PALS0045 Week 5 Quiz

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This Quiz is designed to test your understanding of the learning objectives from the lecture in Week 5.

Complete each question and press submit to check your answers.

Q1:

I run a linear model to predict mood ratings after completing different forms of exercise. Exercise has three levels; tennis, swimming and yoga. How many dummy variables will I have in my regression model?

- 1 ✗
- 2 ✓
- 3 ✗
- 6 ✗

Correct!

Q2:

Which category will R make my reference category if I keep the labels the same?

- tennis ✗
- swimming ✓
- yoga ✗

Correct!

Q3:

If I make yoga the reference category and the model results tell me that the intercept is 52, the coefficient for swimming is -10 and the coefficient for tennis is + 5, what are the average mood ratings for participants in the 3 groups?

- swimming = 52, yoga = 42, tennis = 57 ✗
- yoga = 52, swimming = 42, tennis = 47 ✗
- yoga = 52, swimming = 42, tennis = 57 ✓
- yoga = 52, swimming = 57, tennis = 42 ✗

Correct!

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Q4:

If the p value for the t-test for the swimming coefficient is .003 and the p value for t-test for the tennis coefficient is .363, what can I conclude? Select all that apply

- People have higher mood after swimming than yoga ✗
- People have higher mood after tennis than yoga ✗
- People have higher mood after swimming than tennis ✗
- People have higher mood after yoga than swimming ✓

Correct!

Q5:

If there were 40 people in this study, what would the degrees of freedom be for this model?

- df model = 2, df error = 37 ✓
- df model = 1, df error = 38 ✗
- df model = 3, df error = 38 ✗
- df model = 1, df error = 40 ✗

Correct!

Q6:

I add a new variable to my model to control for self-esteem. If I want to model an interaction between exercise type and self-esteem, how would I code this in my lm formula in R?

- esteem * mood ~ exercise ✗
- mood ~ esteem + exercise ✗
- mood ~ esteem * exercise ✓
- esteem ~ exercise ~ mood ✗

Correct!

Q7:

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If I found an interaction between self-esteem and exercise type, what would this mean?

- ○ The association between exercise completed and mood depends on self-esteem ✗
- ○ The association between self-esteem and mood depends on exercise completed ✗
- ◉ Both of the above ✓
- ○ Neither of the above ✗

Correct!

Q8:

Which of the following would tell me that my interaction is an important predictor in my model? (check all that apply)?

- ☐ The f statistic for the overall model has a significant p value ✗
- ☑ The t-test for the interaction coefficient is significant ✓
- ☑ The R-squared for the model with the interaction is greater than for the model without the interaction ✓
- ☑ An anova comparing the model without the interaction to the one with the interaction produces a significant p value. ✓

Correct!

Q9:

Which of the following is NOT true?

- ○ A t-test is a regression with one dummy variable ✗
- ○ A one-way anova is a regression with more than one dummy variable ✗
- ◉ It is not possible to include categorical and numeric variables in the same analysis ✓
- ○ All of the above ✗

Correct!

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