

- Let's explore the effect of our Condition factor using *emmeans*:

```
> emmeans(model.clm4, pairwise ~ VideoCondition, adjust = "none")
```

```
## $emmeans
## VideoCondition      emmean      SE    df  asymp.LCL asymp.UCL
## Congruent          0.6084163 0.2597503 Inf   0.0993151 1.1175176
## Incongruent        0.2917028 0.2449736 Inf  -0.1884367 0.7718422
## Neutral            0.3153088 0.2436285 Inf  -0.1621942 0.7928119
##
## Confidence level used: 0.95
##
## $contrasts
## contrast      estimate      SE    df  z.ratio p.value
## Congruent - Incongruent  0.31671360 0.09146945 Inf    3.463  0.0005
## Congruent - Neutral     0.29310751 0.09391144 Inf    3.121  0.0018
## Incongruent - Neutral   -0.02360608 0.08587502 Inf   -0.275  0.7834
```

- The pairwise comparisons tell us that the Congruent condition differs from the Incongruent and Neutral conditions, but that the Incongruent and Neutral conditions do not differ.
- We can conclude that people's ratings for how much they liked particular sports were influenced by whether they had just seen a video depicting the sport. When the video and sport matched, they give the sport a higher rating when when the video and sport mismatched.

Crossed vs. Nested Random Effects

- In most experimental designs, your participant and item random factors are likely to be crossed - so random effects notation for a one factor experiment is $(1 + \text{Factor} | \text{Subjects}) + (1 + \text{Factor} | \text{Items})$
- In some cases though, your factors might be **nested**. Nesting is a property of your data.
- To illustrate: