R Markdown Lesson 04: Using Papaja

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Abstract

One or two sentences providing a **basic introduction** to the field, comprehensible to a scientist in any discipline.

Two to three sentences of **more detailed background**, comprehensible to scientists in related disciplines.

One sentence clearly stating the **general problem** being addressed by this particular study.

One sentence summarizing the main result (with the words "**here we show**" or their equivalent).

Two or three sentences explaining what the **main result** reveals in direct comparison to what was thought to be the case previously, or how the main result adds to previous knowledge.

One or two sentences to put the results into a more **general context**.

Two or three sentences to provide a **broader perspective**, readily comprehensible to a scientist in any discipline.

Keywords: keywords

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Your tasks to exercise what you have learned in the lesson on using the *papaja* package were to

1. Report the results of a correlation analysis involving variables X1 and X2 in data.frame `df` using `apa_print` with the `cor.test` function.
2. Format a correlation table in a way that prints significant correlations bold-faced.
3. Save Figure 2 in Tagged Image File Format (tiff, another figure format commonly accepted at scientific journals) with 300 dpi resolution.

First exercise

We first need to reinstate the respective data. To report the results of a correlation analysis involving variables X1 and X2, we simply write:

A correlation analysis of variables X1 and X2 revealed a correlation of $r = .30$, 95% CI $[.19, .41]$, $t(254) = 5.08$, $p < .001$.

Second exercise

Your task was to format a correlation table in a way that prints significant correlations bold-faced. The first question is what *significant* means. If you had a clear hypothesis on all the correlations analyzed, you would set |*alpha* to .05. As it is very likely that you had not, you need to correct for multiple testing. Bonferroni-correction would be an option, but most of the time, it is a too conservative correction. The `psych` package per default uses the *Holm* correction (see `?corr.test` for details). Using the `corr.test` function of the *psych* package will provide you with the *Holm*-corrected *p*-values. You use these values to format the results of your correlation analysis in a way that R Markdown "understands."

Third exercise

Save Figure 2 in Tagged Image File Format (tiff, another figure format commonly accepted at scientific journals) with 300 dpi resolution.