

POSTHOC/PAIRWISE COMPARISONS

ANOVA's vs. t-Tests:

What Post-Hoc Tests Are:

Posttests & Type I Errors:

Planned vs. Unplanned Comparisons:

Dunn Test:

Tukey's Honestly Significant Difference (HSD) Test:

Treatment A	Treatment B	Treatment C
$n = 9$	$n = 9$	$n = 9$
$T = 27$	$T = 49$	$T = 63$
$M = 3.00$	$M = 5.44$	$M = 7.00$

Source	SS	df	MS	F
Between	73.19	2	36.60	$F(2,24) = 9.15$
Within	96.00	24	4.00	$F\text{-crit} = 3.40$
Total	169.19	26		

$$HSD = q \sqrt{\frac{MS_{within}}{n}}$$

q = obtained from Table D, pp. 407

MS_{within} = the within treatments variance from the omnibus ANOVA

n = the number of scores within each treatment

The Scheffe Test:

First Comparison: Txt A vs. Txt B (from previous example)

Treatment A: $T = 27$

Treatment B: $T = 49$

SS between treatments: $\sum \frac{T^2}{n} - \frac{G^2}{N} =$

**the value of G is obtained by adding the 2 treatment totals being compared – in this case, $G = 27 + 49 = 76$*

df between treatments:

MS between treatments = $\frac{\text{SS between treatments}}{\text{df between treatments}} =$

MS within treatments =

df within treatments =

$F_{A \text{ versus } B} = \frac{\text{MS between treatments}}{\text{MS within treatments}} =$

$F_{crit} =$

Second Comparison: Treatment B vs. Treatment C

Treatment B: $T = 49$

Treatment C: $T = 63$

SS between treatments:

$$\sum \frac{T^2}{n} - \frac{G^2}{N} =$$

df between treatments:

$$\text{MS between treatments} = \frac{\text{SS between treatments}}{\text{df between treatments}} =$$

MS within treatments =

df within treatments =

$$F_{\text{B versus C}} = \frac{\text{MS between treatments}}{\text{MS within treatments}} =$$

$$F_{\text{crit}} =$$

Third Comparison: Treatment B vs. Treatment C

Treatment A: T = 27

Treatment C: T = 63

SS between treatments:

$$\sum \frac{T^2}{n} - \frac{G^2}{N} =$$

df between treatments:

$$\text{MS between treatments} = \frac{\text{SS between treatments}}{\text{df between treatments}} =$$

MS within treatments =

df within treatments =

$$F_{\text{A versus C}} = \frac{\text{MS between treatments}}{\text{MS within treatments}} =$$

$$F_{\text{crit}} = 3.40$$