CODECHECK certificate

Item	Value
Title	Open Science interventions to improve reproducibility and replicability of research: a scoping review preprint
Authors	Leonie Dudda, Eva Kormann, Magdalena Kozula, Nicholas J. DeVito, Thomas Klebe, Ayu P.M. Dewi, René Spijker, Inge Stegeman, Veerle Van den Eynden, Tony Ross-Hellauer, Mariska M.G. Leeflang
Reference	Dudda, L., Kormann, E., Kozula, M., DeVito, N. J., Klebel, T., Dewi, A. P. M., … Leeflang, M. (2024, June 17). Open Science interventions to improve reproducibility and replicability of research: a scoping review preprint. https://doi.org/10.31222/osf.io/a8rmu
Codechecker	Sam Langton
Date of check	2024-08-01 10:00:00
Summary	Codecheck performed on two .qmd files containing R code from a public GitHub repository for a scoping review pre-print.
Repository	https://github.com/langtonhugh/scope

Table 1: CODECHECK summary

Output	Comment	Size (b)
`scope.html`	doc containing figures 2 3 4	13843
`discipline_figures.html`	doc containing figure 5	11568

Table 2: Summary of output files generated

Summary

This code was straightforward to codecheck. There were two `.qmd` files containing R code to execute. One rendered with no issues whatsoever, and the other rendered successfully after I updated the data file name. Four figures were successfully reproduced. The figures were not saved from within the script, so their appearance (e.g., DPI, dimensions, aspect ratio) differed to that in the paper, but the visuals themselves show the same result. The tables in the paper were presumably generated manually or in other scripts.

CODECHECKER notes

- Codecheck performed on the repository as of commit `e202c81f46bc9cd1fbe9df38d610a6dec25f65d6`.
- Repository was forked to https://github.com/langtonhugh/scope.
- There were two `.qmd` files containing R code, so this is what the check was conducted on.
- I began with `scope.qmd`. When prompted by RStudio, I installed the necessary packages (for me, this was only `pacman`).
- This rendered with no errors. The graphics outputted in the resulting `.html` were Figures 2, 3 and 4 in the paper. The visuals differed only in their aspect ratio/dimensions, because the output is displayed within the output html rather than saved with specified dimensions and DPI. Other than that, all three figures visually matched those the paper.
- Rendering `discipline_figures.qmd` failed first time because the data specified at the beginning of the script did not exist. After changing the file name to the (only) worksheet on the repository `fulldata.xlsx` the document was built with no errors and the visual matched that of Figure 5 in the paper.

Recommendations

I suggest to the authors to consider the following suggestions for their next publication or workflow:

- Save figures from within the script using something like `ggsave()` so that the outputs are reproduced as reported (e.g., dimensions, DPI) rather than embedded within the outputted `.html`.
- Although it did not produce any issues for me, I would recommend saving the session info or using the `renv` package to snapshot the software environment (R version, packages, package versions).
- The `README` doc could have a little more detail, such as instructing users which syntax to run, and linking the graphics to the corresponding figure numbers in the paper.
- I made a pull request for the data file name issue.

Manifest files

scope.html

Cannot inlcude output file as figure.

discipline_figures.html

Cannot inlcude output file as figure.

Acknowledgements

None.

Citing this document

About CODECHECK

This certificate confirms that the codechecker could independently reproduce the results of a computational analysis given the data and code from a third party. A CODECHECK does not check whether the original computation analysis is correct. However, as all materials required for the reproduction are freely available by following the links in this document, the reader can then study for themselves the code and data.

About this document

This document was created using R Markdown using the `codecheck` R package. `make codecheck.pdf` will regenerate the report file.

```
sessionInfo()
```

```
## R version 4.3.2 (2023-10-31 ucrt)
## Platform: x86_64-w64-mingw32/x64 (64-bit)
## Running under: Windows 11 x64 (build 22621)
##
## Matrix products: default
##
##
## locale:
## [1] LC_COLLATE=English_Netherlands.utf8
## [2] LC_CTYPE=English_Netherlands.utf8
## [3] LC_MONETARY=English_Netherlands.utf8
## [4] LC_NUMERIC=C
## [5] LC_TIME=English_Netherlands.utf8
##
## time zone: Europe/Amsterdam
## tzcode source: internal
##
## attached base packages:
## [1] stats     graphics  grDevices utils     datasets
## [6] methods   base
##
## other attached packages:
##  [1] readr_2.1.5     tibble_3.2.1    xtable_1.8-4
##  [4] yaml_2.3.10     rprojroot_2.0.4 knitr_1.48
##  [7] codecheck_0.3.0 parsedate_1.3.1 R.cache_0.16.0
## [10] gh_1.4.1
##
## loaded via a namespace (and not attached):
##  [1] xfun_0.46         rdflib_0.2.8      tzdb_0.4.0
##  [4] vctrs_0.6.5       tools_4.3.2       generics_0.1.3
```

```
##  [7] curl_5.2.1        parallel_4.3.2    fansi_1.0.6
## [10] pkgconfig_2.0.3   R.oo_1.26.0       redland_1.0.17-18
## [13] assertthat_0.2.1  lifecycle_1.0.4   git2r_0.33.0
## [16] compiler_4.3.2    atom4R_0.3-3      stringr_1.5.1
## [19] keyring_1.3.2     htmltools_0.5.8.1 pillar_1.9.0
## [22] crayon_1.5.3      whisker_0.4.1     tidyr_1.3.1
## [25] R.utils_2.12.3    cachem_1.1.0      zen4R_0.10
## [28] tidyselect_1.2.1  zip_2.3.1         digest_0.6.36
## [31] stringi_1.8.4     dplyr_1.1.4       purrr_1.0.2
## [34] fastmap_1.2.0     cli_3.6.3         magrittr_2.0.3
## [37] XML_3.99-0.17     crul_1.5.0        utf8_1.2.4
## [40] osfr_0.2.9        withr_3.0.0       bit64_4.0.5
## [43] roxygen2_7.3.2    rmarkdown_2.27    httr_1.4.7
## [46] bit_4.0.5         R.methodsS3_1.8.2 hms_1.1.3
## [49] memoise_2.0.1     evaluate_0.24.0   rlang_1.1.4
## [52] Rcpp_1.0.13       glue_1.7.0        httpcode_0.3.0
## [55] xml2_1.3.6        fauxpas_0.5.2     rorcid_0.7.0
## [58] rstudioapi_0.16.0 vroom_1.6.5       jsonlite_1.8.8
## [61] R6_2.5.1          plyr_1.8.9        fs_1.6.4
```