

# PSYCH 120L: ANOVA Write Up - Representational Knowledge

## Writing Task

### Purpose

You will practice writing up an ANOVA to improve the quality of the results section of your research manuscript.

### Assignment

You will write up the results for one 2 x 2 ANOVA from your experiment, using correct APA format. Your write up should be no more than one page, and should be directly and clearly explained using appropriate notation. You should use the template provided by Dr. Woods below.

### Templates

Click here to view the template you should use to write up your 2x2 ANOVA [ANOVA template](#)

Can't remember where to get the numbers you are reporting? Click here for an example of where to find the information you need for your ANOVA write up from your SPSS output [ANOVA SPSS Output Sample](#)

### Background Information Using an Example

Imagine a study where researchers manipulate two variables at the same time. For example: they manipulate the sunlight (low vs. high) and water (low vs. high) a plant receives, and then measure the height of the plant.

The researchers use specific language to refer to the notation of factors included in this study (that we have gone over in class):

*Experimental Factor Notation* = number of levels/conditions of the variable When researchers write this, they use the following notation: number (name of variable with conditions). The study with the plants, then, would look like this:

2 (Sunlight: Low vs. High) x 2 (Water: Low vs. High) between subjects design on the DV of plant height.

This would be referred to as a 2x2 study (because there are two variables being manipulated with two conditions each).

For this assignment, you will write **the main effects and interaction of one of the 2x2s from your experiment**. Your write-up should consider the effects of one factor at a time on the dependent variable (DV). Ultimately, your write up should include:

- Experimental notation (“We ran a 2x2 on...”)
- Main effect 1
- Main effect 2
- Interaction

When you write your main effects and interactions, it's important to remember that *factors can be independent variables or moderators*.

In the example above, the first the main effect of factor 1 (independent variable IV1) and the second main effect of factor 2 (independent variable IV2) would be considered separately. In the example

the first main effect would be to look at the effect of high and low sunlight on the height of the plant (while “ignoring” or averaging across the effect of water). The second main effect would be to look at the effect of high and low water on the height of the plant (while “ignoring” or averaging across the effect of sunlight).

Interaction is considering the effects of both factors on the DV at the same time. In the plant example we would look at the joint effect of sunlight (IV1) and water (IV2) on plant height.