

Post hoc Comparisons

Psychology 3256

Introduction

- So, you have a significant F, now what?
- $H_0 \mu_1 = \mu_2 = \mu_3 = \dots = \mu_k$
- But, which means differ from each other?

Bonferroni

- You could do t tests, but the α would go up
- The Bonferroni t procedure takes care of this
- $(1/n) \times (\alpha)$ where n is the number of corrections

Just a t test really

$$t' = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{2MSE}{n}}}$$

Studentized range

$$q_r = \frac{\bar{x}_l - \bar{x}_s}{\sqrt{\frac{MSE}{n}}}$$

Newman Keuls

$$W_r = q(r, .05, df) \sqrt{\frac{MSE}{n}}$$

- any set of comparisons with range r
- So, say all comparisons with a range of 3
- Tukey's HSD is the same but always uses the largest range

Which comparison should you use?

- Frankly, most people just do all of them...
- I would stick to one in a paper
- I have usually used HSD in the past