

# ANOVA

- Imagine we're interested in the impact of caffeine consumption on an individual's motor performance.
- It's a between-subjects design with 3 conditions:
  - low amount of caffeine (single espresso)
  - large amount of caffeine (double espresso)
  - placebo group (water)

- We conduct an ANOVA and find a significant F-ratio.
- What does it mean?
- The single espresso people could have performed better from the double espresso and water group.
- Or maybe they performed the same as the water group but better than the double espresso group.
- Or maybe (unexpectedly) they performed worse than both the double espresso and water groups.
- To know what is the case we need to do planned contrasts (similar to 1 tailed tests) or post hoc tests (similar to 2 tailed tests).