

Measure of Effect Size

- Effect size measures tell us how much variance can be explained by our experimental factors.
- partial η^2 is a correlation between the dependent variable and different levels of a factor.
- For designs with more than one factor it can be a useful indicator of how much variance in the dependent variable can be explained by each factor (plus any interactions between factors).

```
> EtaSq(model, type = 3, anova = TRUE)
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	eta.sq	eta.sq.part	SS	df	MS	F	p
Condition	0.93397251	0.9339725	103.871817	2	51.9359084	297.0494	0
Residuals	0.06602749	NA	7.343252	42	0.1748393	NA	NA

So, to make sense of our output

- We found a significant effect of Beverage type ($F(2,42) = 297.05$, $p < .001$, partial $\eta^2 = .93$). Bonferroni comparisons revealed that the Water group differed significantly worse than the Single Espresso Group ($p < .001$), that the Water group differed significantly worse than the Double Espresso Group ($p < .001$), and that the Single Espresso Group performed significantly worse than the Double Espresso Group ($p < .001$).
- In other words, drinking a some coffee improves motor performance relative to drinking water, and drinking a lot of coffee improves motor performance even more.