Charles Hwang – CJC 206

Textbook Problems

1.

a. $df_B = k - 1 = 6 - 1 = \boxed{5}$ $\quad k = 6$

b. $df_W = n_{total} - k = 36 - 6 = \boxed{30}$ $\quad n_{total} = 36$

2.

a. $MS_B = \frac{SS_B}{df_B} = \frac{26}{k - 1} = \frac{26}{5 - 1} = \frac{26}{4} = \underline{6.5}$ $\quad \alpha = .05$

$MS_W = \frac{SS_W}{df_W} = \frac{29}{n_{total} - k} = \frac{29}{21 - 5} = \frac{29}{16} = \underline{1.8125}$

$F = \frac{MS_B}{MS_W} = \frac{\underline{6.5}}{\underline{1.8125}} = \frac{104}{29} \approx 3.59;$ $\boxed{|3.59| > 3.01}$

b. 3.01

c. We <u>reject</u> H_0 at the $\alpha = .05$ level.

3.

a. $MS_B = \frac{SS_B}{df_B} = \frac{80}{k - 1} = \frac{80}{4 - 1} = \frac{80}{3} \approx \underline{26.67}$ $\quad \alpha = .05$

$MS_W = \frac{SS_W}{df_W} = \frac{258}{n_{total} - k} = \frac{258}{30 - 4} = \frac{258}{26} \approx \underline{9.92}$

$F = \frac{MS_B}{MS_W} = \frac{\underline{26.67}}{\underline{9.92}} = \frac{1000}{387} \approx 2.69;$ $\boxed{|2.69| < 2.98}$

b. 2.98

c. We <u>fail to reject</u> H_0 at the $\alpha = .05$ level.

4.

a. $MS_B = \frac{SS_B}{df_B} = \frac{13}{k - 1} = \frac{13}{3 - 1} = \frac{13}{2} = \underline{6.5}$ $\quad \alpha = .05$

$MS_W = \frac{SS_W}{df_W} = \frac{23}{n_{total} - k} = \frac{23}{27 - 3} = \frac{23}{24} \approx \underline{0.96}$

$F = \frac{MS_B}{MS_W} = \frac{\underline{6.5}}{\underline{0.96}} = \frac{156}{23} \approx 6.78;$ $\boxed{|6.78| > 3.40}$

b. 3.40

c. We <u>reject</u> H_0 at the $\alpha = .05$ level.

Assignment 10_ANOVA.xlsx Problems

1.

a. $H_0: \mu_B = \mu_W = \mu_L$

b. H_A: At least one of the means is different

c. $F = 5.15$, $p = .01$

d. We <u>reject</u> H_0 at the $\alpha = .05$ level. There is sufficient evidence that at least one of the means is different.