13.4: Factorial Design – an Insight to other ANOVA Procedures

A different way of looking at this model is considering a single population with one numerical and one categorical variable being sampled.

The numeric variable is called the **response** and the categorical variable is the **factor.**

The possible responses to the factor are called the **levels**.

The numbers of observations per level are called the **replicates**.

If the replicates are equal, the design is balanced.

The Hypotheses can then be stated in context using the format:

H_o: There is no difference in mean response due to factor.

H_a: There is a difference in mean response due to factor.

By thinking of the model in this way, it is easy to extend the concept to the multi-factor ANOVA models that are prevalent in the research you will encounter in future studies.