Psyc 60: Intro to Statistics

Prof. Judith Fan

Spring 2021

Last Time

What is something new you learned today? Is there anything you found confusing? Please share any feedback you have about today's lecture.

One thing I learned that was new in this lab assignment was that using filter itself can create a dataframe, & also how to create a horizontal line on a plot graph (gf_hline). What was challenging was probably when I had to calculate the zscores and then use the cor() function since I wasn't used to doing that.

I got a better understanding of the relationships between z-scores and how they are similar and different from the original units.

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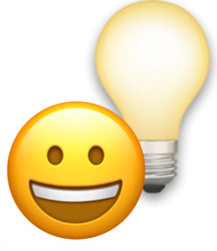

This lab assignment was a little challenging but me and my groupmates did a really good job at figuring out the code that we were supposed to use. I was also glad that I was able to use some of the things that I learned so far in Chapter 8 for this lab and get more practice with those functions and thinking about the GLM equation.

I still get a little bit confused about b0 and b1 when it comes to slope and intercept just because I'm used to slope coming first in the linear formula (and the reverse occurs in the GLM). However, it was really cool in this lab to calculate and conceptualize how we get our correlation coefficient. Though it's tedious, calculating things ""by hand"" is helpful for understanding new statistics

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What is something new you learned today? Is there anything you found confusing? Please share any feedback you have about today's lecture.

Today the main thing I learned was the importance of spelling correctly. All times my partner and I had a major hang up it was usually because one of us deviated a command or variable by a single letter. But conceptually speaking, it's been okay.

This lab was challenging because my partner and I kept on getting stuck on an error message.

N=50 responses

Last Time

Lab 4b: Linear Regression

General announcements

Break out into lab groups

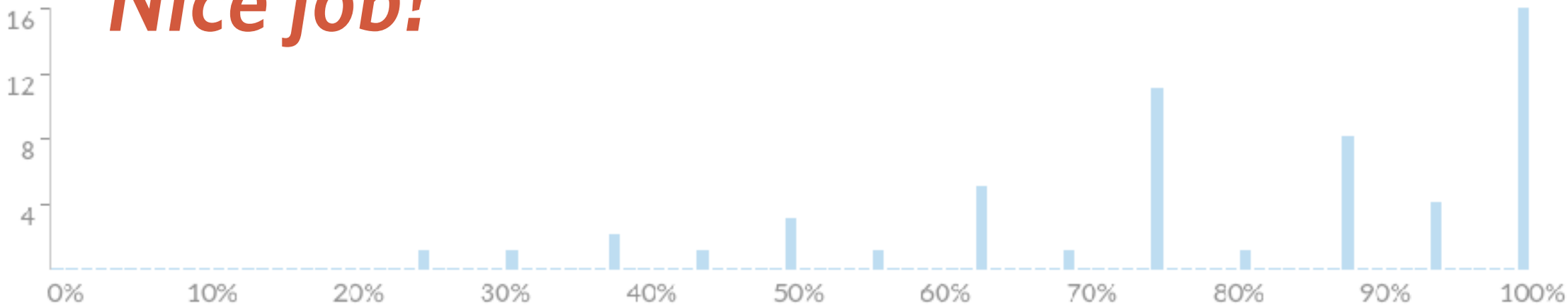
Want real-time help?
(1) Post to #lab-assignments, mention both your TA & Room
(2) "Asking for help" in Zoom
(#2 is a bit less reliable!)

Return to main room and debrief

Everyone come back at 2:10pm PT

Practice Quiz 4

Average Score	High Score	Low Score	Standard Deviation	Average Time
79%	100%	25%	1.64	05:56



Nice job!

Please review the questions you missed & post your questions to Slack and/or come talk to us about them in office hours. These questions will provide you with good preparation for this week's quiz.

Prac quiz 4: review

Sample variance is a measure of how spread out the data points in a sample are, on average, from their sample mean. Imagine that you add a new data point that has the same value as the sample mean. How will this change the sample variance?

It will increase the sample variance.	7 respondents	13 %
It will decrease the sample variance. ✓	34 respondents	62 %
It will not change the sample variance.	14 respondents	25 %

$$S^2 = \frac{\sum(x_i - \bar{x})^2}{n-1}$$

S^2 = sample variance

x_i = the value of the one observation

$\bar{x}$ = the mean value of all observations

n = the number of observations

If you add a new data point that has the same value of the sample mean, it will not change the value of the numerator, but it will make the denominator larger.

Prac quiz 4: review

Two sections of PSYC 60 both had a mean score of 84 on the first quiz. The Sum of Squared Errors (SSE) was equal to 330 for both Class A and Class B. Suppose that Class A has n=100 students and Class B has n=50 students.

What does this imply about the sample variance of the quiz scores in each class?

The scores from Class A have greater variance.	11 respondents	20 %	
The scores from Class B have greater variance.	39 respondents	71 %	✓
The scores from Class A and Class B have equal variance.	5 respondents	9 %	

$$S^2 = \frac{\sum (x_i - \bar{x})^2}{n - 1}$$

sample variance

the value of the one observation

the mean value of all observations

the number of observations

If the SSE is the same for two groups, but one group has fewer observations in it, that implies that the* average variability is greater *for the group with fewer observations.

Due This Week

8	May 17	**Confidence intervals and effect size** *Before:* Chapter 10 *During:* Lab 4C	**Review Session 3** *Before:* None *During:* Wrap-up Lab 4	Quiz 4	Project Milestone 4 Due (Model Fitting)

Note: Chapter 10 was due before class today.

Due This Week

8	May 17	**Confidence intervals and effect size** *Before:* Chapter 10 *During:* Lab 4C	**Review Session 3** *Before:* None *During:* Wrap-up Lab	Quiz 4 Project Milestone 4 Due (Model Fitting)

Released Thursday at 5PM & due by 4:59PM on Friday

Due This Week

8	May 17	**Confidence intervals and effect size** *Before:* Chapter 10 *During:* Lab 4C	**Review Session 3** *Before:* None *During:* Wrap-up Lab 4	Quiz 4	Project Milestone 4 Due (Model Fitting)

Milestone 4A: Data Preprocessing AND Milestone 4B: Model Fitting both due this Friday by 11:59PM PT.

In Section This Week

- **Last week:** In **Project Milestone 4A: Data preprocessing (due May 21)** you will be getting practice preparing your data to be fit with a linear model by applying any needed preprocessing (e.g., filtering out obvious outliers, recoding variables)

- **This week: Project Milestone 4B: Model fitting (due May 21)** next week, you will use what you learned in Chapters 7&8 (and practiced in Lab 4A & 4B) to actually fit a linear model to your data & interpret your results.

- **Next week: Begin working toward Milestone 5 (Final Report, due 6/4) and Milestone 6 (Project Poster, due 6/9).**

Today

Lab 4c: Effect Size

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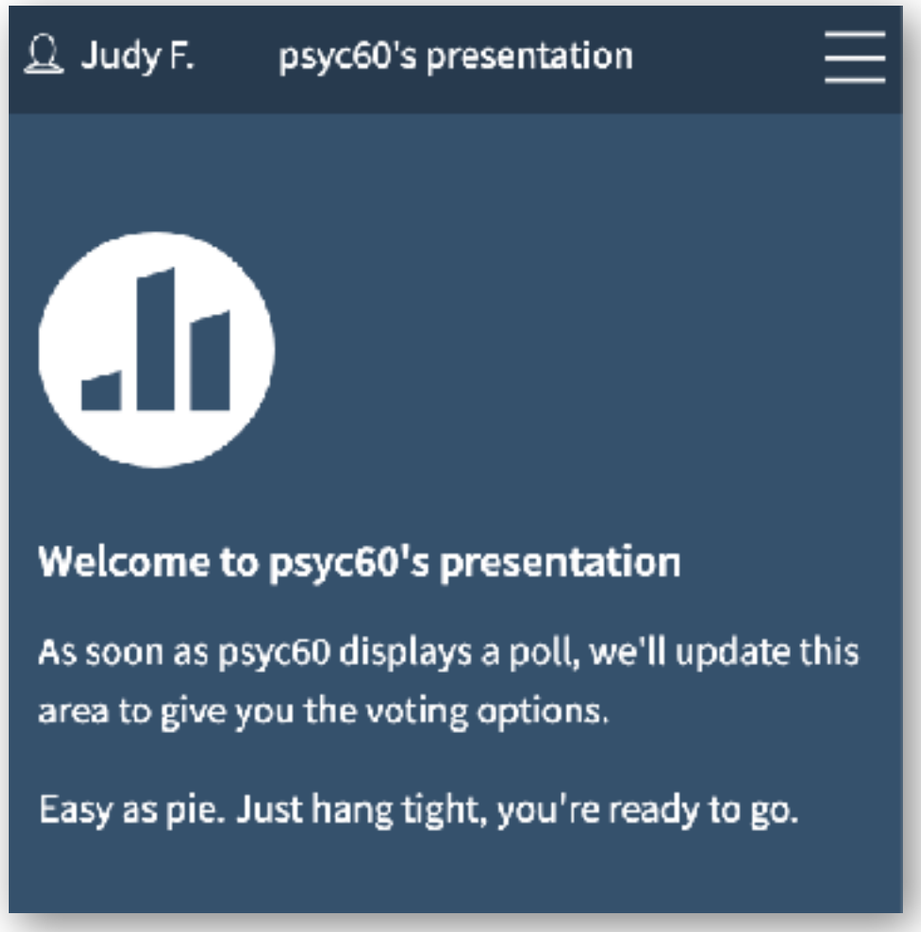
Debrief

1. Take your phone or laptop out.
2. Make sure you are connected to the internet.
3. Open any web browser & type in this URL:
   PollEv.com/psyc60
4. Make sure to log in to your account using your UCSD email & name as it appears in Canvas.

You should see something like this



PSYC 60: Lab 4C | General Impressions

When survey is active, respond at pollev.com/psyc60

0 done

0 underway