Multiple Comparison Procedures To A Control

For AN(C)OVA Models

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Contents

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Basic Information

Automatic statistics for the file:

File
sbp.csv

Your selection for the encoding: UTF-8
Your selection for the decimal character: .
Observations (rows with at least one non-missing value): 69
Variables (columns with at least one non-missing value): 3
Variables considered continuous: 2

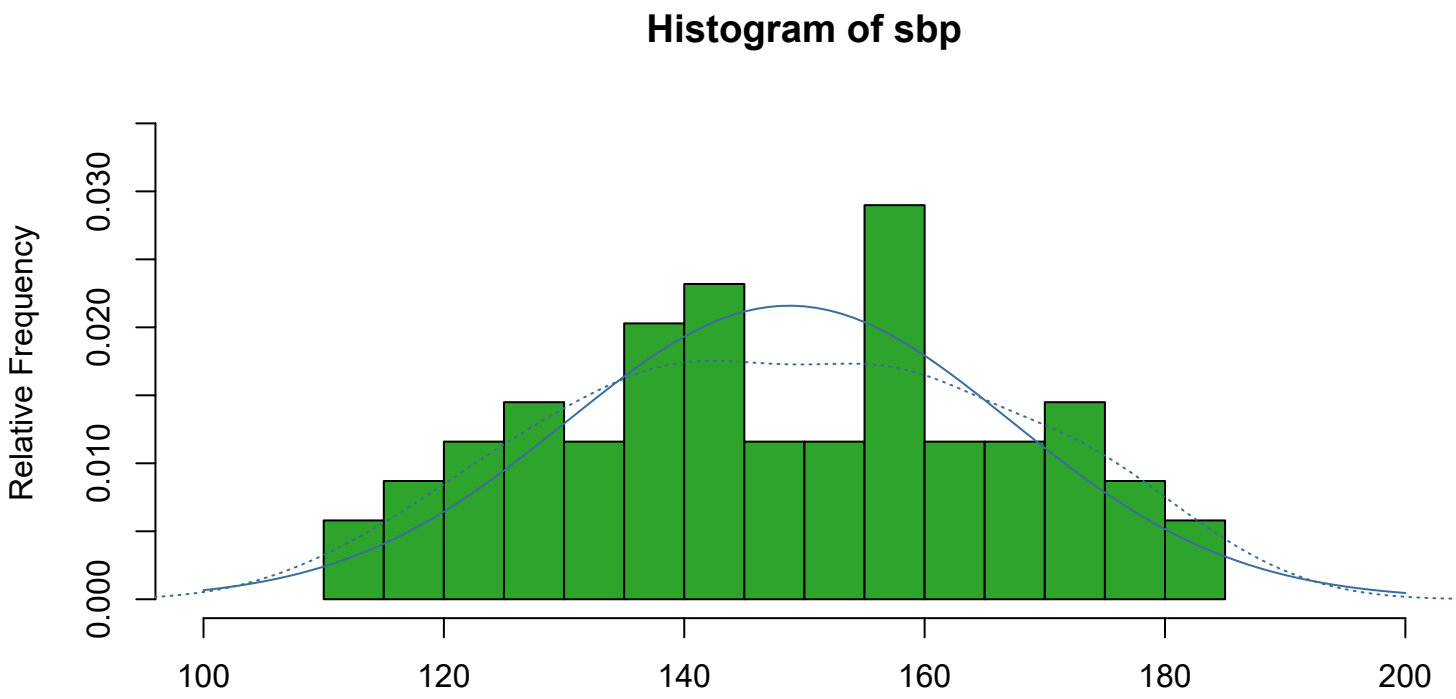
Variables considered continuous
sbp
age

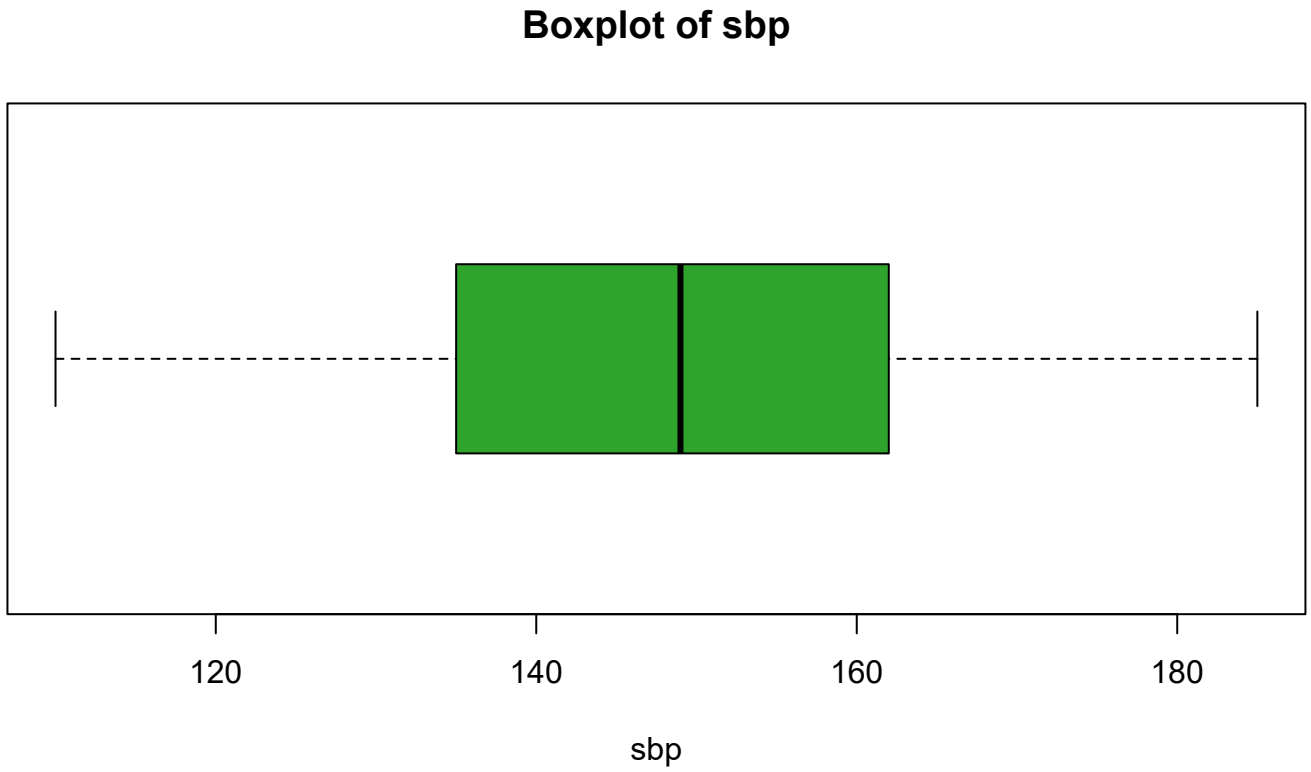
Variables considered categorical: 1

Variables considered categorical
gender

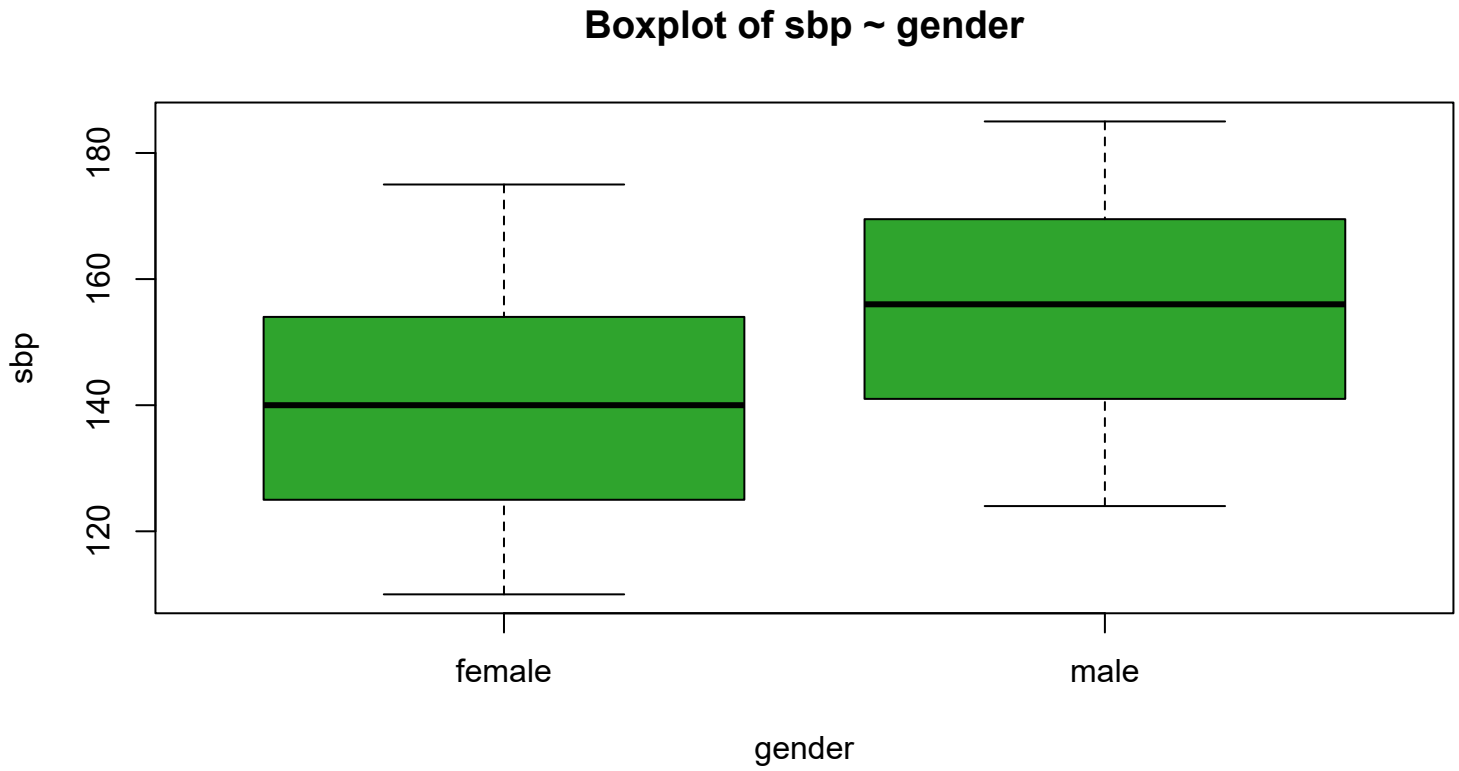
Descriptive Plots

Histogram and Boxplot for dependent Variable




Boxplot of sbp
120
140
160
180
sbp

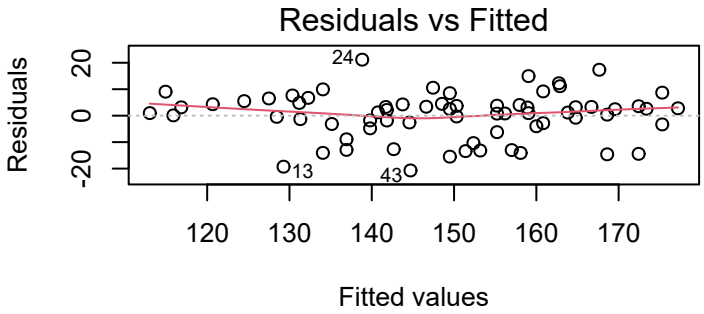
Boxplot for categorical independent Variables

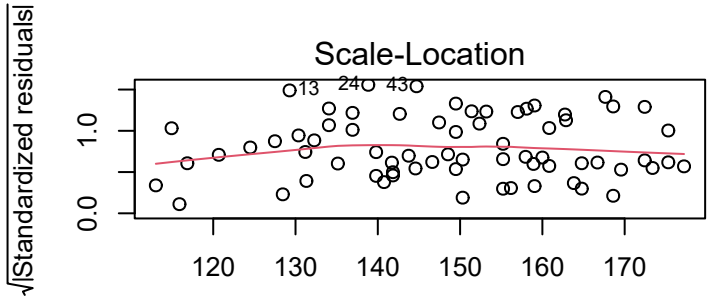


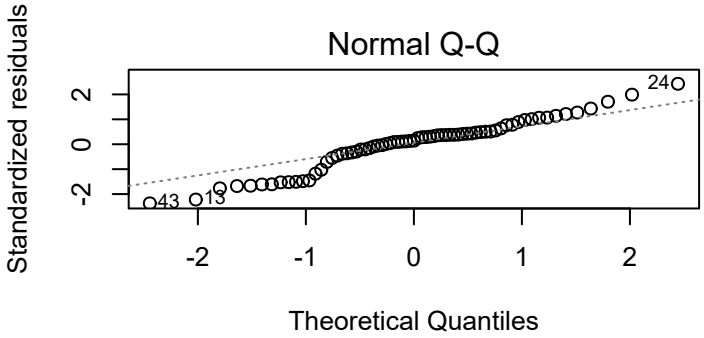
Scatterplot for numerical independent Variables

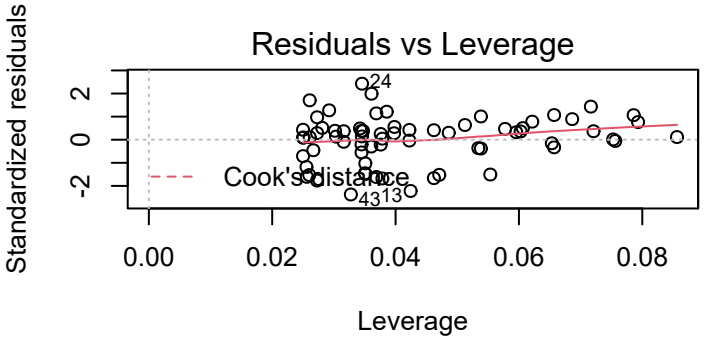

```
Anova Table (Type III tests)

Response: sbp
            Sum Sq Df F value    Pr(>F)
(Intercept)  56301  1 714.317 < 2.2e-16 ***
gender        3059  1  38.805 3.701e-08 ***
age          14081  1 178.647 < 2.2e-16 ***
Residuals     5202 66
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```










```
     Simultaneous Tests for General Linear Hypotheses

Multiple Comparisons of Means: Dunnett Contrasts


Fit: lm(formula = modelfunction, data = df_factorized)

Linear Hypotheses:
                   Estimate Std. Error t value Pr(<t)
male - female >= 0   13.513      2.169   6.229      1
(Adjusted p values reported -- single-step method)

     Simultaneous Confidence Intervals
```

```
Multiple Comparisons of Means: Dunnett Contrasts


Fit: lm(formula = modelfunction, data = df_factorized)

Quantile = 1.6683
95% family-wise confidence level


Linear Hypotheses:
                  Estimate lwr     upr
male - female >= 0 13.5135     -Inf 17.1325
```

```
     Simultaneous Tests for General Linear Hypotheses

Multiple Comparisons of Means: Dunnett Contrasts


Fit: lm(formula = modelfunction, data = df_factorized)

Linear Hypotheses:
                  Estimate Std. Error t value Pr(<t)
male - female >= 0   13.513      2.169   6.229      1
(Adjusted p values reported -- free method)
```

```
     Simultaneous Tests for General Linear Hypotheses

Multiple Comparisons of Means: Dunnett Contrasts


Fit: lm(formula = modelfunction, data = df_factorized)

Linear Hypotheses:
                  Estimate Std. Error t value Pr(<t)
male - female >= 0   13.513      2.157   6.264      1
(Adjusted p values reported -- single-step method)
```

```
     Simultaneous Confidence Intervals

Multiple Comparisons of Means: Dunnett Contrasts


Fit: lm(formula = modelfunction, data = df_factorized)
```

```
Quantile = 1.6683
95% family-wise confidence level


Linear Hypotheses:
                   Estimate lwr     upr
male - female >= 0 13.5135     -Inf 17.1123
```

```
     Simultaneous Tests for General Linear Hypotheses

Multiple Comparisons of Means: Dunnett Contrasts


Fit: lm(formula = modelfunction, data = df_factorized)

Linear Hypotheses:
                   Estimate Std. Error t value Pr(<t)
male - female >= 0   13.513      2.157   6.264      1
(Adjusted p values reported -- free method)
```

References

Fox, John, and Sanford Weisberg. 2019. *An R Companion to Applied Regression*. Third. Thousand Oaks CA: Sage. https://socialsciences.mcmaster.ca/jfox/Books/Companion/.

Gross, Juergen, and Uwe Ligges. 2015. *Nortest: Tests for Normality*. https://CRAN.R-project.org/package=nortest.

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