Don’t Let the Power Go to your Head: Working with G*Power

What is Statistical Power?

- Ability to correctly reject the null hypothesis
- Oomph to detect an effect / find something significant

How Power Relates to Other Factors

- As n increases, so does power
- As sd increases, power decreases
- Power is greater in a one-tailed test

Types of Power

a priori

- Determining power before the analysis / data collection

post hoc / observed

- Determining power after the analysis / data collection

G*Power

- Program to determine power and/or sample size

Scenario 1

- A grocery store is just starting to get toilet paper back in stock and is trying to determine what the most popular brands are. They compare the number of sales of Charmin, Angel Soft, and Scott to see if there is a preference.

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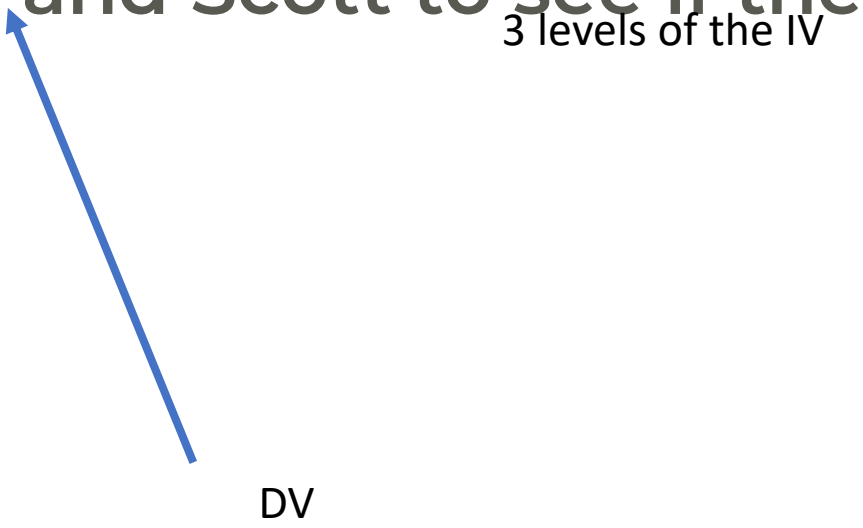

Scenario 2

- You want to predict housing market sales, using the following predictors: number of new businesses in the area, number of restaurants in the area, and income levels.

Scenario 2

Keyword for regression

DV, continuous

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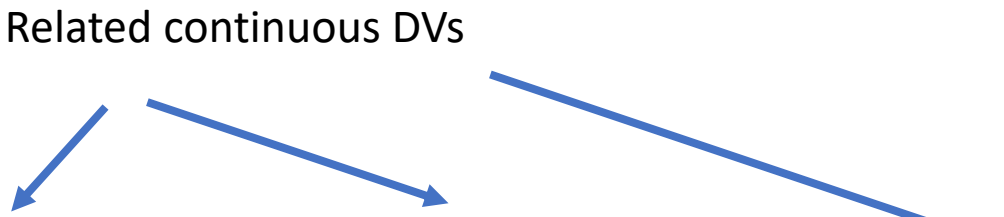
IVs, all continuous

Scenario 3

- Repeated measures MANOVA, within-between interaction

- A psychologist measures self-esteem and self-efficacy as continuous scales at the beginning and end of therapy. Patients are assigned to two therapy groups: with hamsters and without hamsters.

Scenario 3



- A psychologist measures self-esteem and self-efficacy as continuous scales at the beginning and end of therapy. Patients are assigned to two therapy groups: with hamsters and without hamsters as therapy animals.