CODECHECK certificate 2024-0XX

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Prerequisites

I conducted a codecheck of the git repository https://github.com/eduardklap/sample-size-codecheck.git, which was created by the author. As suggested in the community-workflow, this document is strongly based on the codecheck example by Daniel Nüst of Hopfield-1982 (https://github.com/codecheckers/Hopfield-1982/blob/master/codecheck/codecheck.Rmd).

- `README` file exists
- `LICENSE` file exists
- `codecheck.yml` file exists

The CODECHECK

This report checks the code of the article *Sample size estimation for task-related functional MRI studies using Bayesian updating.* (https://doi.org/10.31234/osf.io/cz32t (currently under review at Developmental Cognitive Neuroscience)). See section Notes for details about running the code.

The CODECHECK was successful. The created figures `figures_cohens_d.html` and `figures-correlations.html` are visually very close to the one in the repository.

The reproduction of the figures from the repository was easy due to the workflow and integration with Quarto and RStudio.

Codechecker notes

The following files are uploaded to a deposit on Zenodo from the directory `codecheck/` in the repository:

1. I agreed to do the codecheck and read the CODECHECK process and the README.md from the associated project.
2. As suggested under *Workflow*, I created a new RStudio project (Version control) and entered the URL of the repository to clone it. This was my R version:

```
print(sessionInfo())
```

```
## R version 4.4.0 (2024-04-24 ucrt)
## Platform: x86_64-w64-mingw32/x64
## Running under: Windows 11 x64 (build 22631)
##
## Matrix products: default
##
##
## locale:
## [1] LC_COLLATE=German_Germany.utf8  LC_CTYPE=German_Germany.utf8
## [3] LC_MONETARY=German_Germany.utf8 LC_NUMERIC=C
## [5] LC_TIME=German_Germany.utf8
##
## time zone: Europe/Berlin
## tzcode source: internal
##
## attached base packages:
## [1] stats     graphics  grDevices utils     datasets  methods   base
##
## other attached packages:
## [1] yaml_2.3.10 here_1.0.1
##
## loaded via a namespace (and not attached):
##  [1] compiler_4.4.0    fastmap_1.2.0     rprojroot_2.0.4   cli_3.6.3
##  [5] tools_4.4.0       htmltools_0.5.8.1 rstudioapi_0.16.0 rmarkdown_2.28
##  [9] knitr_1.48        xfun_0.46         digest_0.6.36     rlang_1.1.4
## [13] evaluate_0.24.0
```

3. I installed the packages. Both failed to install due to my folder having a 00LOCK folder. I deleted the folder which led to the package successfully installing. neuroUP also installed dependency 'boostrap'. I later also installed the float package hoping that this would result in the Codecheck image being displayed.

```
# # not run
# install.packages("neuroUp")
# install.packages("patchwork")
# install.packages("float")
```

3. I opened figures-cohens_d.qmd and clicked on render at **11:33 CEST**. During the runtime I went back to the CODECHECK documentation. The Background Job quickly stalled at `16% [fig-1a]`. It increased to `48%` by 13:46 CEST. It was still `48%` at 15:47 CEST (after ~3.5 hours). A markdown file opened itself "**Code for Figures 1-2 based on Cohen's d**" after ~8 hours. The background job kept running. I stopped the job after more than 8 hours (8:33:40).
4. I started rendering the code of the figures-correlations at 20:06 CEST. 48% after 1h. Accidentally stopped at 21:11 CEST, restarted. Finished at 22:47 CEST.
5. I created a directory *codecheck* and saved this file in it.
6. I could not write a Makefile to re-run the workflow.

7. Visual inspection of the figures: I compared the four files fig-X-total-1 that include all other figures.

Here are the original figure from the directory `code/` and the reproduced figure from the directory `codecheck/`:

Original and Reproduced Figures

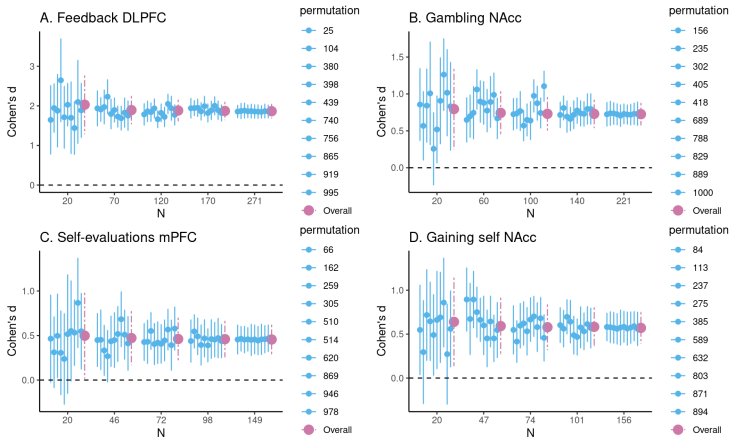

Figure 1: Original figure 1

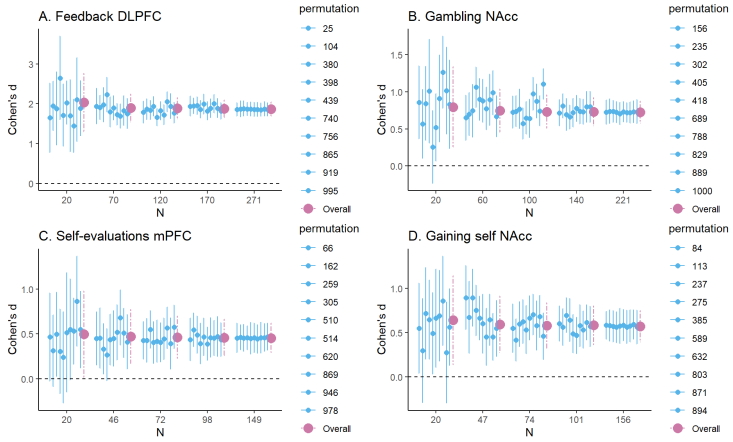

Figure 2: Reproduced figure 1

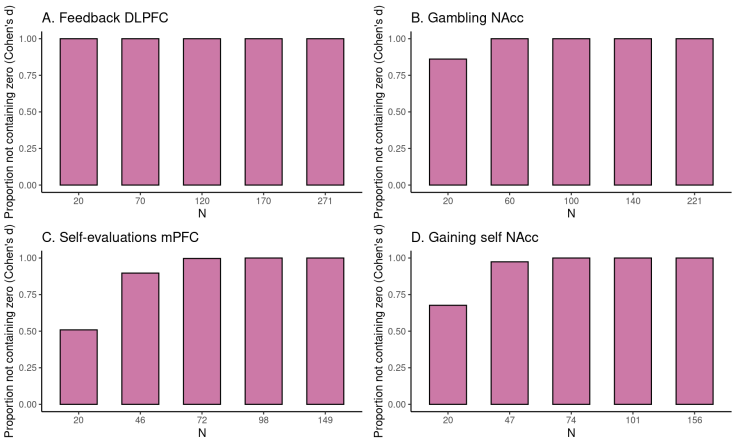

Figure 3: Original figure 2

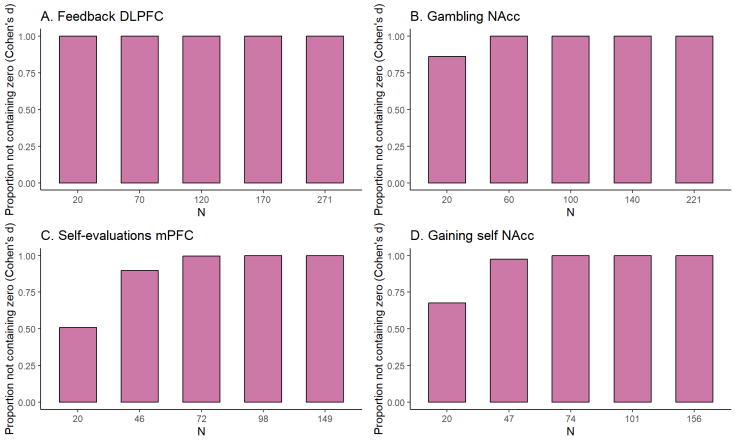

Figure 4: Reproduced figure 2

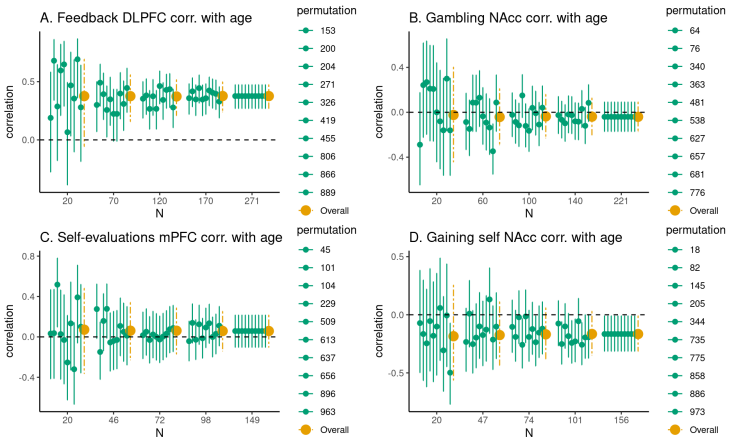

Figure 5: Original figure 3

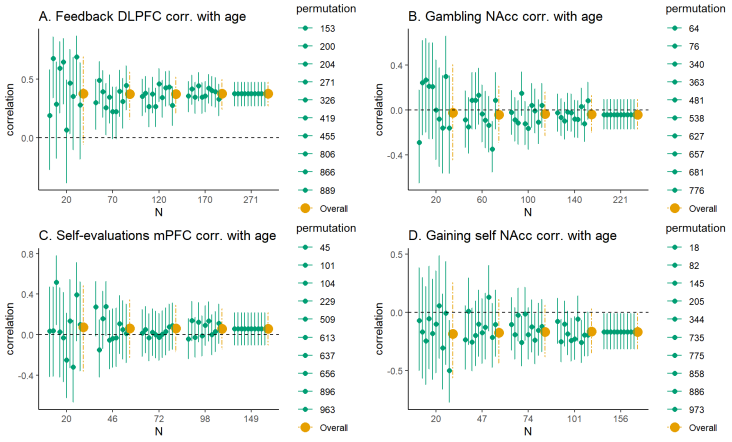

Figure 6: Reproduced figure 3

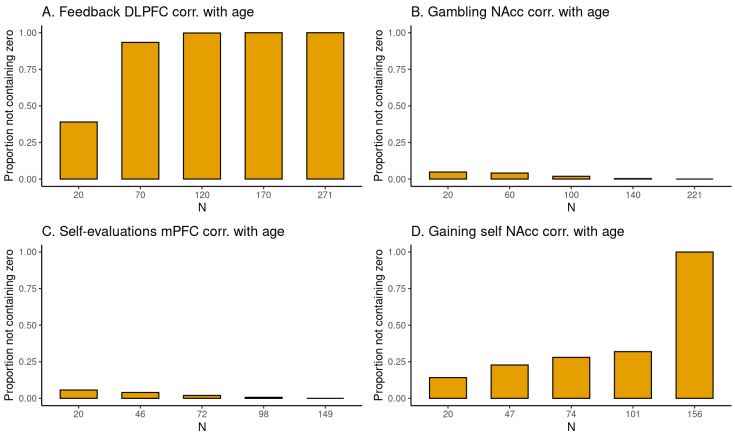

Figure 7: Original figure 4

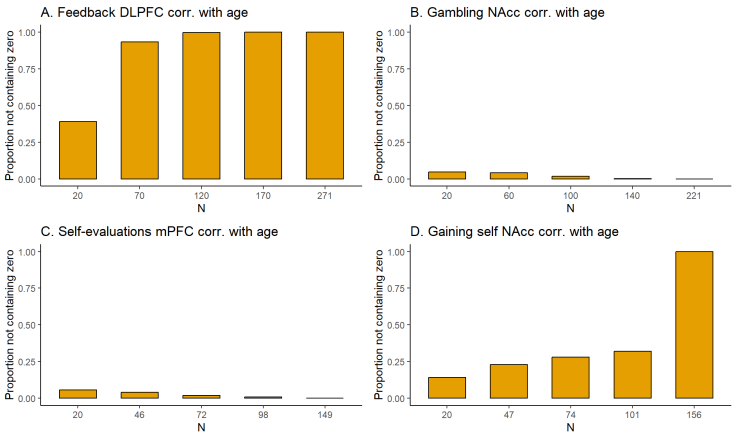

Figure 8: Reproduced figure 4