

## Experimental Design

TOTAL DES POINTS ?

1.

In a study measuring the effect of diet on BMI, cholesterol, lipid levels, triglyceride levels, and glycemic index, which is an independent variable?

1 / 1 point
- ☒

Diet

☐

BMI
- ☐
- Lipid levels

✓ Correct

2.

Which of the following is **NOT** a method to control your experiments?

1 / 1 point

☐

Control group

☒

Placebo effect

☐

Blinding

✓ Correct

3.

What might a confounder be in an experiment looking at the relationship between the prevalence of white hair in a population and wrinkles?

1 / 1 point

☐

Socioeconomic status

☐

Smoking status

☒

Age

✓ Correct

4.

According to Leek group recommendations, what data do you need to share with a collaborating statistician?

1 / 1 point

☐

The raw data

☐

A tidy data set

☐

A code book describing each variable and its values in the tidy data set

☐

An explicit and exact recipe of how you went from the raw data to the tidy data and the code book

☒

All of the above

✓ Correct

5.

If you set your significance level at p-value  $\alpha$  0.01, how many significant tests would you expect to see by chance if you carry out 1000 tests?

1 / 1 point

☒

10

☐

50

☐

100

✓ Correct

6.

What is an experimental design tool that can be used to address variables that may be confounders at the design phase of an experiment?

1 / 1 point

☒

Stratifying variables

☐

Data cleaning

☐

Using all the data you have access to

✓ Correct

7.

Which of the following describes a descriptive analysis?

1 / 1 point

☐

Use your sample data distribution to make predictions for the future

☐

Draw conclusions from your sample data distribution and infer for the larger population

☒

Generate a table summarizing the number of observations in your dataset as well as the central tendencies and variances of each variable

✓ Correct