11.6: Structured Summary for the Repeated-measures ANOVA

After carefully reading the chapter, complete the following structured summary to add a learning check and easy-to-use reference to your notes. Subscript values are used to note conditions assuming three conditions were used. Expand as needed when more than three conditions are used.

Summarize what each symbol stands for, assuming three groups are being compared.

n_1 =

n_2 =

n_3 =

N =

k =

$\bar{X}_1$ =

$\bar{X}_2$ =

$\bar{X}_3$ =

$\bar{X}_{\text{grand}}$ =

s_1 =

s_2 =

s_3 =

SS_{b1} =

SS_{b2} =

SS_{b3} =

SS_b =

Note

SS_b in repeated measures ANOVA refers to differences between conditions due to the treatment and those due to random error (SS_e). Unlike in an independent groups ANOVA, there is no additional variation in SS_b caused by having different participants in each group because the same participants are used in all groups in a repeated measures design. Thus, the computations for SS_b are the same in each version of ANOVA, but it is important to keep in mind that they do not both include error caused by using independent groups in conditions.

SS_{w1} =

SS_{w2} =

SS_{w3} =

SS_w =

Note

SS_w in repeated measures ANOVA includes pre-existing participant differences (SS_p) and random error (SS_e).

P =

G =

SS_p =

SS_e =

df_b =

df_e =

MSS_b =

MSS_e =

> **Note**
>
> MSS_e is used as the denominator in repeated measures ANOVA rather than MSS_w which is used in independent groups ANOVA.

Fill-in the appropriate information for each section below:

1. Repeated-Measures ANOVA Basics
   a. For which kinds of data can/should this be used?
   b. What is the focus of this statistic?
   c. What assumptions must the data meet to use this test?
2. Repeated-Measures ANOVA Formula
   a. What is the formula for a repeated-measures ANOVA?
   b. What things should be computed in the preparatory steps?
   c. What are the steps for solving using this formula?
3. Reporting Results from a Repeated-Measures ANOVA
   a. How is this statistic reported when using APA format?
      i. What things must be reported in the APA summary sentence for the F test?
      ii. What two specific statistics should be reported for each of the conditions?

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