Reporting Guidelines

Methods

R

All statistical analyses and plotting were conducted in R (R Core Team 2019), using the packages described...

ANOVAs

XX (DV) were modeled with ANOVA, with XX as between-subjects factors, and XX as within-subjects factors. ANOVA was conducted using "afex" (Singmann et al. 2020). A Greenhouse-Geisser adjustment was used to correct for violations of sphericity in the ANOVA.[1]

Contrasts

Planned and post-hoc comparisons and contrasts were conducted using "emmeans" (Lenth 2020). To correct for violations of sphericityusing, multivariate test statistics were used[2].

Reporting Bayes Factors

We conducted a Bayesian ANOVA / ANCOVA / repeated measures ANOVA / repeated measures ANCOVA using "BayesFactor" (Morey and Rouder 2018), to test all models that can be created by including or not including a main effect or interaction, with the constraint that if an interaction is included, the corresponding main effects are also included (Rouder et al. 2016). Bayes factors were calculated using the JZS priors: a non-informative Jeffreys prior on the variance of the population and a Cauchy prior with default scales[3] on the standardized effect size (Rouder et al. 2012).

Reporting Inclusion BFs

A Bayesian model averaging (BMA) procedure was performed in order to obtain the average evidence for each predictor, using "bayestestR" (Makowski, Ben-Shachar, and Lüdecke 2019). Since each model has a prior probability, it is possible to sum the prior probability of all models that include a predictor of interest (the prior inclusion probability), and of all models that do not include that predictor (the prior exclusion probability). After the data are observed, we can similarly consider the sums of the posterior models' probabilities to obtain the posterior inclusion probability and the posterior exclusion probability. The change from prior to posterior inclusion odds is the Inclusion Bayes factor ("$BF_{Inclusion}$"; Clyde, Ghosh, and Littman 2011; Hinne et al. 2019).

For each term, averaging was done only across models that did not include any interactions with that term; additionally, for each interaction term, averaging was done only across models that contained the main effects' term from which the interaction term was comprised. This was done to prevent Inclusion Bayes factors from being contaminated with non-relevant evidence (see Mathot 2017).[4]

[1] Only if you have within-subject factors.
[2] Only if you have within-subject factors.
[3] Change if used any other priors
[4] If you use "matched models only".

Results

Note that you can report a confidence interval for the estimate (difference or mean), or the effect size, or both.

ANOVA

The main effect / interaction was not/significant, $F(x, x) = x$, $MSE = x$, $p = x$, $\eta_p^2 = x$, $BF_{10} = x \ldots$

Contrasts

Contrast showed that ... a difference of x, $95\%CI[x, x]$, $t(x) = x$, $SE = x$, $p = x$, $\eta_p^2 = x \ldots$

References

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