Psyc 109
Research Methods

Day 18: Thursday, March 15
Introduction: how'd it go

A. AWESOME 😊😊
B. Pretty darn well 😊
C. Okay 😞
D. Not so well :\
E. The horror, the horror of it all 😞 😞
Plan for the day

- **Introduction:** check-in
- **Describing data**
  - Central tendency
  - Variability
- **Data Assignment 2 (an experiment): due Monday**
  - Using Excel
  - Results & Discussion
APA-format research proposal

- Hypothesis & Initial reference list (7)
- EMDR Lit-review → Introduction (25)
- Methods (& Procedure: 25)
- Data Sets #2 & #4 → (predicted) Results (20)
- Discussion (20)
- Final Draft (& Abstract ← Article Summaries 5 & 6: 60 75)
# APA Paper = Hourglass (Daryl Bem)

<table>
<thead>
<tr>
<th>The introduction begins broadly:</th>
<th>“Individuals differ radically from one another in the degree to which they are willing and able to express their emotions.”</th>
</tr>
</thead>
<tbody>
<tr>
<td>It becomes more specific:</td>
<td>“Indeed, the popular view is that such emotional expressiveness is a central difference between men and women.... But the research evidence is mixed...”</td>
</tr>
<tr>
<td>And more so:</td>
<td>“There is even some evidence that men may actually...”</td>
</tr>
<tr>
<td>Until you are ready to introduce your own study in conceptual terms:</td>
<td>“In this study, we recorded the emotional reactions of both men and women to filmed...”</td>
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</tbody>
</table>
| The method and results sections are the most specific, the “neck” of the hourglass: | (Method) One hundred male and 100 female undergraduates were shown one of two movies...”  
   “(Results) Table 1 shows that men in the father-watching condition cried significantly more...” |
| The discussion section begins with the implications of your study: | “These results imply that sex differences in emotional expressiveness are moderated by two kinds of variables...” |
| It becomes broader:               | “Not since Charles Darwin’s first observations has psychology contributed as much new...” |
| And more so:                      | “If emotions can incarcerate us by hiding our complexity, at least their expression can liberate us by displaying our authenticity.” |
Discussion for the day

1. What do you like the MOST about your topic and your work so far?

2. What do you like the LEAST about the work so far?

3. What problems can we address today?

UTF Report: What came up?
Descriptive statistics (Ch 12)

- **Distribution** at each level of the variable
- **Frequency Tables**
  - 12.1, raw
  - 12.2, grouped
Graphics: Histogram (Fig. 12.1)
Distribution (12.2 = bimodal)

- **Mode**: most frequent value
- **Bimodal**: two clusters of values
Central Tendency: clusters where?

- **Mean** (or $M$): average
- **Median**: middle value when rank-ordered
- **Mode**: most frequent or common
Mean, Median, & Mode

Mean > Median > Mode

Mean < Median < Mode
Skewed, normal or symmetrical (Fig 12.3)
Variability: low, high
Standard Deviation: average distance between scores and the mean

\[ SD = \sqrt{\frac{\Sigma(X - M)^2}{N - 1}} \]
Population: parameters

Sample: statistics

Inference: "educated guess" about the population based on what's observed in a sample

Sampling distribution: representative?
Describing Data with Excel

- Data table of **CELLS**
- **Select** (double-click) to enter or edit cell contents.
- **Cell designation**: column letter & row number (C15)
- **Formulas**
  - start with “=” (to get a mean, enter =average)
  - Operate on a **range** of cells
  - First cell, colon (:), last cell. (=average(C5:C15) returns average of data in cells 5 to 15 of column C)
- **Formula for Data Assignment 1: Mean**
  =average(range of cells)
Data Assignment 2: Results & Discussion

- From here on out: if not submitted by deadline, using procedure (upload to Zotero), then considered late: 5 points per day.
Ready for **Monday**: Data Assignment 2?

A. Got it, 100%
B. Got it, pretty much
C. I think I’ll get it
D. Really confused