

Repeated measures ANOVA practice

Report all results in a summary table and APA format

1. A researcher has randomly selected a sample of 8 adults to participate in a memory study. Each adult is administered a treatment and then given a memory test. The memory test scores are standardized for comparison across drug. A higher score indicates a better memory score.

| <u>subject</u> | <u>control</u> | <u>caffeine</u> | <u>drug A</u> | <u>drug B</u> |
|----------------|----------------|-----------------|---------------|---------------|
| 1 | 5 | 7 | 9 | 2 |
| 2 | 4 | 8 | 9 | 3 |
| 3 | 5 | 6 | 10 | 1 |
| 4 | 6 | 6 | 11 | 3 |
| 5 | 7 | 6 | 12 | 2 |
| 6 | 3 | 5 | 10 | 1 |
| 7 | 4 | 5 | 8 | 2 |
| 8 | 5 | 7 | 9 | 4 |

a) Please conduct a repeated measures ANOVA to find if significant differences exist between drug types and their effect on memory. Report all results in a summary table and APA format

b) What is the effect size?

2. A therapist interested in helping individuals with Ophidiophobia. In order to do this the therapist is going to slowly desensitize the patients to snakes. He needs to find a starting point so he presented a sample of 8 ophidiophobics with snake related stimuli and measured their physiologic response (1-20).

| <u>subject</u> | <u>picture of a snake</u> | <u>plastic toy snake</u> | <u>rubber life like snake</u> |
|----------------|---------------------------|--------------------------|-------------------------------|
| 1 | 7 | 12 | 14 |
| 2 | 5 | 8 | 13 |
| 3 | 3 | 10 | 12 |
| 4 | 8 | 12 | 14 |
| 5 | 2 | 7 | 12 |
| 6 | 4 | 4 | 10 |
| 7 | 3 | 16 | 8 |
| 8 | 4 | 9 | 13 |

a) Please conduct a repeated measures ANOVA to find if significant differences exist between snake related stimuli and their effect on physiologic response. Report all results in a summary table and APA format

b) What is the effect size?

3. Subjects are given three treatments to try and help with their kleptomania and then the number of objects they steal is measured.

| subject | treatment 1 | treatment 2 | treatment 3 |
|----------------|--------------------|--------------------|--------------------|
| 1 | 6 | 2 | 3 |
| 2 | 5 | 1 | 6 |
| 3 | 0 | 5 | 10 |
| 4 | 1 | 8 | 2 |

a) Please conduct a repeated measures ANOVA to find if significant differences exist between treatment type and their effect on theft. Report all results in a summary table and APA format

b) What is the effect size?