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July 17, 2024

## Abstract

This is a template to create a project article using the [Quarto book](#) and [TIER protocol 4.0](#) structures. Quarto is a document authoring and publishing tool that allows you to create books, reports, and other documents that are rich in content and fully reproducible. It is integrated with RStudio and is built on markdown and works with R language, Python, Julia, and Observable. The TIER protocol 4.0 specifies the contents and organization of reproduction documentation for a project involving computations with statistical data analysis. The project is already configured for versioning with Git/GitHub, environment control with **renv**, and publication on GitHub Pages.

**Key-words:** Open Science, Reproducibility, Quarto, TIER Protocol 4.0, R language, RStudio, Git, GitHub, renv, GitHub Pages.

**How cite this template:**

## 1 Introduction

Gain some additional knowledge regarding Open Science and reproducible research (Kathawalla et al., 2021; Klein et al., 2018)

## 2 Background

Make sure to look into the thought of reproducible research practice (Dogucu & Cetinkaya-Rundel, 2022; Gilroy & Kaplan, 2019; Sullivan et al., 2019; Vuorre & Curley, 2018; Wiebels & Moreau, 2021; Wilson et al., 2017).

## 3 Methods

If you need to learn a little more about Reproducible Research with R/RStudio there are excellent free e-books:

- [R for Data Science](#)
- [Building reproducible analytical pipelines with R](#)

- [The Open Science Manual: Make Your Scientific Research Accessible and Reproducible](#)

## 4 Results

Include tables, graphs, figures, and other visual aids from your scripts in the `AnalysisScripts` folder as you write up your narrative. To learn how to complete this integration, look to [Quarto's documentation embedding](#).

## 5 Conclusion

Although your story must be auditable and replicable by your scripts, keep in mind that not everything in your scripts needs to be in your narrative. For example, you may want to include a summary of your results in your narrative, but you don't need to include all the code that generated those results. You can include the code in a separate script file that you reference in your table summary. In this approach, you can provide the context you need to audit your results within your repository, all the while keeping your narrative focused on the story you are trying to tell.

## References

- Dogucu, M., & Çetinkaya-Rundel, M. (2022). Tools and Recommendations for Reproducible Teaching. *Journal of Statistics and Data Science Education*, 30(3), 251–260. <https://doi.org/10.1080/26939169.2022.2138645>
- Gilroy, S. P., & Kaplan, B. A. (2019). Furthering Open Science in Behavior Analysis: An Introduction and Tutorial for Using GitHub in Research. *Perspectives on Behavior Science*, 42(3), 565–581. <https://doi.org/10.1007/s40614-019-00202-5>
- Kathawalla, U.-K., Silverstein, P., & Syed, M. (2021). Easing Into Open Science: A Guide for Graduate Students and Their Advisors. *Collabra: Psychology*, 7(1), 18684. <https://doi.org/10.1525/collabra.18684>
- Klein, O., Hardwicke, T. E., Aust, F., Breuer, J., Danielsson, H., Mohr, A. H., IJzerman, H., Nilsson, G., Vanpaemel, W., & Frank, M. C. (2018). A Practical Guide for Transparency in Psychological Science. *Collabra: Psychology*, 4(1), 20. <https://doi.org/10.1525/collabra.158>
- Sullivan, I., DeHaven, A., & Mellor, D. (2019). Open and Reproducible Research on Open Science Framework. *Current Protocols Essential Laboratory Techniques*, 18(1), e32. <https://doi.org/10.1002/cpet.32>
- Vuorre, M., & Curley, J. P. (2018). Curating Research Assets: A Tutorial on the Git Version Control System. *Advances in Methods and Practices in Psychological Science*, 1(2), 219–236. <https://doi.org/10.1177/2515245918754826>
- Wiebels, K., & Moreau, D. (2021). Leveraging Containers for Reproducible Psychological Research. *Advances in Methods and Practices in Psychological Science*, 4(2), 251524592110178. <https://doi.org/10.1177/25152459211017853>
- Wilson, G., Bryan, J., Cranston, K., Kitzes, J., Nederbragt, L., & Teal, T. K. (2017). Good enough practices in scientific computing. *PLOS Computational Biology*, 13(6), e1005510. <https://doi.org/10.1371/journal.pcbi.1005510>