

Data Analysis with R for Social Scientists

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Contents

Intro	7
1 Introduction to Seminar	9
1.1 A section	9
2 Exploratory Data Analysis - I	11
2.1 Load data	11
2.2 Introduce WVS	11
2.3 glimpse()	11
2.4 skim()	11
2.5 Types of Variables/ Skalen	12
2.6 Univariate statistics (means, SDs, min, max)	12
2.7 ggplot	12
2.8 gtsummary	12
3 Exploratory Data Analysis - II	13
3.1 Markdown Introduction	13
3.2 Applying EDA(WVS/own data)	13
4 Linear Regression - Theory	15
4.1 What is it?	15
4.2 When and for what it can used?	15
4.3 Formula (short)	15
4.4 Assumptions (short)	15

4.5	Mediation	15
4.6	Interactions?	16
4.7	Multiple outcomes	16
5	Linear Regression - Applied	17
5.1	Incl. Short Theory and DAG	17
5.2	Interpreation of regression tables in practice	17
5.3	Mediation	17
5.4	Regressionnal Diagnostics	17
6	Linear Regression - Exercises	19
6.1	Application of Linear Regression	19
7	Logistic Regression - Theory	21
7.1	What is it?	21
7.2	When and for what it can used?	21
7.3	Formula (short)	21
7.4	Assumptions (short)	21
7.5	Mediation	21
7.6	Multiple outcomes	22
7.7	Multinomial	22
8	Logistic Regression - Applied	23
8.1	Incl. Short Theory and DAG	23
8.2	Interpreation of regression tables in practice	23
8.3	Mediation	23
8.4	Regressionnal Diagnostics	24
9	Logistic Regression - Exercises	25
9.1	Application of Logistic Regression	25
10	Prediction or Margins - Theory	27
10.1	Predicted probabilities	27
10.2	Marginal Effects	27

<i>CONTENTS</i>	5
11 Prediction or Margins - Exercises	29
11.1 Application of Regression	29
12 Reporting and Visualization	31
12.1 Formatted regression tables	31
12.2 Publication-ready formatting/ labelling of visuals	31
12.3 coefficient plots	31
13 Discussion of ideas and term papers	33
14 Outlook	35
14.1 Machine Learning	35

Intro

This course offers an accessible and easy introduction to one of the fastest growing statistical packages used in social science and data science more generally.

Please download the data used in the course [here](#). To find more about me, have a look at my website. Also, feel free to watch me as I walk you through each lesson [here](#).

Overview over the Course :

- **Week 1: Introduction to Seminar**
- **Week 2: Exploratory Data Analysis-I**
- **Week 3: Exploratory Data Analysis-II**
- **Week 4: Linear Regression-Theory**
- **Week 5: Linear Regression-Applied**
- **Week 6: Linear Regression-Exercises**
- **Week 7: Logistic Regression-Theory**
- **Week 8: Logistic Regression-Applied**
- **Week 9: Logistic Regression-Exercises**
- **Week 10: Prediction or Margins-Theory**
- **Week 11: Prediction or Margins-Exercises**
- **Week 12: Reporting and Visualizing**
- **Week 13: Discussion of Ideas and term papers**
- **Week 14: Outlook**

Chapter 1

Introduction to Seminar

All chapters start with a first-level heading followed by your chapter title, like the line above. There should be only one first-level heading (`#`) per `.Rmd` file.

1.1 A section

All chapter sections start with a second-level (`##`) or higher heading followed by your section title, like the sections above and below here. You can have as many as you want within a chapter.

An unnumbered section

Chapters and sections are numbered by default. To un-number a heading, add a `{.unnumbered}` or the shorter `{-}` at the end of the heading, like in this section.

Chapter 2

Exploratory Data Analysis - I

Here goes some texts.

2.1 Load data

Here goes some texts.

2.2 Introduce WVS

Here goes some texts.

2.3 glimpse()

Here goes some texts.

2.4 skim()

Here goes some texts.

2.5 Types of Variables/ Skalen

Here goes some texts.

2.6 Univariate statistics (means, SDs, min, max)

Here goes some texts.

2.7 ggplot

Here goes some texts.

2.7.1 Histograms

Here goes some texts.

2.7.2 Boxplots

Here goes some texts.

2.7.3 Bar graphs

Here goes some texts.

2.7.4 Scatterplots

Here goes some texts.

2.8 gtsummary

Here goes some texts.

2.8.1 Kreuztabellen

Here goes some texts.

Chapter 3

Exploratory Data Analysis - II

Here goes some texts.

3.1 Markdown Introduction

Here goes some texts.

3.2 Applying EDA(WVS/own data)

Here goes some texts.

Chapter 4

Linear Regression - Theory

4.1 What is it?

Here goes some texts.

4.2 When and for what it can used?

Here goes some texts.

4.3 Formula (short)

Here goes some texts.

4.4 Assumptions (short)

Here goes some texts.

Interpretation of results Here goes some texts.

4.5 Mediation

Maybe theory into DAG session and example into application?

4.6 Interactions?

Here goes some texts.

4.7 Multiple outcomes

Here goes some texts.

Chapter 5

Linear Regression - Applied

5.1 Incl. Short Theory and DAG

Here goes some texts.

5.1.1 Application with WVS data

Here goes some texts.

5.2 Interpretation of regression tables in practice

Here goes some texts.

5.3 Mediation

Here goes some texts.

5.3.1 Total and Direct effect

Here goes some texts.

5.4 Regressional Diagnostics

(Maybe)

Chapter 6

Linear Regression - Exercises

Here goes some texts.

6.1 Application of Linear Regression

With WVS/own data: Students apply linear regression.

Chapter 7

Logistic Regression - Theory

7.1 What is it?

Here goes some texts.

7.2 When and for what it can used?

Here goes some texts.

7.3 Formula (short)

Here goes some texts.

7.4 Assumptions (short)

Here goes some texts.

Interpretation of results Here goes some texts.

7.5 Mediation

Maybe theory into DAG session and example into application?

7.6 Multiple outcomes

Here goes some texts.

7.7 Multinomial

Chapter 8

Logistic Regression - Applied

8.1 Incl. Short Theory and DAG

Here goes some texts.

8.1.1 Application with WVS data

Here goes some texts.

8.2 Interpretation of regression tables in practice

Here goes some texts.

8.3 Mediation

Here goes some texts.

8.3.1 Total and Direct effect

Here goes some texts.

8.4 Regressional Diagnostics

(Maybe)

Chapter 9

Logistic Regression - Exercises

Here goes some texts.

9.1 Application of Logistic Regression

With WVS/own data: Students apply linear regression.

Chapter 10

Prediction or Margins - Theory

Here goes some texts.

10.1 Predicted probabilities

At various co-variate levels

10.2 Marginal Effects

Chapter 11

Prediction or Margins - Exercises

Here goes some texts.

11.1 Application of Regression

With WVS/own data: Students apply linear+logistic regression from previous exercises.

Chapter 12

Reporting and Visualization

Here goes some texts.

12.1 Formatted regression tables

Here goes some texts.

12.2 Publication-ready formatting/ labelling of visuals

Here goes some texts.

12.3 coefficient plots

Here goes some texts.

Chapter 13

Discussion of ideas and term papers

Here goes some texts.

Chapter 14

Outlook

Here goes some texts.

14.1 Machine Learning

Here goes some texts.