The title

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Abstract

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Keywords: keywords

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The title

Last week we covered how to pull numbers from chunks and report them outside the chunk - using MOTE's apa function. Turns out papaja has that function too! :)

Let's run an example from my class to demonstrate a couple new things today:

```
## Warning: Converting "partno" to factor for ANOVA.
```

```
## $ANOVA
##        Effect DFn DFd       SSn  SSd         F                p p<.05
## 1 (Intercept)   1  12 180.26667 23.6 91.661017 0.0000005720565     *
## 2        dose   2  12  20.13333 23.6  5.118644 0.0246942895382     *
##         ges
## 1 0.8842381
## 2 0.4603659
##
## $`Levene's Test for Homogeneity of Variance`
##   DFn DFd       SSn SSd         F         p p<.05
## 1   2  12 0.1333333 6.8 0.1176471 0.8900225
```

```
##
##  One-way analysis of means (not assuming equal variances)
##
## data:  libido and dose
## F = 4.3205, num df = 2.0000, denom df = 7.9434, p-value = 0.05374
```

```
##
## Call:
## lm(formula = libido ~ dose, data = master)
##
```

```
## Coefficients:
## (Intercept)        dose2        dose3
##         2.2          1.0          2.8

## Warning in if (tolower(names(x$parameter)) == "df") {: the condition has
## length > 1 and only the first element will be used

## $estimate
## NULL
##
## $statistic
## [1] "$F = 4.32$, $p = .054$"
##
## $full_result
## NULL
##
## $table
## NULL

## $estimate
## $estimate$Intercept
## [1] "$b = 2.20$, 95\\% CI $[0.83$, $3.57]$"
##
## $estimate$dose2
## [1] "$b = 1.00$, 95\\% CI $[-0.93$, $2.93]$"
##
## $estimate$dose3
## [1] "$b = 2.80$, 95\\% CI $[0.87$, $4.73]$"
##
```

```
## $estimate$modelfit
## $estimate$modelfit$r2
## [1] "$R^2 = .46$, 90\\% CI $[0.05$, $0.70]$"
##
## $estimate$modelfit$r2_adj
## [1] "$R^2_{adj} = .37$"
##
## $estimate$modelfit$aic
## [1] "$AIC = 57.37$"
##
## $estimate$modelfit$bic
## [1] "$BIC = 60.20$"
##
##
##
## $statistic
## $statistic$Intercept
## [1] "$t(12) = 3.51$, $p = .004$"
##
## $statistic$dose2
## [1] "$t(12) = 1.13$, $p = .282$"
##
## $statistic$dose3
## [1] "$t(12) = 3.16$, $p = .008$"
##
## $statistic$modelfit
## $statistic$modelfit$r2
```

```
## [1] "$F(2, 12) = 5.12$, $p = .025$"
##
##
##
## $full_result
## $full_result$Intercept
## [1] "$b = 2.20$, 95\\% CI $[0.83$, $3.57]$, $t(12) = 3.51$, $p = .004$"
##
## $full_result$dose2
## [1] "$b = 1.00$, 95\\% CI $[-0.93$, $2.93]$, $t(12) = 1.13$, $p = .282$"
##
## $full_result$dose3
## [1] "$b = 2.80$, 95\\% CI $[0.87$, $4.73]$, $t(12) = 3.16$, $p = .008$"
##
## $full_result$modelfit
## $full_result$modelfit$r2
## [1] "$R^2 = .46$, 90\\% CI $[0.05$, $0.70]$, $F(2, 12) = 5.12$, $p = .025$"
##
##
##
## $table
##   Predictor  $b$          95\\% CI $t(12)$  $p$
## 1 Intercept 2.20  $[0.83$, $3.57]$    3.51 .004
## 2     Dose2 1.00 $[-0.93$, $2.93]$    1.13 .282
## 3     Dose3 2.80  $[0.87$, $4.73]$    3.16 .008
```

Printing when you can use papaja

We talked last week about the apa_print() function. You can use that with S3 and S4 class objects, meaning lm/aov type answers. - You would use apa_print(SAVEDOUTPUT), so here that would be apa_print(aovoutput) - Depending on what is in the output, depends on what you can get out of it.

So we can print the F statistics from the one-way test with $F = 4.32$, $p = .054$. However, that's not the best, since the *df* are missing. We can explore how to report manually below.

LM outputs work even better. You get lots of options! Mostly, we might consider doing something like this: .

Printing when you can't use papaja

So, what can we do if we want to dynamically use our numbers but can't use apa_print? We can figure out how to pull the numbers we want.

I can print the whole ANOVA table:

Effect	DFn	DFd	SSn	SSd	F	p	p<.05	ges
(Intercept)	1	12	180.26667	23.6	91.661017	0.0000006	*	0.8842381
dose	2	12	20.13333	23.6	5.118644	0.0246943	*	0.4603659

I'd probably just want to report it APA style. Using my understanding of matrices, I can figure out how to get numbers out I want.

df = 12

F = 5.12

p = 0.02

eta = 0.46

Putting that all together, I can do: $F(2, 12) = 5.12$, $p = .025$, $\eta^2 = .46$.

(as an aside, you do not need Latex to print to word with the symbols, only PDF).

```
##             1           2
```

```
## 2 0.84475161        NA
## 3 0.02480431 0.1955766

## [1] 0.8447516

## [1] 0.02480431

## [1] NA

## [1] 0.1955766

## [1] 0.8447516

## [1] 0.02480431

## [1] NA

## [1] 0.1955766
```

Printing use papaja's printnum and printp

We talked about the apa() function in the MOTE library last week. This week, let's cover printnum() and printp() in papaja.

printnum works by: - first, put in the number

- second, gt1 = T or F for greater than 1 (aka the leading zero issue)
- third, zero = T or F for if a number can be zero
- fourth, margin = 1 or 2 for matrices ... 1 for rows, 2 for columns, like the apply function

And a couple of other options, but these are the main ones.

So for F = 5.12, we can use the defaults because F can be greater than one and can also be zero.

But for eta = .46.

You can also use the digits command to get more or less digits: .460.

printp is a separate wrapper with a very handy function that prints the < symbol for numbers less than .001, and automatically assumes three decimals as per APA style.

.025

< .001

Printing post hoc information

Using that information - let's pull out the post hoc p-values to report.

I could say one versus two was not significant, $p = .845$, while one versus three was significant, $p = .025$, and finally two versus three was not significant, $p = .196$. We'd want to include effect sizes, which is what we covered last week, if you are interested in MOTE and how to report those values.

Printing a table

I've covered the kable function before for my SEM class, but let's cover apa_table() in this video.

1) To manually make a table, first create a blank matrix to put your information in.
2) Fill in your table with information you want to print.
3) Use apa_table!

Table 1

This part goes at the top

Variable Name	Column 2	Column 3	Column 4
Row 1	4.00	2.00	6.00
Row 2	.845	.025	.196
Row 3	MORE	ROWS	ETC.

Note. This part goes at the bottom.