

**TABLE 13.6** The Steps Used to Compute a One-Way Within-Subjects ANOVA

## Steps for Computing a One-Way Within-Subjects ANOVA

Terminology	Formula	Meaning
Step 1: State the hypotheses.		
Null hypothesis	$\sigma_{\mu}^2 = 0$	Population means do not vary.
Alternative hypothesis	$\sigma_{\mu}^2 > 0$	Population means do vary.
Step 2: Set the criteria for a decision.		
Degrees of freedom between groups	$df_{BG} = k - 1$	The number of groups minus 1
Degrees of freedom between persons	$df_{BP} = n - 1$	The number of participants per group minus 1
Degrees of freedom error	$df_E = (k - 1)(n - 1)$	The degrees of freedom between groups multiplied by the degrees of freedom between persons
Degrees of freedom total	$df_T = (kn) - 1$	The number of groups multiplied by the number of participants, minus 1
Step 3: Compute the test statistic.		
STAGE 1		
Groups	$k$	The number of groups or levels of a factor

(Continued)