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Source	SS	df	Mean square
Between groups	4662.233	<u>2</u>	<u>2331.116</u>
Within groups	<u>191729.2</u>	<u>587</u>	326. 626
Total	196391.4	589	

Relations:
SST = SSG + SSE
DFT = DFG + DFE
MSG = SSG/DFG
MSE = SSE/DFE
F = MSG/MSE = $\frac{2331.116}{326.626} = 7.137$ $\quad \nu_1 = 2, \nu_2 = 587$
$F_{.05}(2, 587) = 3.011$
Since observed F larger than 3.011, we can reject H_0 at 5% level of significance.

Example 1

$H_0 : \mu_{SU} - \frac{1}{2}(\mu_{UN} + \mu_{SK}) = 0$
$H_a : \mu_{SU} - \frac{1}{2}(\mu_{UN} + \mu_{SK}) > 0$
T.S.

$$c_1 = \overline{x}_{SU} - \frac{1}{2}(\overline{x}_{SK} + \overline{x}_{UN}) = 80.51 - \frac{1}{2}(71.21 + 70.42) = 9.69$$

$$SE_{c_1} = \sqrt{326.626}\sqrt{\frac{1}{51} + \frac{(-0.5)^2}{91} + \frac{(-0.5)^2}{448}} = 2.53$$

$$t = \frac{c_1}{SE_{c_1}} = \frac{9.69}{2.53} = 3.83 \qquad \nu = DFE = 587$$

R. R.: Reject H_0 if $t > t_{.05}(587) = 1.645$
Conclusion:
Since observed $t > 1.645$, we can reject H_0 at 5% level of signifiance and conclude that mean score of supervisors is higher than the average of mean score of unskilled and skilled workers.

Example 2

$H_0 : \mu_{UN} - \mu_{SK} = 0$
$H_a : \mu_{UN} - \mu SK \neq 0$
T.S.

$$c_2 = 70.42 - 71.21 = -0.79$$

$$SE_{c_2} = \sqrt{326.626}\sqrt{\frac{1}{448} + \frac{(-1)^2}{91}} = 2.08$$

$$t = \frac{c_2}{SE_{c_2}} = \frac{-0.79}{2.08} = -0.36$$

R.R.
Reject H_0 if $|t| > t_{.025}(587) = 1.96$ at 5% level of significance.
Conclusion:
Since observed $|t| < 1.96$, we cannot reject H_0 and conclude that the data doe not provide us with sufficient evidence in favor of a difference in population mean SCI scores between unskilled and skilled workers.