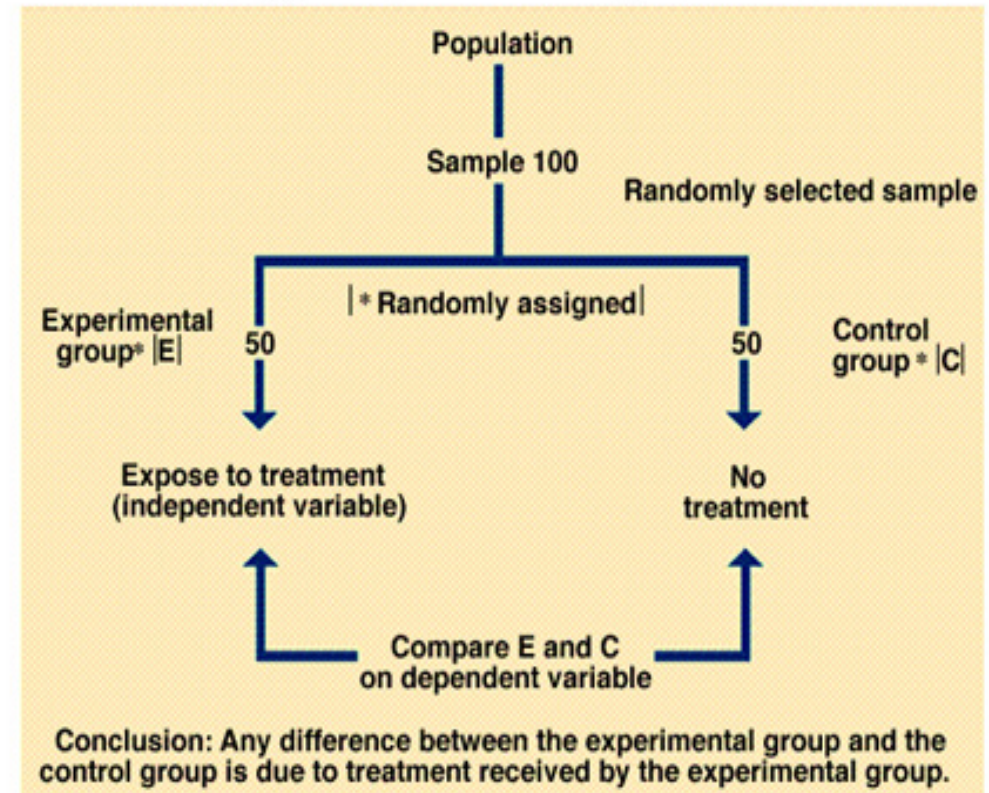# RESEARCH DESIGNS: CASE METHOD

- Advantages
  - Able to learn more deeply about the person
  - A great way to generate new ideas about how the mind works
- Limitations
  - May not generalize to other people
  - May not be able to confidently identify the cause of the problem

RESEARCH DESIGNS: EXPERIMENTAL

- Experiments
  - Conducted in a controlled environment
  - Randomly assign participants to conditions
  - Each condition varies in an important way
    - Depends on the objective of the study

Papalia, Human Development, 7e. Copyright © 1998. McGraw-Hill Companies, Inc. All Rights Reserved.

Design for an Experiment

Population

Sample 100 — Randomly selected sample

|* Randomly assigned|

Experimental group* |E| 50   50 Control group * |C|

Expose to treatment (independent variable)   No treatment

Compare E and C on dependent variable

Conclusion: Any difference between the experimental group and the control group is due to treatment received by the experimental group.

RESEARCH DESIGNS: EXPERIMENTAL

- Example:

  - Does writing about a positive life experience provide health benefits?

  - Participants wrote for 20 minutes each day for 3 consecutive days about either a positive life experience (experimental condition) or a control topic (control condition).

  - Physical health was assessed 4-6 weeks later (physical complaints).

  - People who wrote about a positive life experience had better physical health compared to people who didn't.

(Burton & King, 2009)

RESEARCH DESIGNS: EXPERIMENTAL

- Advantages
  - Better control of the environment
  - Manipulate specific variables
  - Can infer causation
- Disadvantages
  - Artificial environment
  - Difficult or unethical to manipulate personality traits

RESEARCH DESIGNS: CORRELATIONAL

- Correlational Method

    - A way to find and describe relationships among measured variables

    - The degree to which two variables "go together"

    - Commonly used with surveys and pre-existing sources of data
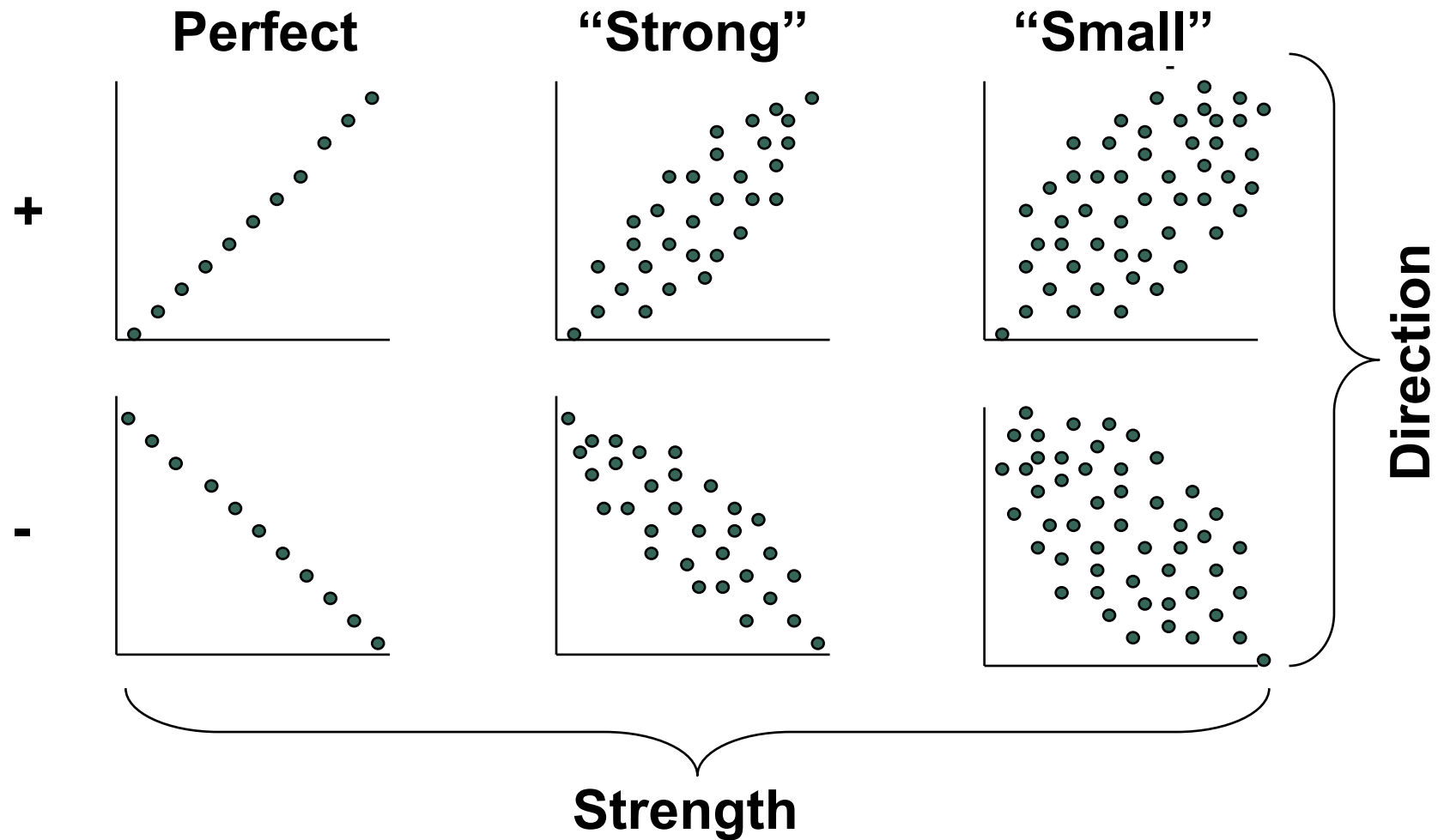
CORRELATIONS

- Measured by correlation coefficient, indicated by the symbol r

- Can be positive or negative, large to small, from -1 to 1

  - Positive Relationships: As one variable goes up, so does the other

  - Negative Relationships: As one variable goes up, the other goes down

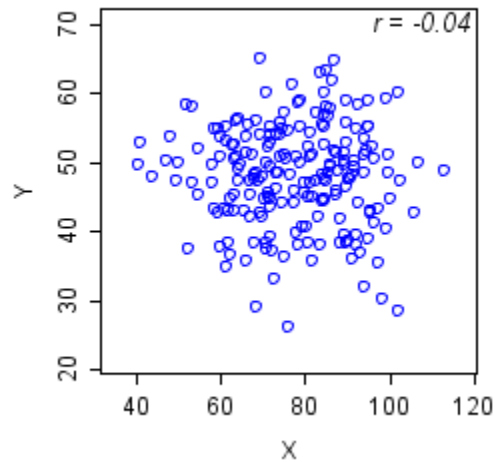**Table 1.2** Interpreting Correlations

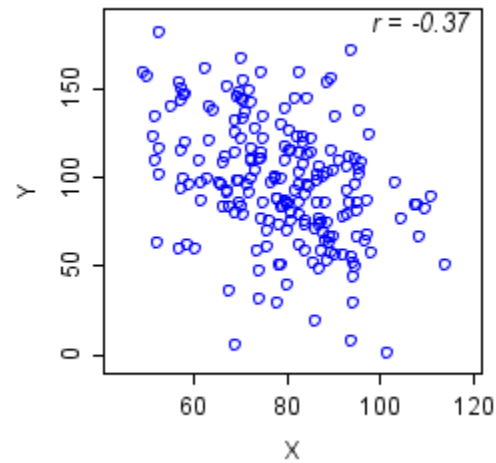| Negative Correlations	Size	Positive Correlations
.0 to −.3	Small	.0 to .3
−.3 to −.5	Medium	.3 to .5
−.5 to −.9	Large	.5 to .9

Source: From Cohen (1988).
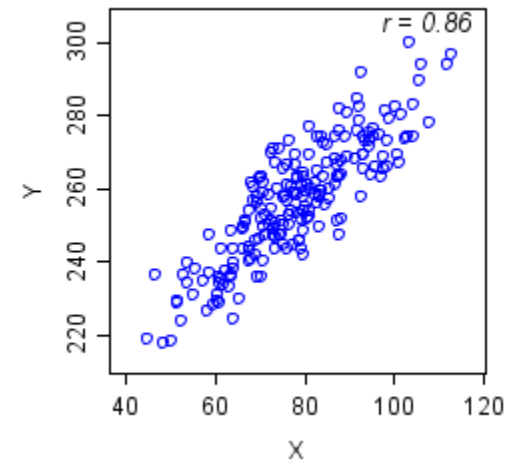
TWO FEATURES OF A CORRELATION

EXAMPLES OF CORRELATIONS

no correlation
(or *very* small)

medium negative
correlation

strong or large
positive correlation

EXAMPLES OF CORRELATIONS
SOURCE: MEYER ET AL. (2001)

Associations	*r*
Test Anxiety and Grades	-.17
SAT and Grades in College	.20
GRE Quant. and Graduate School GPA	.22
Quality of Marital Relationships and Quality of Parent-Child Relationships	.22
Alcohol and Aggressive Behavior	.23
Home Pregnancy Tests and Accuracy	.38
Height and Weight	.44
Gender and Height	.67

RESEARCH DESIGNS: CORRELATIONAL

- Advantages
  - Can study a wide range of variables and the relationships between them
- Disadvantages
  - Individuals are not studied in-depth
  - Increased problems of reliability and validity of questionnaires
  - Can establish relationships, but not causality

INFERRING CAUSATION

- Correlation ≠ causation
  - Spurious correlation
    - http://www.tylervigen.com/spurious-correlations
  - But it can provide some support
- Possible explanations of a relationship between variables
  - A causes B
  - B causes A
  - C causes A & B
  - It's a fluke and there isn't any kind of causal relationship
- How do we test/demonstrate causation?
  - Experiments

ECOLOGICAL VALIDITY

- Q: Does what happens in the laboratory have anything to do with the real world?

- Lab studies demonstrate what <u>can</u> happen but this is not the same thing as what <u>really</u> happens in the real world.

  - Mundane realism

  - Experimental realism

NEXT CLASS

- Read Chapter 3 of the textbook