

Psychology 216: Statistics

SPSS Assignment – One-Way Between-Groups ANOVA with SPSS

Dr. Crutcher's Class

Problem 1:

A social psychologist was interested in finding out how quickly people respond to cries for help from various unknown voices. More specifically, he wanted to know if the age or gender of the unknown would affect the subjects response times. To test this, the researcher had subjects sit in a room, one at a time, and told them to wait to be called for an experiment. After a few moments, the subject would hear cries for help coming from another room. The cries were either a child's voice, an adult female's voice, or an adult male's voice. 21 total subjects were divided evenly between each of these conditions. The experimenter then measured the amount of time (in seconds) that passed from the onset of the cries until the subject got up to investigate. The data collected was as follows.

Seconds to respond to:

Child's voice- 10, 12, 15, 11, 5, 7, 2

Female Adult's Voice- 17, 13, 16, 12, 7, 8, 3

Male Adult's Voice- 20, 25, 14, 17, 12, 18, 7

In SPSS, run a One-Way, Between-Groups ANOVA and test significance of the F ratio ( $\alpha=.05$ ). What is your conclusion?

Problem 2:

A cookie manufacturer hired a research psychologist to determine whether or not the color of a food product would have an effect on the amount of the product an individual would consume. Specifically, the company was trying to decide whether its' new cookie should be green, red, or blue. Subjects were brought in individually to perform a boring and unrelated task. While performing the task, the researcher offered a plate of the cookies to the participant. The cookies offered to the subject were all of the same color, blue, red, or green. Six subjects were randomly assigned to each color. During a 30-minute period, the number of cookies eaten by the participant was counted, yielding the following results:

Green- 3, 7, 1, 0, 9, 2

Red- 3, 4, 5, 6, 4, 6

Blue- 2, 0, 4, 6, 4, 1

The above problems were adapted from:

In SPSS, run a One-Way, Between-Groups ANOVA and test significance of the F ratio ( $\alpha=.01$ ). Which color of cookie should the company choose?

### Problem 3

The University of Dayton was examining whether or not there exists a relationship between job satisfaction and academic discipline of faculty members. Faculty members were asked to rate their job satisfaction on a scale from 1 (extremely dissatisfied) to 10 (extremely satisfied). The data collected are listed below:

Social Sciences: 6, 7, 10, 8, 8, 9

Natural Sciences: 8, 10, 7, 8, 9, 6

Humanities: 7, 5, 9, 4, 9, 7

Does a faculty member's job satisfaction significantly relate to the discipline they are in? In SPSS, run a One-Way, Between-Groups ANOVA and test significance of the F ratio ( $\alpha=.01$ ).

### Problem 4

Davey, Startup, Zara, MacDonald, and Field (2003) were interested in the role of mood on the degree of compulsive checking in which a person engaged (Compulsive checking is involved in a number of psychopathologies). Three groups of 10 participants each listened to music designed to induce a positive, negative, or neutral mood. They were then asked to "list as many things around your home that you check for safety or security reasons before you go away" for three weeks. The dependent variable was the number of things listed. The actual data were as follows:

Induced Mood		
Negative	Positive	None
7	9	8
5	12	5
16	7	11
13	3	9
13	10	11
24	4	10
20	5	11
10	4	10
11	7	7
7	9	5

The above problems were adapted from: