MSc Data Science Thesis

My Name

2019

Contents

Acknowledgements **ix**

1 Introduction **1**
1.1 Background information 1
1.2 Literature review 1

2 Methods **3**
2.1 Important main method 3
2.2 Additional method 3

3 Results **5**
3.1 Main results 5

4 Discussion **7**
4.1 What I found 7
4.2 What it means 7

5 References **9**

Appendix **11**
R code 11

List of Tables

3.1 Parameter estimates from regression of mpg on weight. 5

List of Figures

3.2 Another example figure. 6
3.1 An example figure. 6

Acknowledgements

I would like to thank ...

Chapter 1

Introduction

1.1 Background information

- text 1
- text 2
- text 3
- more text
- more text

1.2 Literature review

One important development was made by Abrams, Gillies, and Lambert (2005).

Chapter 2

Methods

2.1 Important main method

Initial modelling was performed using linear regression as defined in equation (2.1).

$$y_i = \beta_0 + \beta_1 x_i + \varepsilon_i,\ \varepsilon_i \overset{iid}{\sim} N(0, \sigma^2) \tag{2.1}$$

2.2 Additional method

- text 6
- text 7

Chapter 3

Results

3.1 Main results

And here is an example table of regression coefficients in Table 3.1.

```
mod <- lm(mpg ~ wt, data = mtcars)
coefcis <- cbind(coef(mod), confint.default(mod))
colnames(coefcis) <-
  c("Estimate", "95% CI lower limit", "95% CI upper limit")
knitr::kable(coefcis,
             digits = 2,
             booktabs = TRUE,
             caption = "Parameter estimates from regression of mpg on weight.") %>%
  kable_styling(latex_options = c("HOLD_position"))
```

Table 3.1: Parameter estimates from regression of mpg on weight.

	Estimate	95% CI lower limit	95% CI upper limit
(Intercept)	37.29	33.61	40.97
wt	-5.34	-6.44	-4.25

Example text example text.

An example of a figure is shown in Figure 3.1.

```
plot(pressure, pch = 19, type = "b")
```

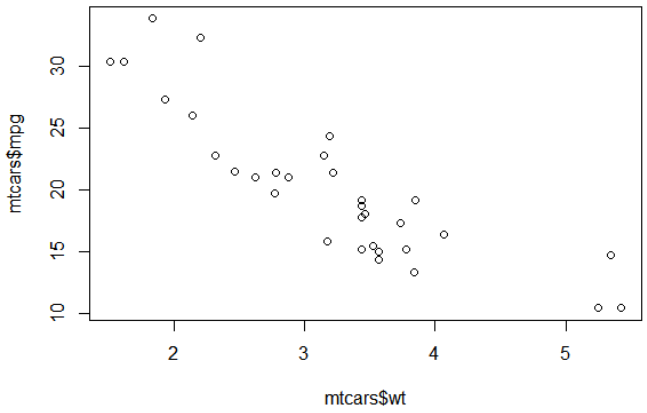

Figure 3.2: Another example figure.

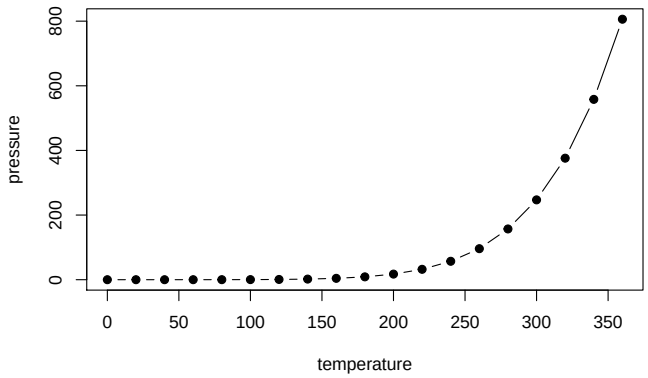

Figure 3.1: An example figure.

And we can include image files directly, such as Figure 3.2.

```
knitr::include_graphics("img/mtcars-scatter.png")
```

To figure code chunks add the chunk option `fig.pos="H"` to use the LaTeX float package to try and position the figure where the code appears.

Also, this is how to reference a section, e.g. the Introduction was chapter 1 and the Literature Review was section 1.2.

Chapter 4

Discussion

4.1 What I found

- text 1
- text 2
- text 3
- more text
- more text

4.2 What it means

- text 6
- text 7

Chapter 5

References

Abrams, K. R., C. L. Gillies, and P. C. Lambert. 2005. "Meta-Analysis of Heterogeneously Reported Trials Assessing Change from Baseline." *Statistics in Medicine* 24: 3823–44.

Appendix

R code

```r
model <- lm(y ~ x1 + x2, data = df)
summary(model)
```