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
warpbreaks.csv

Your selection for the encoding: UTF-8
Your selection for the decimal character: .
Observations (rows with at least one non-missing value): 54
Variables (columns with at least one non-missing value): 3
Variables considered continuous: 1

Variables considered continuous
breaks

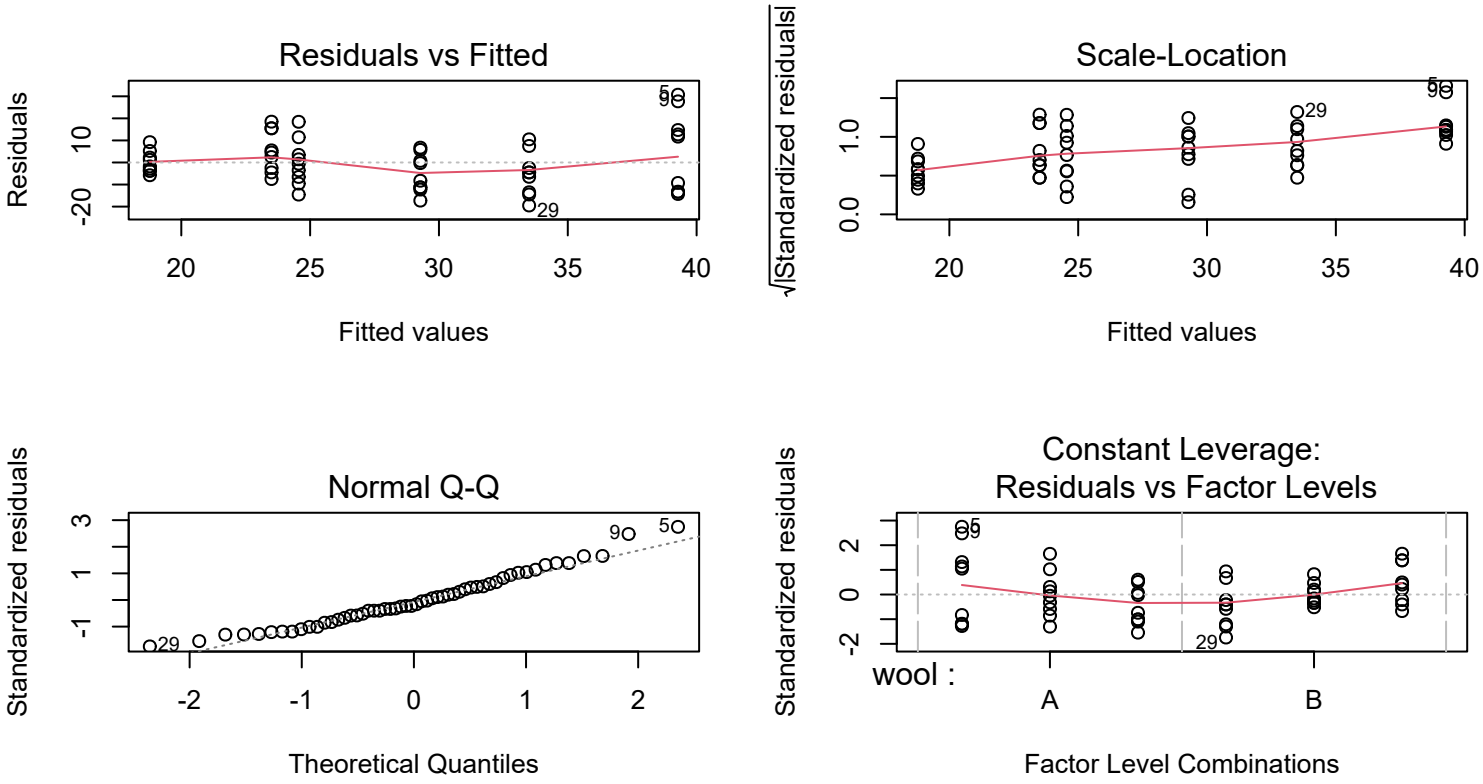
Variables considered categorical: 2

Variables considered categorical
wool
tension

```
Anova Table (Type III tests)

Response: breaks
            Sum Sq Df  F value    Pr(>F)
(Intercept)  42785  1 317.0264 < 2.2e-16 ***
wool           451  1   3.3393  0.073614 .
tension       2034  2   7.5367  0.001378 **
Residuals     6748 50
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

NULL
```



```
     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)
H - L >= 0  -14.722      3.872  -3.802 0.000383 ***
M - L >= 0  -10.000      3.872  -2.582 0.011998 *
---
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 = 1.9595
95% family-wise confidence level


Linear Hypotheses:
           Estimate lwr      upr
H - L >= 0 -14.7222     -Inf  -7.1344
M - L >= 0 -10.0000     -Inf  -2.4122


     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)
```

```
H - L >= 0  -14.722      3.872  -3.802 0.000383 ***
M - L >= 0  -10.000      3.872  -2.582 0.006393 **
---
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)
H - L >= 0  -14.722      3.903  -3.772 0.000393 ***
M - L >= 0  -10.000      4.199  -2.382 0.017728 *
---
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 = 1.9081
95% family-wise confidence level


Linear Hypotheses:
           Estimate lwr      upr
H - L >= 0 -14.7222     -Inf  -7.2756
M - L >= 0 -10.0000     -Inf  -1.9884


     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)
H - L >= 0  -14.722      3.903  -3.772 0.000393 ***
M - L >= 0  -10.000      4.199  -2.382 0.010542 *
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
(Adjusted p values reported -- free method)
```

References

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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/.

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