# CODECHECK certificate 2024-021

https://doi.org/10.5281/zenodo.14236507


| Item | Value |
|---|---|
| Title | Using Consumer Wearables to Measure Physical Activity of Nursing Home Residents with Dementia |
| Authors | Daniela Gawehns , Suzanne Portegijs, Adriana Petronella Anna van Beek, Matthijs van Leeuwen |
| Reference | https://doi.org/10.31234/osf.io/mqg86 |
| Codechecker | Tina Rozsos , Stijn Peeters , Hanne Oberman , Veerle van Harten |
| Date of check | 2024-11-28 16:00:00 |
| Summary | Downloaded the aggregate data and ran R script to reproduce figures. |
| Repository | https://github.com/codecheckers/DementiaPhysicalActivity |

Table 1: CODECHECK summary

| Output | Comment | Size (b) |
|---|---|---|
| `BoxplotallCatsMedloPercent.pdf` | manuscript Figure 1 | 5380 |
| `BoxplotallCatsSamsungPercent.pdf` | manuscript Figure 2 | 5334 |
| `CorrelationMatrix_5sec_hc.tif` | manuscript Figure 3 | 13230192 |

Table 2: Summary of output files generated

## Summary

Successful CODECHECK. Executing the file `PlottingScripts.R` produces three figures that are equivalent to the ones present in the paper. See CODECHECKER notes for details.

# CODECHECKER notes

Code was written in `R`. Running the the `R` script `PlottingScripts.R` yields all necessary output files. This took 1 minute to complete on a Windows 10 laptop with RStudio. On Linux Fedora, we received an error that we are not allowed to run the script in `R`, but the reason is unclear. This is likely due an issue with the Linux installation, not the code.

The `PlottingScripts.R` file contained all code required to produce a version of the three figures in the paper. There were some initial issues with the raw data files not being available in the GitHub repository. One of the authors of the paper (Daniela Gawehns) provided aggregate data, and edited the R script to remove any code dependent on the raw data.

With the aggregate data and edited script, we were able to create a version of all three figures present in the paper on three different Windows machines. The third figure contained the same statistics, but a different layout than the figure present in the paper. This is because the author updated the design of this figure for the paper that is currently in press, but has not updated the ArXiv version of the paper.

## Recommendations

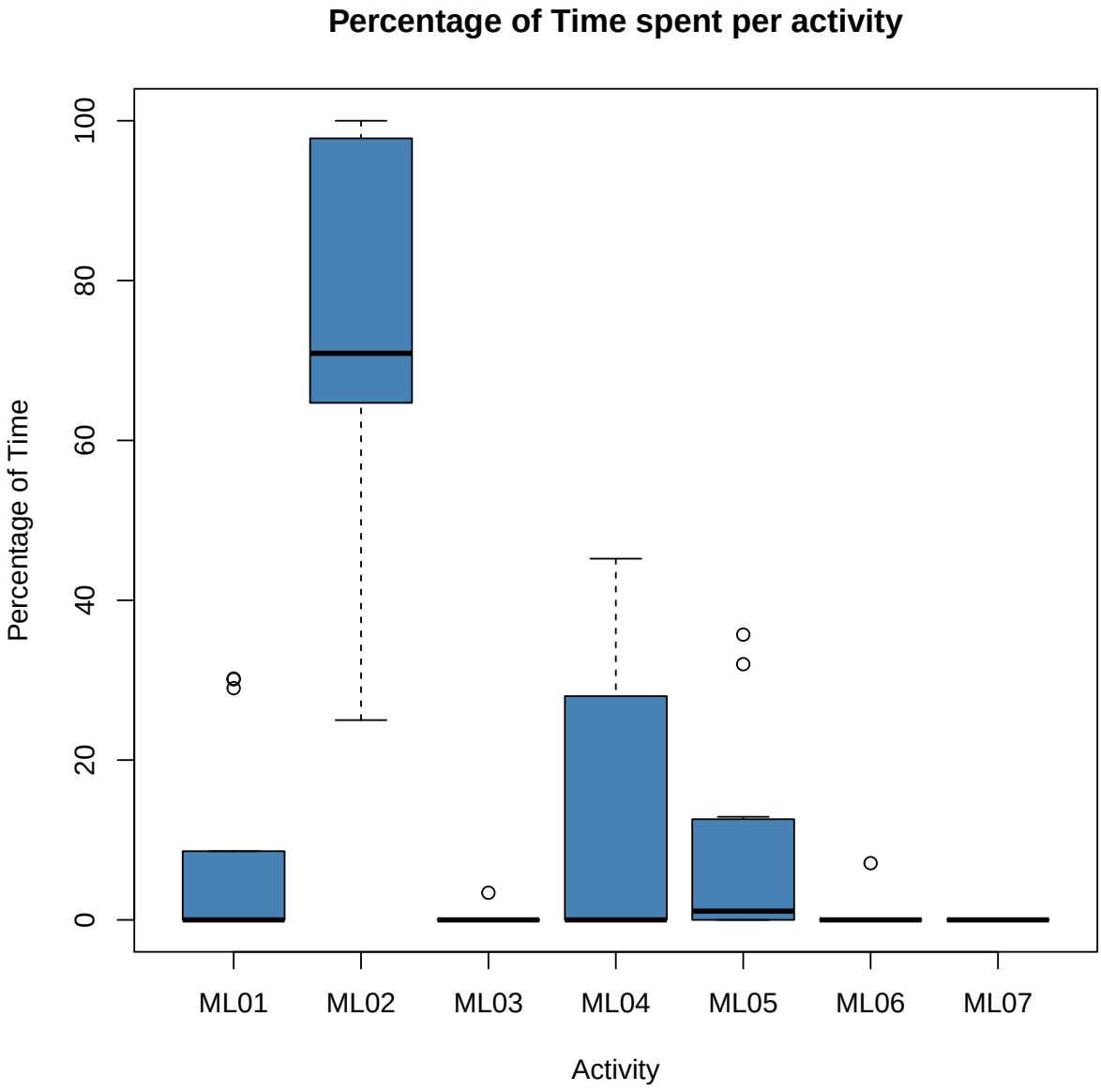
We suggest to the authors to consider the following suggestions for their next publication or workflow:

- make sure to include all necessary files in the repository upon submission, including aggregate data files
- use a folder structure to separate 'read only' files (such as data) from scripts (such as data pre-processing) and 'write' files (such as output files)
- further organize the GitHub repository (e.g. use `main` as the default branch, add a license, add a step-bystep reproduction guide in the README file)

## Manifest files

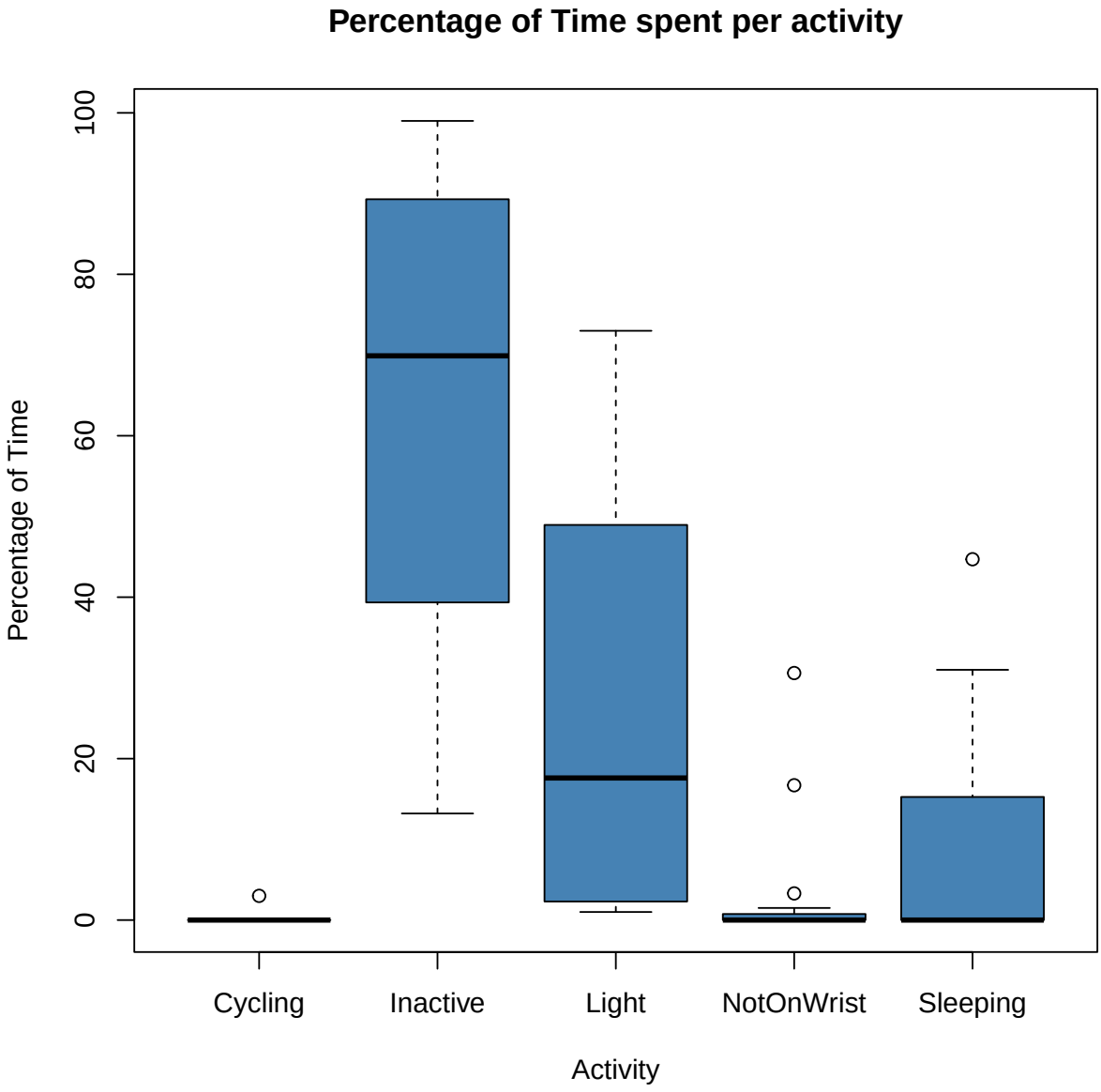
BoxplotallCatsMedloPercent.pdf

Comment: manuscript Figure 1



BoxplotallCatsSamsungPercent.pdf

Comment: manuscript Figure 2

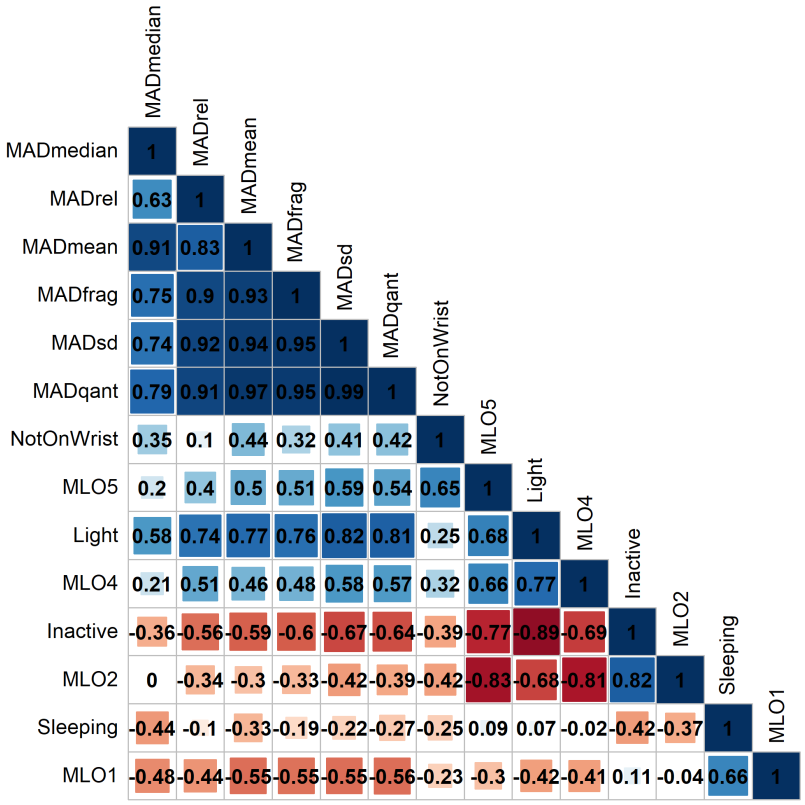


CorrelationMatrix_5sec_hc.tif

Cannot inlcude output file as figure.

Manually added files

```
grid::grid.raster(tiff::readTIFF("../CorrelationMatrix_5sec_hc.tif"))
```



Acknowledgements

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## Citing this document

Tina Rozsos, Stijn Peeters, Hanne Oberman, Veerle van Harten (2024). CODECHECK Certificate 2024-021. Zenodo. https://doi.org/10.5281/zenodo.14236507

## 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 4.4.2 (2024-10-31 ucrt)
## Platform: x86_64-w64-mingw32/x64
## Running under: Windows 10 x64 (build 19045)
##
## Matrix products: default
##
##
## locale:
## [1] LC_COLLATE=Dutch_Netherlands.utf8
## [2] LC_CTYPE=Dutch_Netherlands.utf8
## [3] LC_MONETARY=Dutch_Netherlands.utf8
## [4] LC_NUMERIC=C
## [5] LC_TIME=Dutch_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_2.3.8       rprojroot_2.0.4  knitr_1.49
##  [7] codecheck_0.11.4 parsedate_1.3.1  R.cache_0.16.0
```

```
## [10] gh_1.4.0
##
## loaded via a namespace (and not attached):
##  [1] xfun_0.49         rdflib_0.2.9      tzdb_0.4.0
##  [4] vctrs_0.6.5       tools_4.4.2       generics_0.1.3
##  [7] parallel_4.4.2    curl_5.2.1        fansi_1.0.5
## [10] pkgconfig_2.0.3   pdftools_3.4.1    R.oo_1.25.0
## [13] redland_1.0.17-18 assertthat_0.2.1  lifecycle_1.0.4
## [16] compiler_4.4.2    atom4R_0.3-3      stringr_1.5.1
## [19] tiff_0.1-12       keyring_1.3.2     htmltools_0.5.7
## [22] pillar_1.9.0      crayon_1.5.3      whisker_0.4.1
## [25] tidyr_1.3.1       R.utils_2.12.3    cachem_1.0.8
## [28] zen4R_0.10        tidyselect_1.2.1  zip_2.3.1
## [31] digest_0.6.31     stringi_1.7.12    dplyr_1.1.4
## [34] purrr_1.0.1       grid_4.4.2        fastmap_1.1.1
## [37] archive_1.1.7     cli_3.6.1         magrittr_2.0.3
## [40] XML_3.99-0.16     crul_1.4.2        utf8_1.2.4
## [43] osfr_0.2.9        withr_3.0.2       bit64_4.0.5
## [46] roxygen2_7.3.2    rmarkdown_2.29    httr_1.4.7
## [49] bit_4.0.5         qpdf_1.3.4        askpass_1.2.1
## [52] R.methodsS3_1.8.2 hms_1.1.3         memoise_2.0.1
## [55] evaluate_1.0.1    rlang_1.1.1       Rcpp_1.0.10
## [58] glue_1.6.2        httpcode_0.3.0    xml2_1.3.5
## [61] fauxpas_0.5.2     rorcid_0.7.0      rstudioapi_0.17.1
## [64] vroom_1.6.5       jsonlite_1.8.8    plyr_1.8.9
## [67] R6_2.5.1          fs_1.6.2
```