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RRA week of 11/7/2018

Quiz Questions on multiple regression

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| 1. **Considering the parameters of a multiple regression, what statement below is true?** | |
| 1. The binary parameters were always less important than the continuous parameters. | 1. You need a standardization on parameters to meaningfully compare parameters when considering original data |
| 1. When comparing the parameters, it is a good approach to consider the values of the best fitting parameter against others to get a better idea of the potential result. | 1. A variable with larger standardized parameter has less impact on dependent variable. |

**Answer: b**

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| 1. **Elsa is a statistical student trying to do a project with regressions. Since she is a very careful person that cares a lot about getting everything right, she included every possible predictor in her model. Sadly, the regression came out nonsignificant. What is the best thing for her to do?** | |
| 1. Accept the nonsignificant result as it was the most inclusive model. | 1. Rebuild a model with theoretically “relevant” predictors only to see if the regression results are better. |
| 1. Randomly taking out a parameter to see if the model improves. | 1. Perform a variable selection process, such as a step-down procedure. |

**Answer: d**

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| 1. **Peter is a biologist who’s studying the effect of a gene related to mouse metabolism. The experimental data contains maximum treadmill-running distance, food type, genotype, sex, age, body length and body mass. Peter is trying to build a regression model that the maximum treadmill-running distance is the response variable. What are some of the mistakes that Peter could encounter?** | |
| 1. Build the model with body length and body mass at the same time. | 1. When seeing a significant result, draw a conclusion saying that change in genotype causes the variabilities in mouse metabolism. |
| 1. Calculate the BMI for each mouse and use BMI as a variable. | 1. A and b |

**Answer: d**

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