

CODECHECK certificate 2024-004

10.5281/zenodo.13364677




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. Leeftang
Reference	Dudda, L., Kormann, E., Kozula, M., DeVito, N. J., Klebel, T., Dewi, A. P. M., ... Leeftang, 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

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.

Output	Comment	Size (b)
<code>codecheck/outputs/scope.html</code>	doc containing figures 2 3 4	13843
<code>codecheck/outputs/discipline_figures.html</code>	doc containing figure 5	11568
<code>codecheck/outputs/scope1.png</code>	screenshot of fig 2	140328
<code>codecheck/outputs/scope2.png</code>	screenshot of fig 3	74040
<code>codecheck/outputs/scope3.png</code>	screenshot of fig 4	134577
<code>codecheck/outputs/discipline_figures.png</code>	screenshot of fig 5	90778

Table 2: Summary of output files generated

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 and this has been merged into the main repository (<https://github.com/ayudewi/scope/pull/4>).
- The repository currently has no licence, so as it stands it is not open source. If the authors would like it to be, they should add an appropriate licence.

Manifest files

scope.html

Cannot include output file as figure.

discipline_figures.html

Cannot include output file as figure.

scope1.png

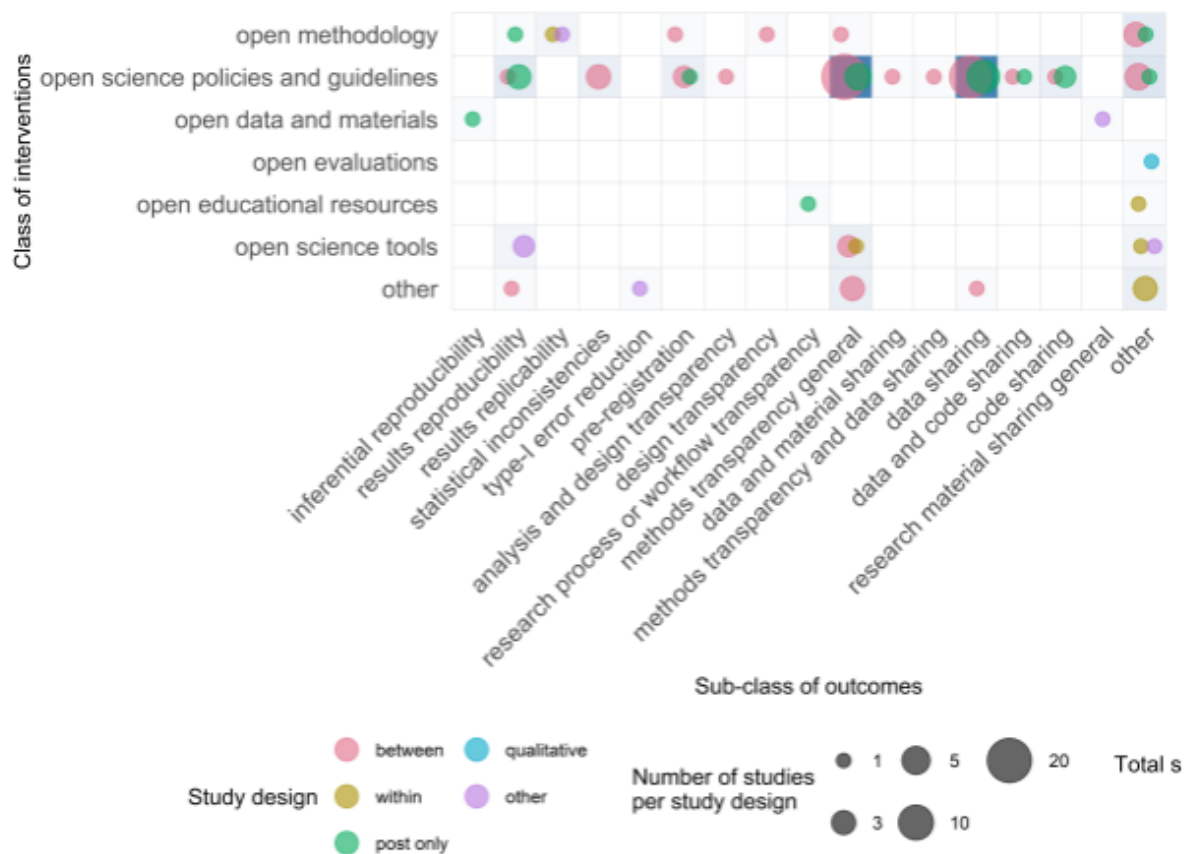
Comment: screenshot of fig 2

Graph 1: Evidence Gap Map 1

Class of interventions vs subclass of outcomes

``summarise()`` has grouped output by `'intervention_class_reordered'`. You can override using the ``.groups`` argument.

``summarise()`` has grouped output by `'intervention_class_reordered'`, `'outcomes_specific_reordered'`. You can override using the ``.groups`` argument.



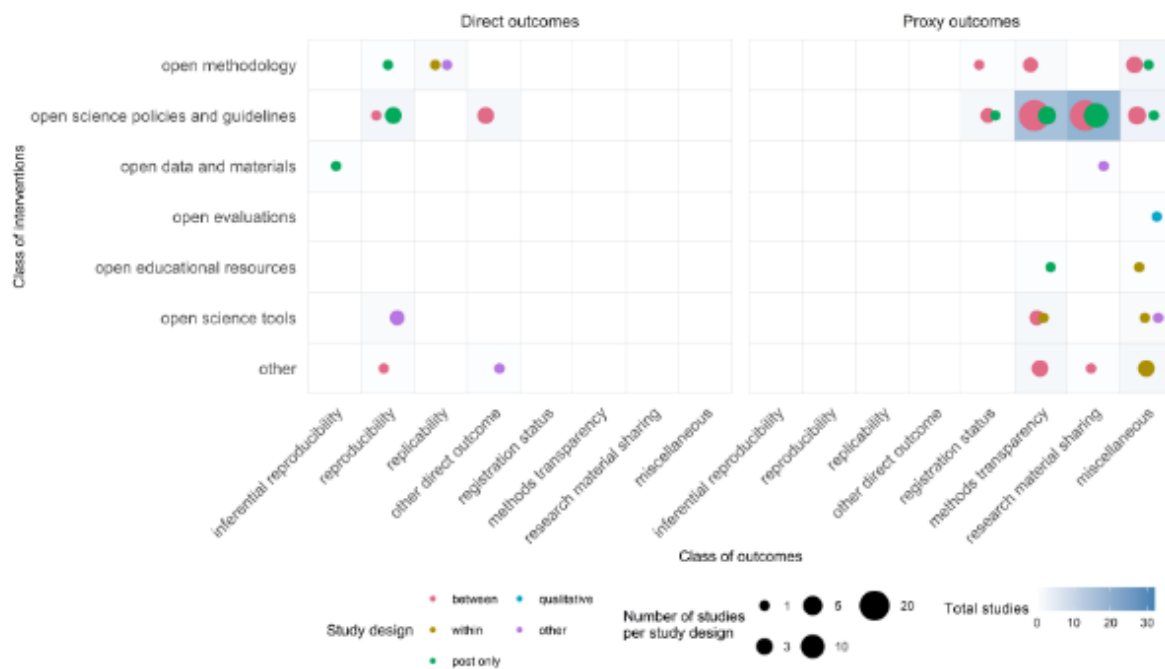
Caption: Notes on study design: between = comparative (between-subject comparison) within = comparative (within-subject comparison/repeated measures design) post only = posttest design (only a post measurement after the implementation of an intervention and the intervention is explicitly mentioned) other = other designs

scope2.png

Comment: screenshot of fig 3

Graph 2: Evidence Gap Map 2

Class of interventions vs class of outcomes



Caption: The left pane shows direct reproducibility outcomes, while the right pane shows proxy outcomes. Study designs: between = comparative (between-subject comparison) within = comparative (within-subject comparison/repeated measures design) post only = post-intervention (only a post measurement after the implementation of an intervention and the intervention is explicitly mentioned) other = other designs

scope3.png

Comment: screenshot of fig 4

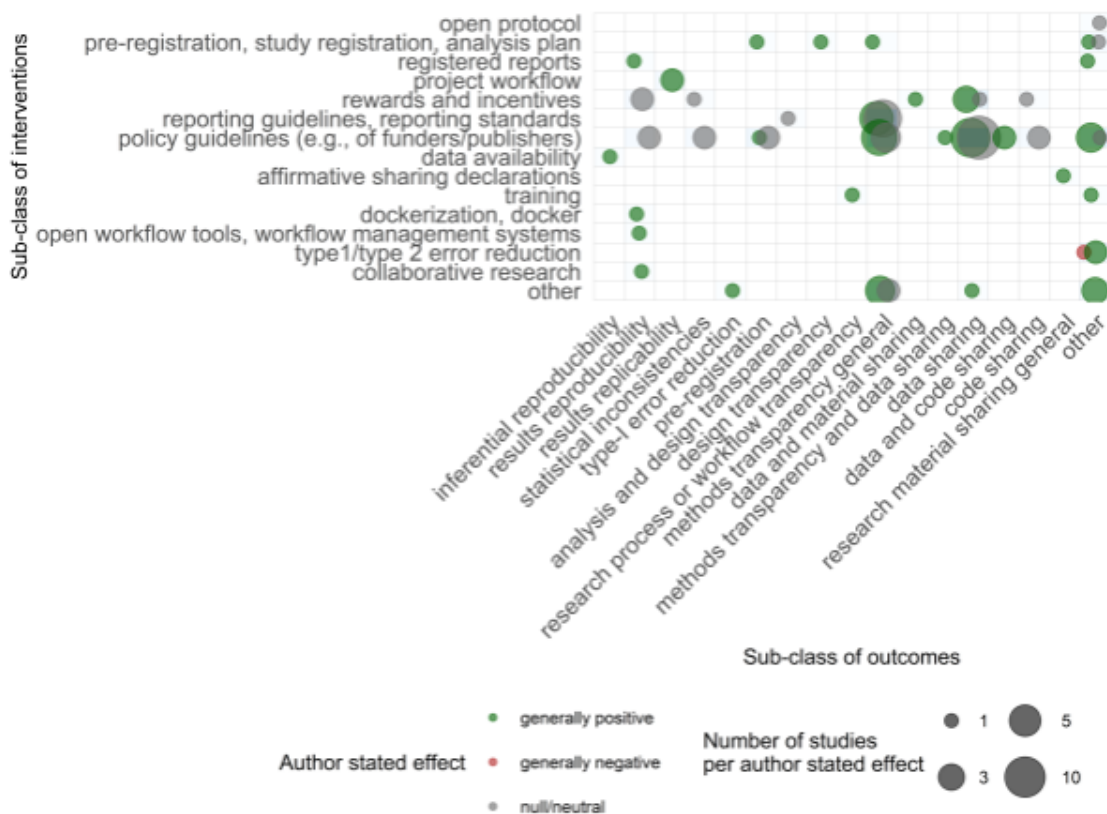
Graph 3: Author stated effect

Sub class of interventions vs sub class of outcomes [🔗](#)

``summarise()`` has grouped output by `'intervention_specific_reordered'`. You can override using the ``.groups`` argument.

``summarise()`` has grouped output by `'intervention_specific_reordered'`, `'outcomes_specific_reordered'`. You can override using the ``.groups`` argument.

Scale for colour is already present. Adding another scale for colour, which will replace the existing scale.



discipline_figures.png

Comment: screenshot of fig 5

Discipline figures

Fix the issues (except first order codings)

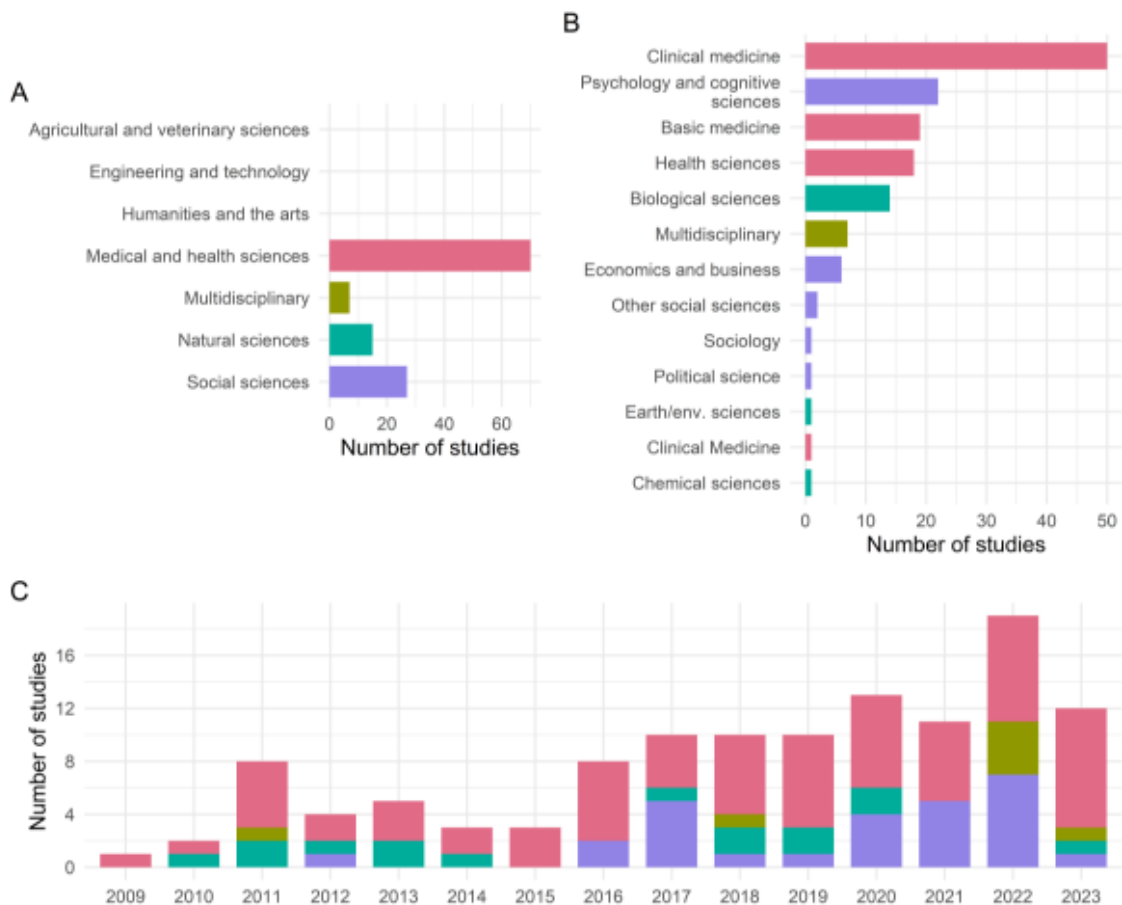
Split top level

Panel 3 - papers over time

Panel 1 - Frascati distribution overall

Panel 2 - Second order frascati

Joint figure



Citing this document

Sam Langton (2024). CODECHECK Certificate 2024-004. Zenodo. 10.5281/zenodo.13364677

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.

Session info

Generated and saved after executing `scope.qmd` and `discipline_figures.qmd`.

```
session <- readLines("../sessionInfo.txt")
cat(session, sep = "\n")

## 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_United States.utf8
## [2] LC_CTYPE=English_United States.utf8
## [3] LC_MONETARY=English_United States.utf8
## [4] LC_NUMERIC=C
## [5] LC_TIME=English_United States.utf8
##
## time zone: Europe/Amsterdam
## tzcode source: internal
##
## attached base packages:
## [1] stats      graphics  grDevices  utils      datasets  methods
## [7] base
##
## other attached packages:
## [1] patchwork_1.2.0  colorspace_2.1-0 flextable_0.9.6
## [4] readxl_1.4.3     here_1.0.1       inspectdf_0.0.12
```

```

## [7] janitor_2.2.0      lubridate_1.9.3    forcats_1.0.0
## [10] stringr_1.5.1      dplyr_1.1.4        purrr_1.0.2
## [13] readr_2.1.5        tidyr_1.3.1        tibble_3.2.1
## [16] ggplot2_3.5.1      tidyverse_2.0.0    pacman_0.5.1
##
## loaded via a namespace (and not attached):
## [1] ggfittext_0.10.2    gtable_0.3.5
## [3] xfun_0.46           tzdb_0.4.0
## [5] vctrs_0.6.5         tools_4.3.2
## [7] generics_0.1.3      curl_5.2.1
## [9] fansi_1.0.6         pkgconfig_2.0.3
## [11] data.table_1.15.4   uuid_1.2-0
## [13] lifecycle_1.0.4     farver_2.1.2
## [15] compiler_4.3.2      textshaping_0.4.0
## [17] progress_1.2.3      munsell_0.5.1
## [19] snakecase_0.11.1    httpuv_1.6.15
## [21] fontquiver_0.2.1    fontLiberation_0.1.0
## [23] htmltools_0.5.8.1   pillar_1.9.0
## [25] later_1.3.2         crayon_1.5.3
## [27] gfonts_0.2.0        openssl_2.2.0
## [29] mime_0.12           fontBitstreamVera_0.1.1
## [31] zip_2.3.1           tidyselect_1.2.1
## [33] digest_0.6.36       stringi_1.8.4
## [35] labeling_0.4.3      rprojroot_2.0.4
## [37] fastmap_1.2.0       grid_4.3.2
## [39] cli_3.6.3           magrittr_2.0.3
## [41] crul_1.5.0          utf8_1.2.4
## [43] withr_3.0.0         prettyunits_1.2.0
## [45] gdtools_0.3.7       scales_1.3.0
## [47] promises_1.3.0      timechange_0.3.0
## [49] rmarkdown_2.27      officer_0.6.6
## [51] cellranger_1.1.0    ragg_1.3.2
## [53] askpass_1.2.0       hms_1.1.3
## [55] evaluate_0.24.0     shiny_1.8.1.1
## [57] knitr_1.48          rlang_1.1.4
## [59] Rcpp_1.0.13         xtable_1.8-4
## [61] glue_1.7.0          httpcode_0.3.0
## [63] xml2_1.3.6          rstudioapi_0.16.0
## [65] jsonlite_1.8.8      R6_2.5.1
## [67] systemfonts_1.1.0

```