

Regression Analysis Continues

Test for Slopes

$$Y' = 16 - 4.2Z_1 - 8.4Z_2$$

Q: What do you mean that the slope is significantly different from 0?

A: Each significant slope means that a pairwise contrast is significant using Group 3 as the "control" group.

$$H_0: \beta_1 = 0 \quad t = \frac{b_1 - 0}{S_{b_1}} = \frac{-4.2}{1.595} = -2.63$$

$$t^* = t^*_{.05/2, N-k-1} = t^*_{.05/2, 12} = 2.179$$

Reject $H_0: \beta_1 = 0$. . Stated differently, reject $H_0: \mu_1 - \mu_3 = 0$

$$H_0: \beta_2 = 0 \quad t = \frac{b_2 - 0}{S_{b_2}} = \frac{-8.4}{1.595} = -5.27$$

$$t^* = t^*_{.05/2, N-k-1} = t^*_{.05/2, 12} = 2.179$$

Reject $H_0: \beta_2 = 0$. . Stated differently, reject $H_0: \mu_2 - \mu_3 = 0$