YOUR THESIS TITLE IS WRITTEN HERE...

By

Author Name

Department of Statistics

Faculty of Natural Sciences

Quaid-i-Azam University, Islamabad

2022
In the Name of Allah The Most Merciful and The Most Beneficent
YOUR THESIS TITLE IS WRITTEN HERE...

By

Author Name

A THESIS SUBMITTED IN THE PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF PHILOSOPHY IN STATISTICS

Supervised By

[Name of supervisor]

Department of Statistics
Faculty of Natural Sciences
Quaid-i-Azam University, Islamabad
2022
Declaration

I “Author name” hereby solemnly declare that this thesis titled, “Your thesis title...”.

- This work was done wholly in candidature for a degree of M.Phil Statistics at this University.

- Where I got help from the published work of others, this is always clearly stated.

- Where I have quoted from the work of others, the source is always mentioned. Except of such quotations, this thesis is entirely my own research work.

- Where the thesis is based on work done by myself jointly with my supervisor, I have made clear exactly what was done by others and what I have suggested

Dated:_________________________  Signature:_________________________
Dedication

I am feeling great honor and pleasure to dedicate this research work to

My beloved...

Whose endless affection, prayers and wishes have been a great source of comfort
for me during my whole education period and my life
Acknowledgments

I acknowledge...
Abstract

The abstract is written here...
# Contents

1 Introduction  
   1.1 Section ....................................................... 1  
       1.1.1 The sub section .................................. 1  
   1.2 Research motivation .................................... 1  
   1.3 Problem statement ....................................... 1  
   1.4 Contribution of the research ......................... 1  

2 Literature Review ........................................ 2  

3 Your Work Chapter ......................................... 3  

4 Results and discussion .................................. 5  

5 Conclusion .................................................. 6  

Appendices .................................................... 7  

A R codes ..................................................... 8  

B Anorexia Patients dataset ................................ 9  

References ................................................... 10
List of Tables

4.1 The total $\hat{T}_l(c; n, \theta)$, RTM $\hat{R}_l(c; n, \theta)$ and treatment $\hat{\psi}_l$ effects . . . 5
Chapter 1

Introduction

"Statistics is the grammar of science" – Karl Pearson

The Introduction is written here...

1.1 Section

content...

1.1.1 The sub section

• Item 1

• Item 2

• Item 3

1.2 Research motivation

1.3 Problem statement

1.4 Contribution of the research
Chapter 2

Literature Review

The article Fisher (1936) discusses theory and analysis of design of experiments...
Chapter 3

Your Work Chapter

In this chapter, your work and methodology will be explained.

In Figure 3.1 the RTM effect in diastolic blood pressure is visualized in which the measurement is taken from the same subject in a pre and post-intervention. The subjects were selected whose diastolic blood pressure is greater than 90 mmHg and whose true mean is practically unknown. The variation in measurement is assumed to be due to random error.
Figure 3.1: RTM effect in diastolic blood pressure in baseline and follow-up measurement with true mean and variation

Equation 3.1 shows the unbiased estimator of population variance $\sigma^2$

$$s^2 = \frac{1}{n-1} \sum_{i=1}^{n} (x_i - \bar{x})^2 \quad (3.1)$$
Chapter 4

Results and discussion

The $p$-value of $P(t_{(17)} > 4.067) = 0.000506$ and provide sufficient evidence that the treatment has a significant effect on increasing the weight of girls after removing the effect of RTM however the test doesn’t quantify the amount of RTM. Further, all the methods overestimate the true effect of RTM and the proposed method is more close to the True value when the sample size is small as seen from a simulation study.

Table 4.1: The total $\hat{T}_l (c; n, \theta)$, RTM $\hat{R}_l (c; n, \theta)$ and treatment $\hat{\psi}_l$ effects

<table>
<thead>
<tr>
<th>Effects</th>
<th>Pre-post Measurement of treatment group (m=17)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\hat{T}_l (c; n, \theta)$</td>
</tr>
<tr>
<td>Proposed</td>
<td>-7.248</td>
</tr>
<tr>
<td>Khan and Olivier (2022)</td>
<td>-7.248</td>
</tr>
</tbody>
</table>

$^*$Adjusted for RTM
Chapter 5

Conclusion

The summary of your work
Appendices
Appendix A

R codes

The following R functions return the scatter plot

```r
# This is a comment in R
x <- c(1, 2, 3, 4, 5)
y <- c(6, 7, 8, 9, 10)
plot(x, y, main = "My Plot", xlab = "X Axis", ylab = "Y Axis")
```
Appendix B

Anorexia Patients dataset

Source: Brian Everitt (private communication)
These are weights, in pounds (lb), of young girls receiving three different treatments for anorexia over a fixed period of time with the control group receiving the standard treatment.

<table>
<thead>
<tr>
<th>Cognitive behavioral treatment</th>
<th>Control</th>
<th>Family therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before</td>
<td>After</td>
<td>Before</td>
</tr>
<tr>
<td>80.5</td>
<td>82.2</td>
<td>80.7</td>
</tr>
<tr>
<td>84.9</td>
<td>85.6</td>
<td>89.4</td>
</tr>
<tr>
<td>81.5</td>
<td>81.4</td>
<td>91.8</td>
</tr>
<tr>
<td>82.6</td>
<td>81.9</td>
<td>74</td>
</tr>
<tr>
<td>79.9</td>
<td>76.4</td>
<td>78.1</td>
</tr>
<tr>
<td>88.7</td>
<td>103.6</td>
<td>88.3</td>
</tr>
<tr>
<td>94.9</td>
<td>98.4</td>
<td>87.3</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
</tbody>
</table>
References
