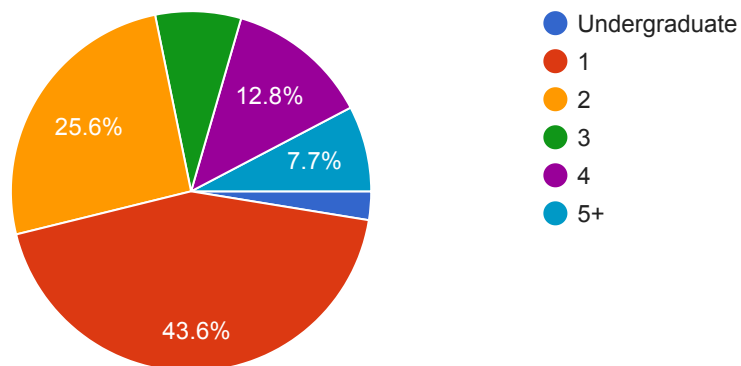


# Psych 252: Introductory survey

39 responses

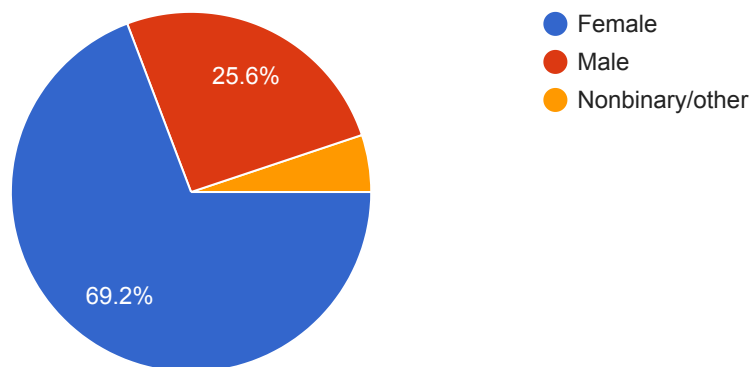
What year of graduate school are you in?

39 responses



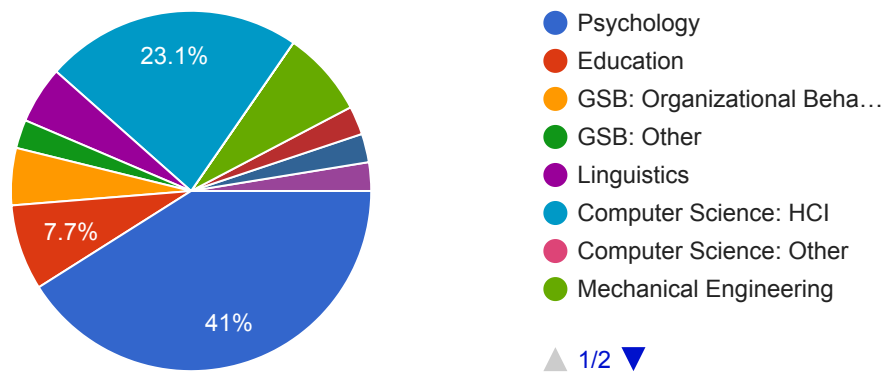
What is your gender?

39 responses



## What department are you in?

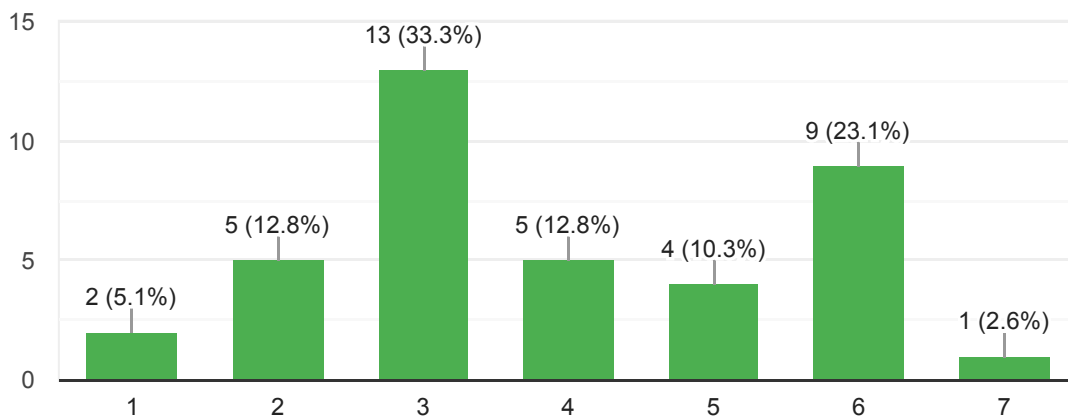
39 responses



Programming experience

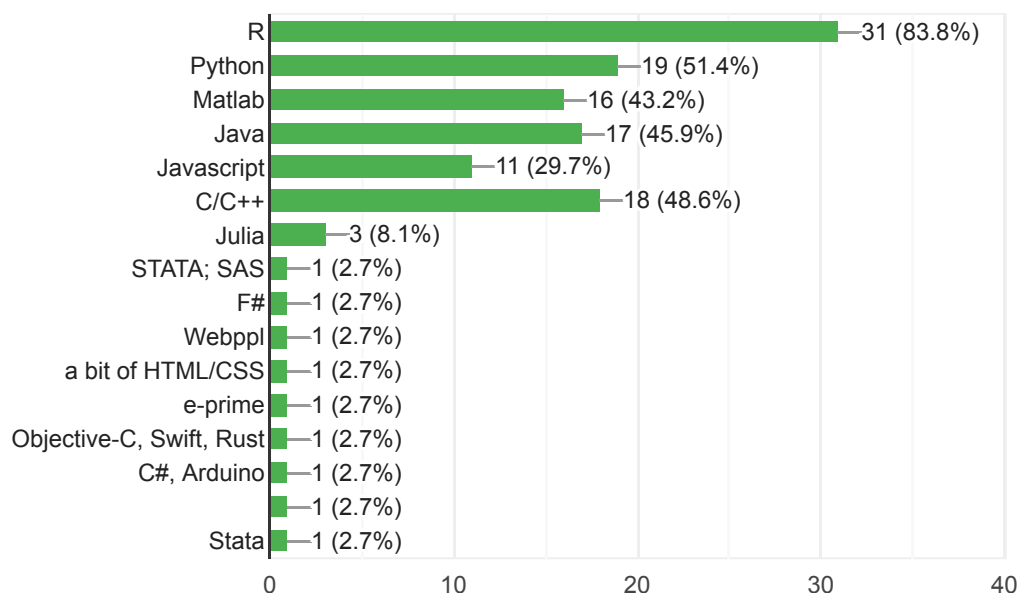
## Please rate your level of experience with computer programming

39 responses



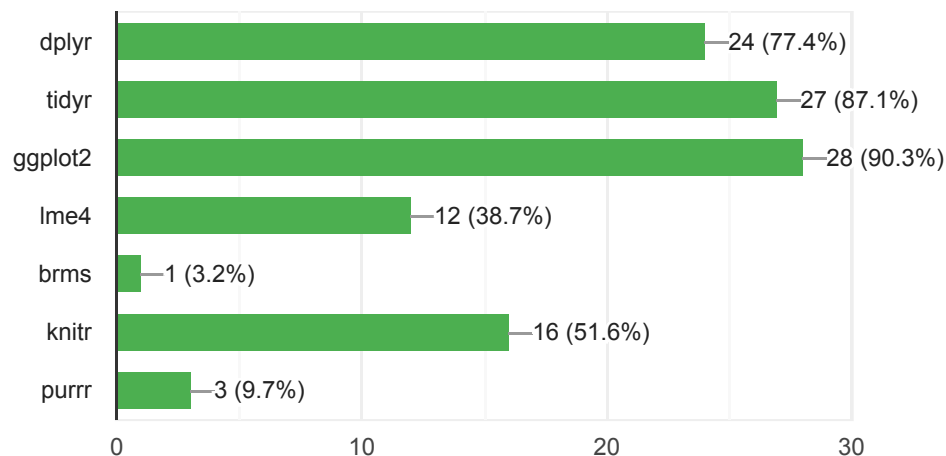
If you have programming experience, which programming languages do you have experience with?

37 responses



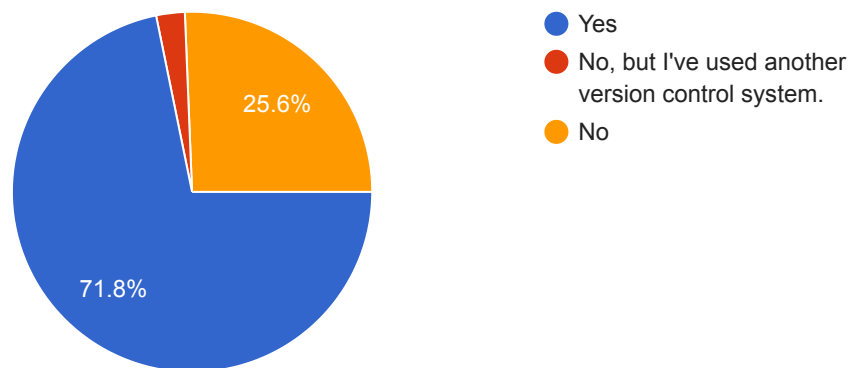
If you have prior R experience, which (if any) of the following libraries do you have experience with?

31 responses



Are you familiar with git/github?

39 responses

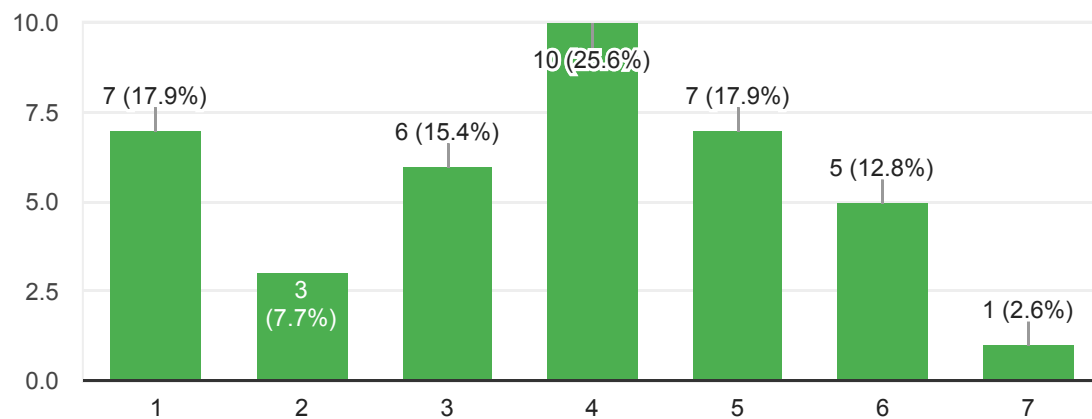


Math experience



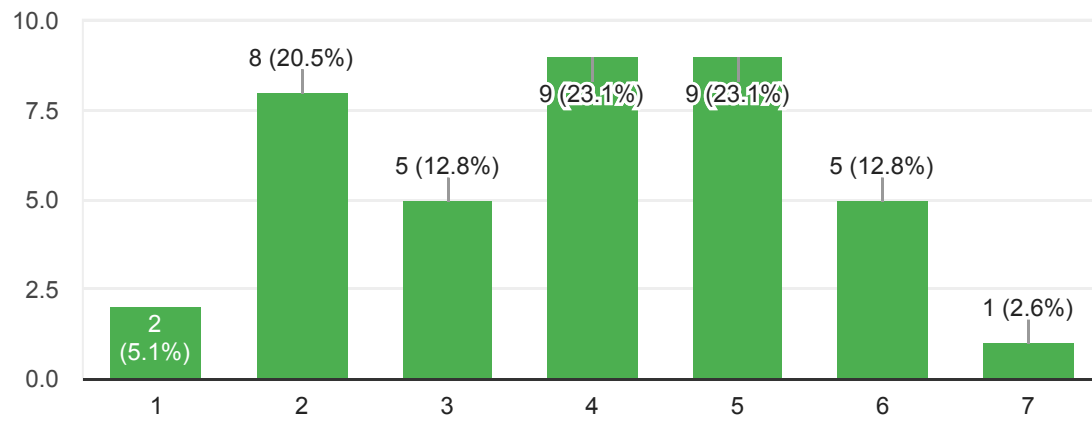
## Please rate your level of experience with linear algebra

39 responses



## Please rate your level of experience with calculus

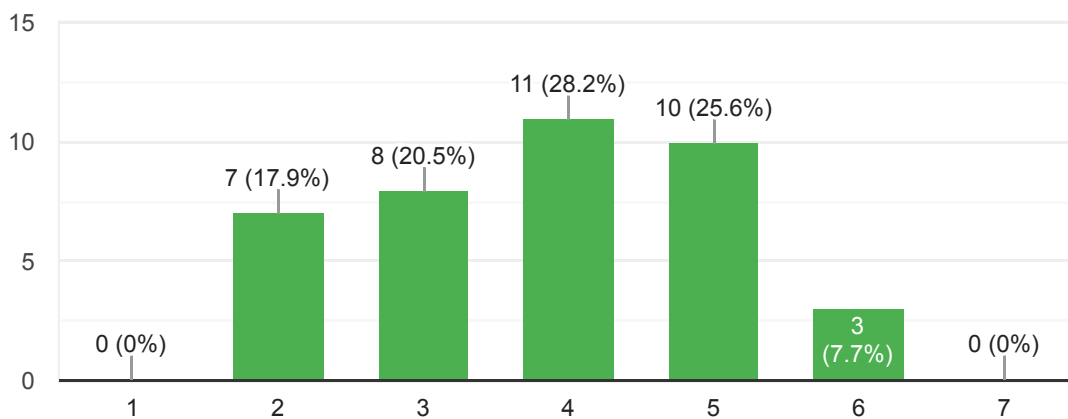
39 responses



Statistics experience

## Please rate your level of experience with statistics

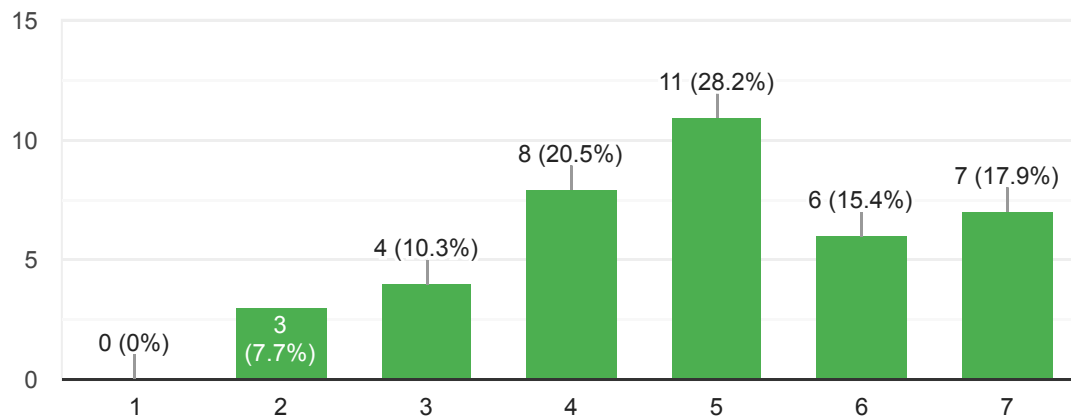
39 responses



How well do you understand the following?

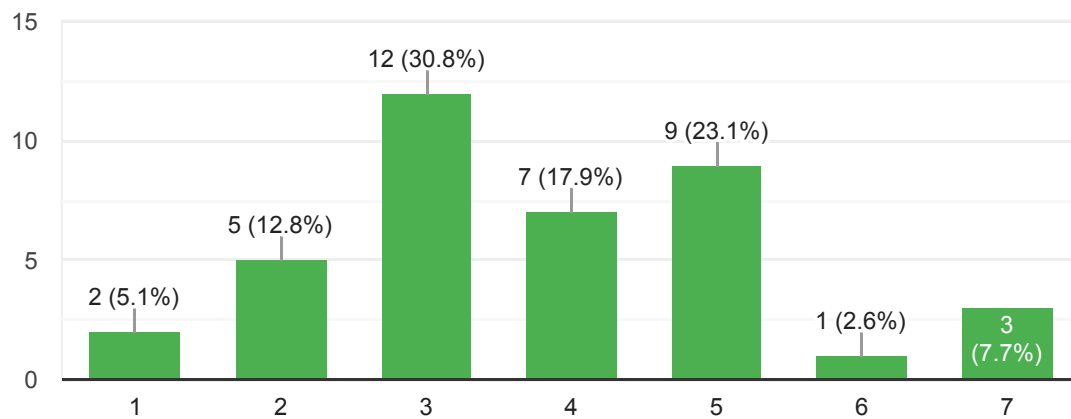
## t-test

39 responses



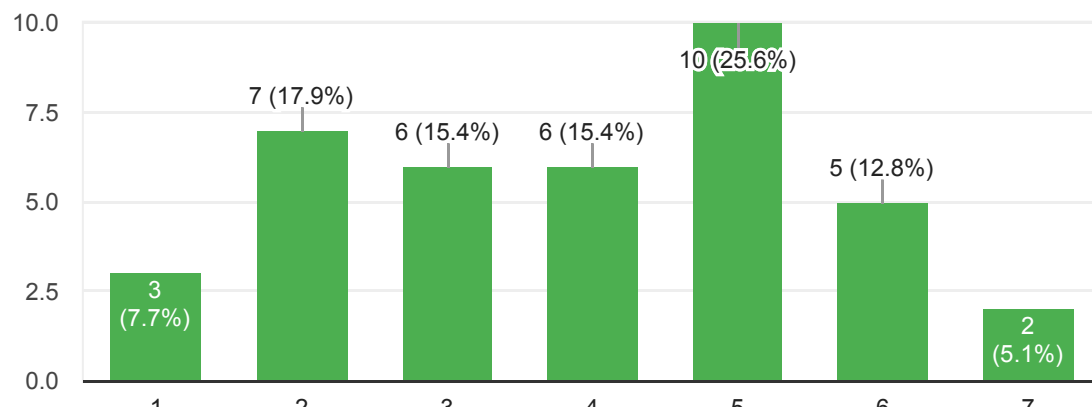
## non-parametric tests (e.g. Binomial test, Chi squared, etc.)

39 responses



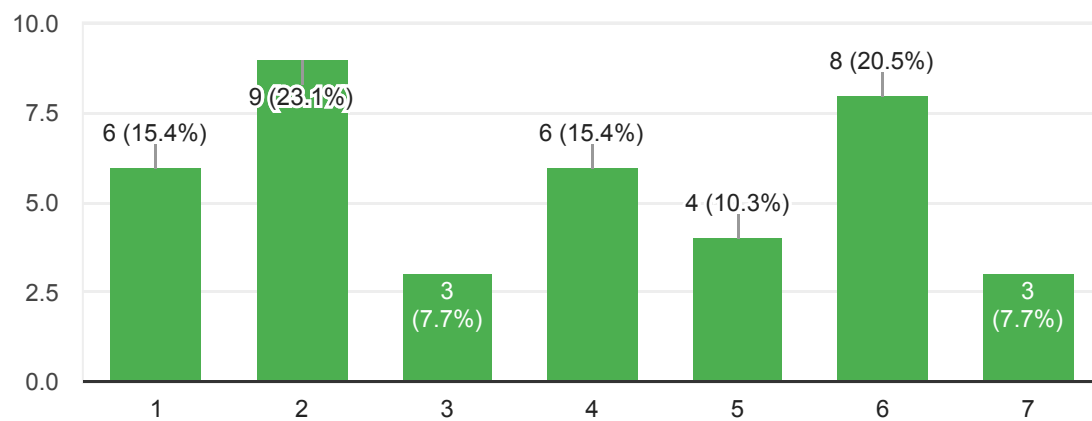
## ANOVA

39 responses



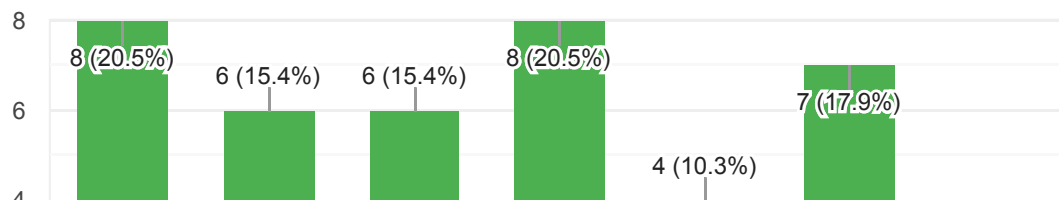
## Multiple regression

39 responses



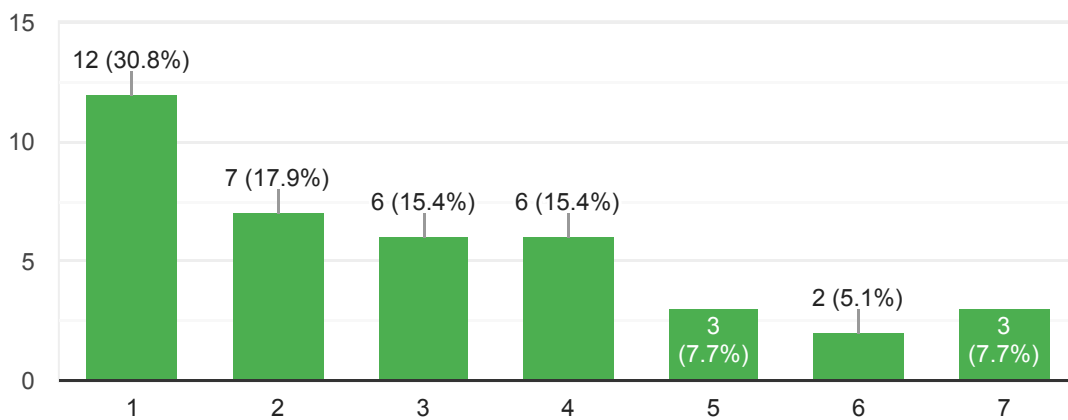
## Logistic regression

39 responses



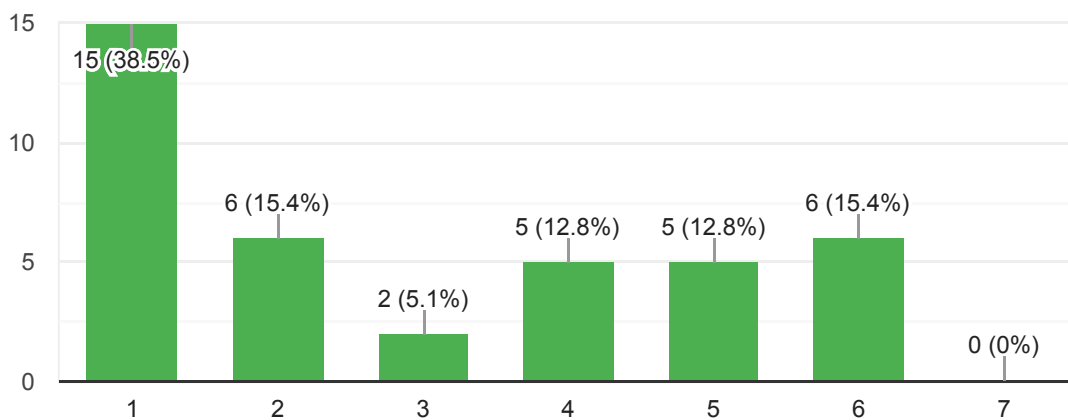
## Linear mixed effects models

39 responses



## Principal components analysis

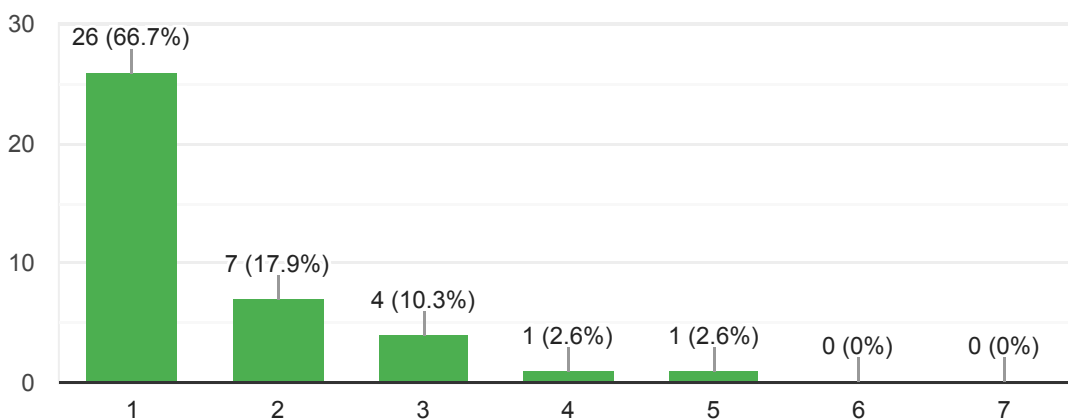
39 responses





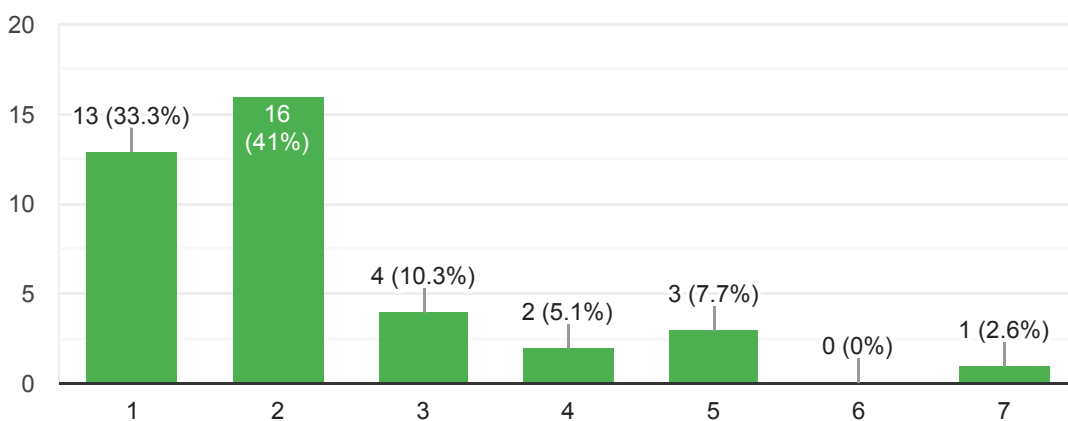
## Structural equation modeling

39 responses



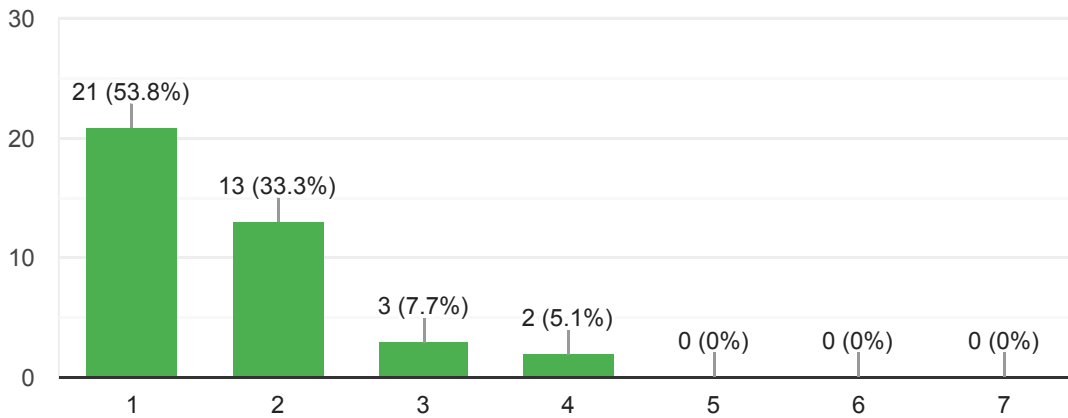
## Meta analysis

39 responses



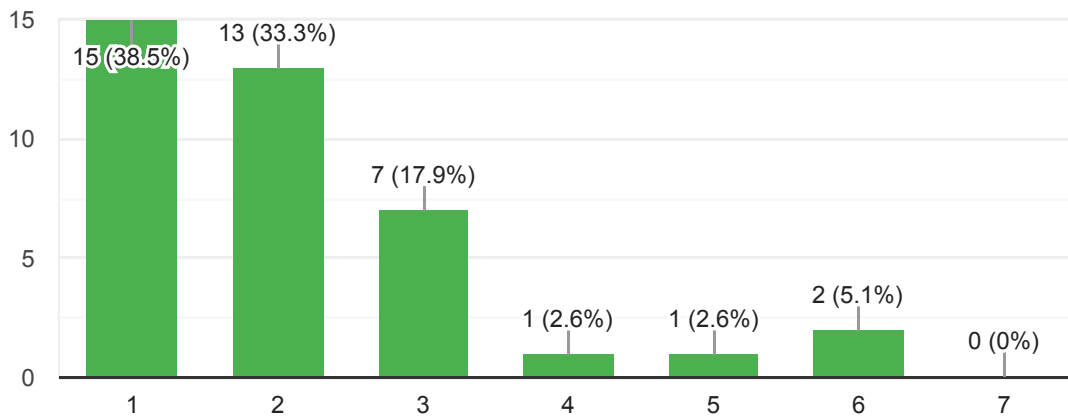
## Time series analysis

39 responses



## Bayesian statistics

39 responses



Statistical concepts



What is a p-value?

P value addresses one questions: how likely are your data, assuming the null hypothesis is true.

value that allows you to interpret the significance of a particular result

It's the probability of obtaining a value as extreme as the one I got if everything in the data is pure noise (under the null)

A measure of statistical significance

A p-value is the probability that you will find the observed effect assuming that the null hypothesis is correct.

A p-value tells me something about how likely it is that the data that we got from a subpopulation could have arisen from a draw from a (for example Gaussian) distribution without this effect.

It is the probability that the statistic you get would occur by chance (derived from a null distribution)

The probability of the results given the null hypothesis.

Given some assumption of a distribution (usually that two distributions are the same), the p-value is the chance that a random sample from those distributions would result in a statistic that is "stranger" (usually farther from a mean of 0) than the observed statistic.

probability that the observed value or more extreme would be observed under the null distribution

the probability that we get the data as large as we observed or larger than what we observed, under the assumption that null hypothesis is true

the probablity of data given a (null) hypothesis

probabilistic measure of how significant your statistical conclusions are

a measure of how statistically significant a relationship is; the probability that an effect is due to chance

the probability of rejecting the null given the data; I think it's related to the false-positive rate

the probability of rejecting the null hypothesis

a measure of how probable it is that some result is representative

the probability of the data under the null hypothesis

A p-value conveys the probability that an observed difference between sample means is due to sampling error, and that the underlying population means are the same. In other words, it gives the probability that rejecting the null hypothesis would result in a type 1 error.

A p-value reflects the odds of discovering a false positive. E.g. a p value of 0.05 means there was a 5% chance of detecting an effect that wasn't actually present.

The probability that our data occurred by chance (e.g. through sampling or measurement error)

Likelihood that the difference observed supports the null hypothesis. This doesn't sound right...

The probability of an event (in a certain test) reoccurring by chance (in another test) given that the null hypothesis is true.

probability of getting the obtained results due to chance.

probability that the null hypothesis would give rise to the observed result

The probability of the data assuming the null hypothesis is true.

the probability of seeing the data given the null hypothesis

If an experiment were to be run over and over again, a p-value represents the likelihood of finding the initial study's results given that the hypothesis is true.

The chance of a Type 1 error.

the probability that the observed effect is due to chance

The significance level of the results in relation to the null hypothesis. It doesn't say anything about the size of the effect.

In broad strokes, a measure of how confident we are in rejecting the null hypothesis. A little more specifically, I think it's the probability with which the groups being tested would look the way they do (e.g. one mean larger than another) if the null hypothesis were true.

the probability that when the null hypothesis is true, the statistics summary would be greater or equal than the observed data

probability that what is observed is an extreme case when the null hypothesis is true

value that indicates how it is likely an observed result happened just by chance (low value indicates statistical significance)

In a probability distribution, a p-value tells you the probability of something having happened haphazardly or by chance

a power value which shows you statistical significance

the probability that the null hypothesis is true, given the data

## What is a confidence interval?

37 responses

Confidence interval gives an estimated range of values which is likely to include an unknown population parameter (e.g., mean value).

range in which a value will lie (with a particular probability)

A range of possible values that have a 95% chance of including the true parameter I am trying to estimate.

A window of error representative of how sure we are of a given result

Confidence interval is the probability that a certain parameter will be "inside" a given probability distribution.

A confidence interval tells us something about the variance in the data and the certainty of the mean. A big confidence interval indicates big uncertainty. In any case, a 95% confidence interval predicts that in 95 out of 100 draws, the mean will lie in this range.

It is a range of values that would capture the "real" value with a specific probability

According to frequentist statistics, it is the interval such that the value of interest will fall within it a particular percentage of the time (normally 95% of the time).

The confidence interval is a process that produces a range that contains the true mean some percentage (usually 95%) of the time. (In PSYCH 251, I learned that it's not where the mean lies 95% of the time, but rather a process for drawing lines... I wouldn't be able to explain the difference other than that, so I don't understand it fully, but at least I'm aware I don't understand it fully)

if you repeat the experiment over and over, the observed value will fall within the interval x% of the time

Okay, this question is tough. My guess is CI is the interval that captures 95% of cases that measure your desired parameters across different samples and you repeat the study (with exactly the same sample size) again and again (till infinity)

95% CI: If you draw many samples, 95% of the sample parameter will be in this interval.

interval usually expressed in % of getting the same conclusion regardless of the subset the statistical analysis is conducted on

a range of values that predicted value likely fits in

responses fall within this range 95% of the time

the interval in which the true mean exists

an estimate of a range where the actual answer might fall

e.g. for a 95% CI, the interval for which there is a 95% chance that that interval contains the true value

A confidence interval specifies a range within which we expect the true population mean to lie with a certain probability (confidence).

An estimate that your values would fall within bounds of the true value?

The interval from lower to upper bound in which we expect, with a certain level of confidence, the true value to lie

The range of observation ranges 95% of the time? I forget... lol

A range of values that can be identified with a certain confidence level (e.g. 95%, 99%) where the true population parameter lies.

the range about the sample statistic within which we are sure (by a specified extent, e.g. 95%) that the true mean of the population lies.

the interval that may contain the population parameter of interest with some probability

If we run the same experiment 100 times, a 95% confidence interval indicates the range such that the population mean will be included in 95 out of the 100 times.

the range in which there is an XX% chance of seeing that estimate. so if there was a 95% confidence interval, 95% of the time you would find the estimate within that interval

Rather than a single data point (or a sample mean), a confidence interval states that there is an x% chance that the true mean (or the population mean) lies within the interval's bounds. Most confidence intervals that I've seen are 95% confidence intervals.

The range of expected values.

Typically set at 95%, and captures 95% of the data ??

The range (interval) we are X% confident (where X is the level we choose) our value is within.

the interval of a probability that might contain the true statistics

probability that a what is observed is true

Bounds from a nominal value (e.g. mean) that tell with how much confidence the true value lies within that interval.

kind of like the probability the p value is good? we generally want 95% CI

The range within which a parameter should fall, given a % of certainty (in typical use 95%)

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