

Multiple Comparison Procedures To A Control

For AN(C)OVA Models

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Contributors*

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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

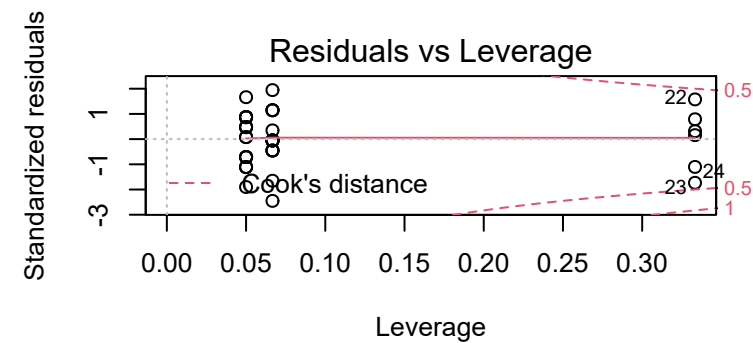
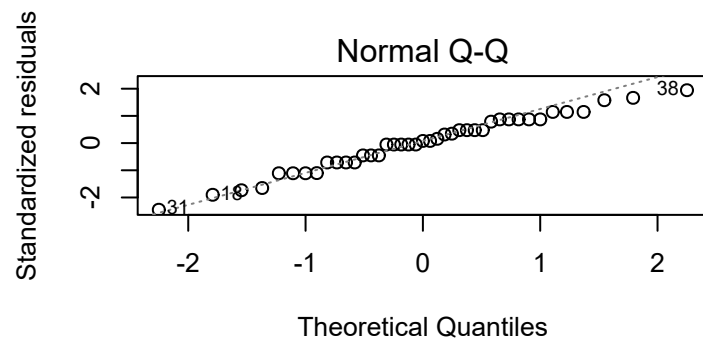
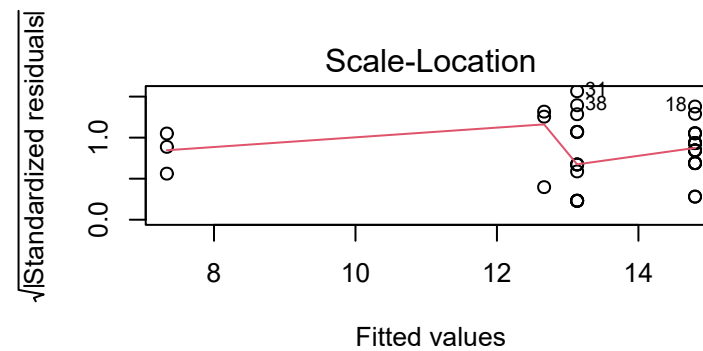
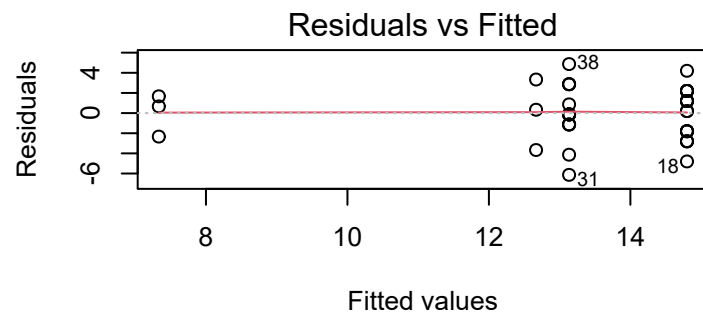
Variables considered categorical
blanket

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	0.2411
b2 - b0 >= 0	-7.4667	1.6038	-4.656	<0.001 ***
b3 - b0 >= 0	-1.6667	0.8848	-1.884	0.0925 .

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 = 2.1818

95% family-wise confidence level

Linear Hypotheses:

	Estimate	lwr	upr
b1 - b0 >= 0	-2.1333	-Inf	1.3658
b2 - b0 >= 0	-7.4667	-Inf	-3.9676
b3 - b0 >= 0	-1.6667	-Inf	0.2637

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	6.2e-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	0.2793
b2 - b0 >= 0	-7.4667	1.1095	-6.730	<0.001 ***
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	-5.0448
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 9.18e-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/>.
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- Zeileis, Achim, and Torsten Hothorn. 2002. "Diagnostic Checking in Regression Relationships." R News 2 (3): 7-10. <https://CRAN.R-project.org/doc/Rnews/>.