# My first replicable Paper

MyFirstName MyLastName
Evans School of Public Policy and Governance
University of Washington
Seattle, WA 98115, <u>United States</u>
greatguy@uw.edu

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#### Abstract

This is an example on how to make a reproducible paper. We are using R from Rstudio, creating an RSweave document. This is a nice start to create a nice paper and get an A+. The next sections will show the steps taken.

#### 1 Introduction

This is my intro to my great paper, I will explain the cool things I can do with my new 'computational thinking' powers combined with some Latex. This is my intro to my great paper, I will explain the cool things I can do with my new 'computational thinking' powers combined with some Latex. This is my intro to my great paper, I will explain the cool things I can do with my new 'computational thinking' powers combined with some Latex. This is my intro to my great paper, I will explain the cool things I can do with my new 'computational thinking' powers combined with some Latex.

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## 2 Exploring Data

Sections may use a label<sup>1</sup>. This label is needed for referencing. For example the next section has label datas, so you can reference it by writing: As we see in section 2.1.

### 2.1 Exploring Categorical Data

Here, I continue doing this nice work, I hope you like it and read it. It has been a very hard work. Here, I continue doing this nice work, I hope you like it and read it. It has been a very hard work. Here, I continue doing this nice work, I hope you like it and read it. It has been a very hard work. Here, I continue doing this nice work, I hope you like it and read it. It has been a very hard work. Here, I continue doing this nice work, I hope you like it and read it. It has been a very hard work. Here, I continue doing this nice work, I hope you like it and read it. It has been a very hard work.

You can see the statistics of categorical variables in Table 1.

Table 1: Freq Table

Variable	Levels	$\mathbf{n}$	%	$\sum \%$
Region	Africa	11	14.5	14.5
	Asia	35	46.0	60.5
	Eurasia	6	7.9	68.4
	Europe	15	19.7	88.1
	NAmerica	5	6.6	94.7
	Oceania	1	1.3	96.0
	SAmerica	3	4.0	100.0
	all	76	100.0	
ONI	nd	2	2.6	2.6
	ne	41	54.0	56.6
	per	8	10.5	67.1
	sel	21	27.6	94.7
	$\operatorname{sub}$	4	5.3	100.0
	all	76	100.0	

You can see this variable plotted in Figure 1

<sup>&</sup>lt;sup>1</sup>In fact, you can have a label wherever you think a future reference to that content might be needed.

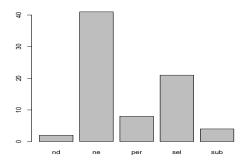


Figure 1: ONI barplot

## 2.2 Exploring Numerical Data

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Table 2: Stat summary for nummeric vars

Statistic	Median	Mean	Min	Max	Pctl(25)	Pctl(75)	St. Dev.
FH	61	58.91	10	97	43.5	80	23.79
RWB	37.99	39.67	6.38	83.90	28.22	46.85	18.13

In the Table 2, you realize that the mean of FH is **58.9078947368421**. Boxplots were introduced by Tuckey (Tukey, John W (1977). Exploratory Data Analysis. Addison-Wesley.)

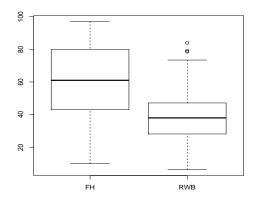


Figure 2: boxplots

## 3 Looking for Relationships

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#### 3.1 Numerical and Categorical

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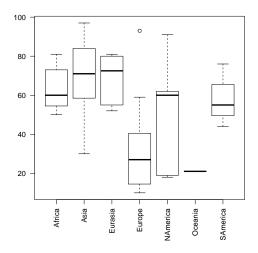


Figure 3: boxplots

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#### 3.2 Numerical and Numerical

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The scatter plot is thought to be invented by John Frederick W. Herschel according to this link: https://qz.com/1235712/the-origins-of-the-scatter-plot-data-visualizations-greatest-invention/

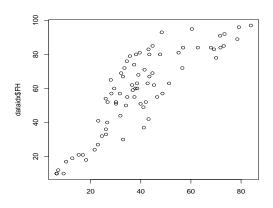


Figure 4: boxplots

# 4 My Regression

This is a Regression in R:

> regre1=lm(FH~RWB,data=dataidx)

This is another:

> regre2=lm(FH~RWB+ONI,data=dataidx)

These is the traditional summary for one:

> summary(regre1)

#### Call:

lm(formula = FH ~ RWB, data = dataidx)

#### Residuals:

Min 1Q Median 3Q Max -23.631 -10.660 -2.094 9.858 24.501

### Coefficients:

Estimate Std. Error t value Pr(>|t|)
(Intercept) 14.75969 3.52175 4.191 7.6e-05 \*\*\*
RWB 1.11285 0.08084 13.767 < 2e-16 \*\*\*

Signif. codes: 0 âĂŸ\*\*\*âĂŹ 0.001 âĂŸ\*\*âĂŹ 0.01 âĂŸ\*âĂŹ 0.05 âĂŸ.âĂŹ 0.1 âĂŸ âĂŹ 1

Residual standard error: 12.69 on 74 degrees of freedom

Multiple R-squared: 0.7192, Adjusted R-squared: 0.7154

F-statistic: 189.5 on 1 and 74 DF, p-value: < 2.2e-16