

Multiple Comparison Procedures To A Control

For AN(C)OVA Models

Statsomat.com

Contributors*

05 May 2021

Contents

Basic Information

2

References

6

*Denise Welsch, Markus Neuhäuser, Studentin1, Studentin2, Studentin3, Studentin4, Studentin5

Basic Information

Automatic statistics for the file:

File
recovery.csv

Your selection for the encoding: UTF-8

Your selection for the decimal character: .

Observations (rows with at least one non-missing value): 41

Variables (columns with at least one non-missing value): 2

Variables considered continuous: 1

Variables considered continuous

Variables considered categorical: 1

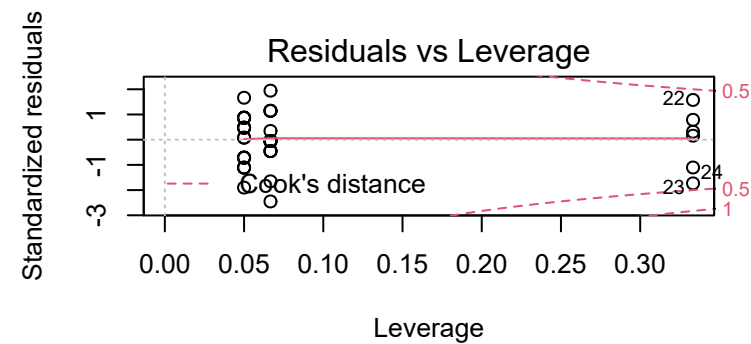
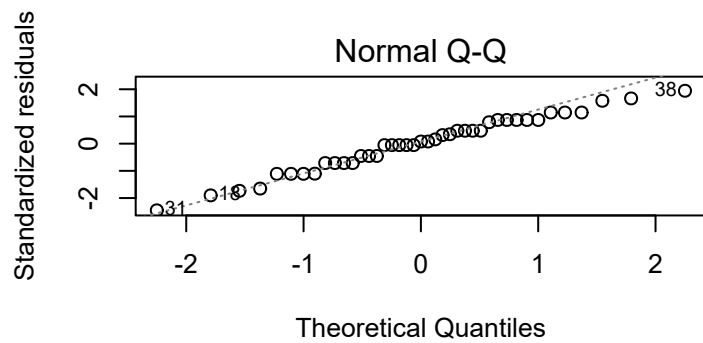
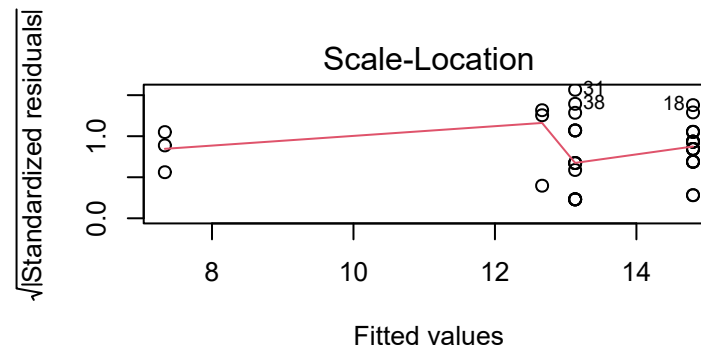
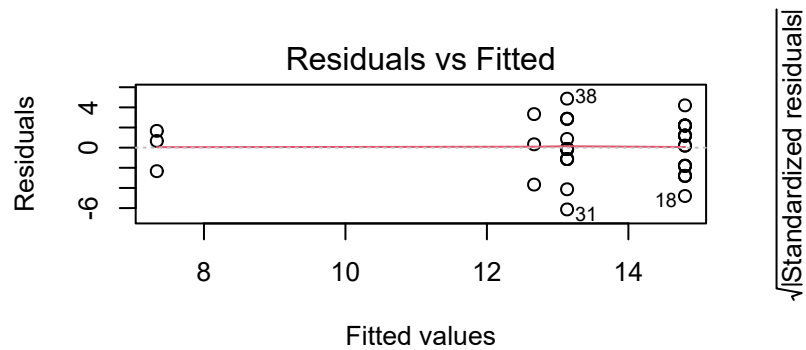
Variables considered categorical
blanket

Anova Table (Type III tests)

Response: minutes

	Sum Sq	Df	F value	Pr(>F)
(Intercept)	4380.8	1	652.8851	< 2.2e-16 ***
blanket	152.0	3	7.5499	0.0004619 ***
Residuals	248.3	37		

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)
b1 - b0 >= 0	-2.1333	1.6038	-1.330	0.2412
b2 - b0 >= 0	-7.4667	1.6038	-4.656	<0.001 ***
b3 - b0 >= 0	-1.6667	0.8848	-1.884	0.0924 .

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 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 = 2.1816
95% family-wise confidence level

Linear Hypotheses:

	Estimate	lwr	upr
b1 - b0 >= 0	-2.1333	-Inf	1.3655
b2 - b0 >= 0	-7.4667	-Inf	-3.9678
b3 - b0 >= 0	-1.6667	-Inf	0.2636

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)
b1 - b0 >= 0	-2.1333	1.6038	-1.330	0.0958 .
b2 - b0 >= 0	-7.4667	1.6038	-4.656	5.95e-05 ***
b3 - b0 >= 0	-1.6667	0.8848	-1.884	0.0640 .

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 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)
b1 - b0 >= 0	-2.1333	1.7346	-1.230	0.2794
b2 - b0 >= 0	-7.4667	1.1095	-6.730	<1e-04 ***
b3 - b0 >= 0	-1.6667	0.8642	-1.929	0.0847 .

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 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 = 2.1829

95% family-wise confidence level

Linear Hypotheses:

	Estimate	lwr	upr
b1 - b0 >= 0	-2.1333	-Inf	1.6531
b2 - b0 >= 0	-7.4667	-Inf	-5.0447

```
b3 - b0 >= 0 -1.6667      -Inf  0.2198
```

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)
b1 - b0 >= 0	-2.1333	1.7346	-1.230	0.113
b2 - b0 >= 0	-7.4667	1.1095	-6.730	7.35e-08 ***
b3 - b0 >= 0	-1.6667	0.8642	-1.929	0.059 .

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 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>.

Madsen, Jacob H. 2018. *DDoutlier: Distance & Density-Based Outlier Detection*. <https://CRAN.R-project.org/package=DDoutlier>.

R Core Team. 2019. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing. <https://www.R-project.org/>.

Zeileis, Achim, and Torsten Hothorn. 2002. “Diagnostic Checking in Regression Relationships.” *R News* 2 (3): 7–10. <https://CRAN.R-project.org/doc/Rnews/>.