



Welcome to QuACK!

Week 8

10/27/2025

Victoria & Sophie

Today's Agenda

- Warm-up activity
- Analyzing your data
 - Goals
 - Methods
 - Steps
- Group Activity
- Demo: Data Analysis



Week 8 Warm-up - 10 Minutes

- Download this week's materials from the website. (GradLife_SemWide8)
- Find the number of respondents in the dataset and save it to a variable "n"
- Find the mean, median, and range of self-care at the final time (S3)
- Make a boxplot comparing caffeine usage (S1) for respondents in Cognition vs. Social.

What is the point of analyzing your data?

→ to know to what degree you should believe that any patterns you found in your data are representative of the underlying population.

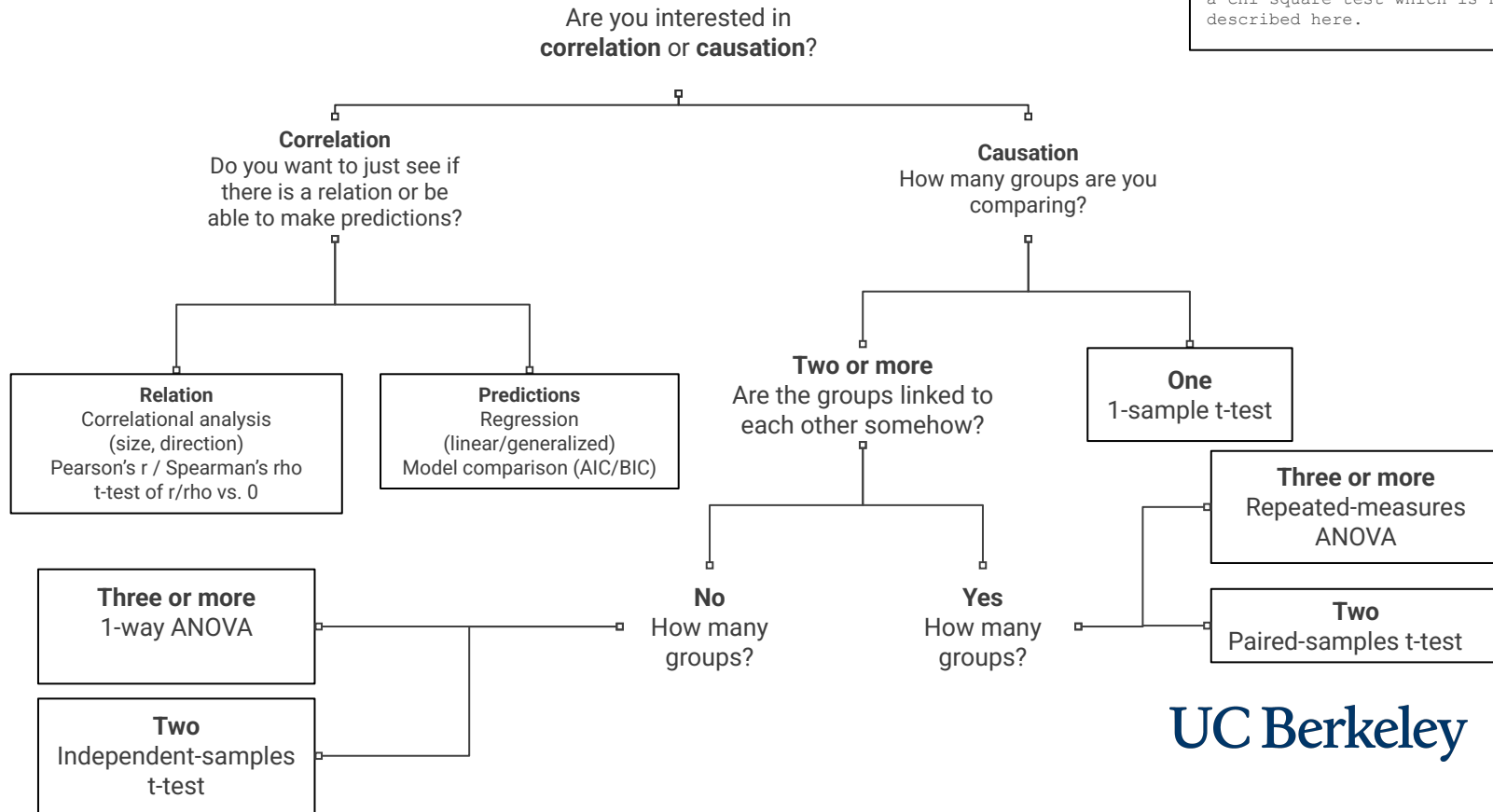


How do you decide how to analyze your data?

- Tricky because there is no one-size-fits-all answer
- For common types of datasets (e.g., comparing means of numeric variables across two groups of equal size), there are well-established tests
- For others (e.g., time-series data or analyses on especially small datasets), you may need some more niche methods
- We're going to focus on building up intuitions and R skills for basic statistical tests

Overview of basic statistical tests

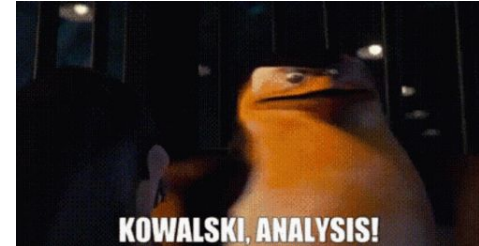
Note: the specific test you choose will also depend on the type of variables you have (continuous, categorical, count, etc.). For example, if you have categorical independent and dependent variables, you may need a chi-square test which is not described here.



Basic steps to analyzing your data

(some of these steps happen long before you even look at your data!)

- Identify your independent and dependent variables (and groups/levels)
- Decide what your null and alternative hypotheses are (H_0 and H_a)
- Pick your test, α , and do a power analysis
- Calculate your test statistics (e.g., t for t-tests or F for ANOVAs)
- Decide whether to retain or reject H_0
- Make sure you can clearly explain your conclusion in words!



Activity: What kind of analysis can we use?

In our dataset (GradLife), what statistical test would you use to:

1. Determine whether self-care at the end of the study (S3) is better in Developmental or Clinical?
2. Determine whether caffeine intake at the beginning (S1) is related to TikTok usage at the beginning (S1)?
3. Compare self-care scores (S3) across multiple areas?
4. Predict hours contemplating other paths (S3) from self-care (S3) and submission of grant status?
5. Predict grant submission from TikTok usage (S2) and caffeine consumption (S2)?

And as usual, resources you can look back on even when QuACK is over 🤖

<https://www.statsflowchart.co.uk/>

quiz that will tell
you which statistical
test to use

<https://statsandr.com/blog/what-statistical-test-should-i-do/>

decision tree with explanations
of different statistical tests

Exit Ticket

Link: <https://tinyurl.com/quack-fall2025-exit-survey>

