When possible, I'll post the lecture notes that I work from, like the notes below, so that you'll have a list of some of the topics covered during the lecture. These may not be complete, and will be very brief, but if you find them useful then feel free to use them to supplement your own notes.

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introduction

- website
    - check website first (github.com/rfmurray/psyc2021)
    - will post announcements, problems, marks, etc.
    - how to study
    - calculator for tests and exam
- lecture, 11:40-12:45, 1:00-2:00; questions and problems 2:00-2:20

- will post exercise numbers; do them all; also end-of-chapter problems in urdan
- review basic arithmetic if necessary

thinking about probability and statistics

- we are not naturally very good at thinking about probability
- monty hall problem
- behavioural economics

- simpson's paradox; uc berkeley admissions

        - group 1:   80/100   9/10   (kinesiology)
        - group 2:   3/10   40/100   (psychology)
        - pooled: 83/110   49/110   (uc berkeley)
                      (men)   (women)

    - numerator is admissions
    - denominator is applications
    - a greater proportion of women are accepted in each department
    - but a lower proportion of women are accepted in university as a whole
    - how is this possible? more women applied to departments with low
      admission rates

- medical diagnosis problem to be discussed in next class
    - consider an accurate medical test: true positive 95%, false positive 5%
    - and yet, if you have a positive result, you still probably don't have the
      condition
    - how is this possible? hint: suppose that the condition is rare

urdan, chapter 1

- define: population, parameter (e.g., population mean)
- define: sample, statistic (e.g., sample mean)

- statistics = set of mathematical procedures for organizing, summarizing, and interpreting data
- statistic = number that describes a sample
- descriptive statistics = procedures used to summarize data
- inferential statistics = procedures that allow us to use samples to make conclusions about populations

- variable (vs. constant)
    - variable = number that (usually) has different values for different individuals
    - data = measurements of a variable
    - quantitative (continuous) variable; indicates an amount
    - qualitative (categorical) variable, e.g., dichotomous; indicates a category
- types of scales: nominal, ordinal (ratings), interval (centimeter), ratio (temperature in kelvin; and cash)

- research designs

    - experimental design
        - divide population into groups, treat groups, and compare groups on one or more variables
        - independent variable = variable that is manipulated (treatment)
        - dependent variable = variable that is observed
        - control condition = condition where individuals do not receive the treatment
        - experimental condition = condition where individual receive the treatment

    - quasi-experimental research design
        - like experimental design, but use naturally occurring groups outside a laboratory; still has different treatments for two or more groups
            - e.g., two experimental groups are two classrooms

    - correlational research design; no treatment