A tutorial on setting up a reproducible workflow in R and R Studio with Quarto

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Abstract

This is where the abstract would go.

# Introduction

# Methods

We report how we determined our sample size, all data exclusions (if any), all manipulations, and all measures in the study (Simmons et al., 2012).

## Participants

## Material

## Procedure

## Data analysis

We used R version (R Core Team, 2025) for all our analyses.

# Results

## Descriptive statistics

Raw data plots.

Accuracy by condition violin plot ([Figure 1](#fig-accuracy-plot)).

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| Figure 1: Accuracy is quite high for both types of stimuli. |

Reaction time by condition violin plot ([Figure 2](#fig-rt-plot)).

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| Figure 2: RT as a function of stimuli and conditions. |

Reaction time by difference scores violin plot ([Figure 3](#fig-rt-diff-plot)).

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| Figure 3: RT difference scores (incomp - compat) by stimulus type. |

Reaction time by difference scores density plot with quantiles ([Figure 4](#fig-rt-dens-plot)).

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| Figure 4: RT difference scores (incomp - compat) as a density plot. |

## Inferential statistics

Now we plot and tabulate parameters from the posterior distribution.

Fixed effects from model b2 ([Figure 5](#fig-fixef-plot)).

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| Figure 5: Fixed effects from model b2. |

Here are a couple of example tables displaying fixed effects ([Table 1](#tbl-example1), [Table 2](#tbl-example2)).

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table 1: Table created with tinytable::tt()   | term | value | .lower | .upper | | --- | --- | --- | --- | | intercept | 613.9 | 593.62 | 635 | | stimulus | 6.4 | 0.77 | 12 | | Note. This is a footnote. | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table 2: Table created with knitr::kable()   | term | value | .lower | .upper | | --- | --- | --- | --- | | intercept | 613.94 | 593.62 | 634.79 | | stimulus | 6.38 | 0.77 | 12.07 | |

## Referring to supplementary figures and tables

And here is how you might refer to supplementary figures and tables in a way that preserves the link between the figure or table label in each output format (e.g., .html figure /table numbers just keep going, whereas the appendix/supplementary pdf label them as Table A.1, Figure A.1 etc.).

There are at least two reasonably simple ways:

1. You can do it like this:

Here’s the code:

::: {.content-visible when-format="html"}  
See the supplementary analysis (@fig-s1 and @tbl-s1).  
:::  
::: {.content-visible when-format="typst"}  
See the supplementary analysis (Figure A.1 and Table A.1 in the supplementary materials).  
:::

And here’s the output:

1. Or use inline conditionals for shorter references:

Here’s the code:

The model diagnostics [are shown in @fig-s1]{.content-visible when-format="html"}[are shown in Figure A.1 of the supplementary materials]{.content-visible when-format="typst"}.

And here’s the output:

The model diagnostics .

# Discussion

# Disclosures

## Data and code availability

blah.

## Author contributions

We follow the Credit system. <https://credit.niso.org/>

Blah.

## Competing interests

Blah.

# References

R Core Team. (2025). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. <https://www.R-project.org/>

Simmons, J. P., Nelson, L. D., & Simonsohn, U. (2012). *A 21 Word Solution* (SSRN Scholarly Paper 2160588). Social Science Research Network. <https://doi.org/10.2139/ssrn.2160588>