

The influence of the Primavera Sound festival on Airbnb prices

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Hypotheses

In this paper we are researching two hypotheses, concerning Airbnb prices during the festival Primavera Sound in Barcelona. The two research questions we are looking into are:

“Does the presence of a Summer Music Festival influence the prices of Airbnb listings in the respective city?”

“Is it possible to create a model that helps Airbnb hosts to define the pricings of their listings?”

To answer these hypotheses, two datasets for Airbnb listings are used and analyzed. From the data sets, the prices from during and before/after the festival are compared for the listings that are within 5 kilometers of the festival. The research objective is to discover if the prices for the Airbnb listings during the festival are different from normal, and if a model can be created that predicts these price differences.

```
##
## Call:
## lm(formula = price ~ minimum_nights, data = during_festival)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -11671    -292       89     144    42127
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  -26.46401    2.29047  -11.55  <2e-16 ***
## minimum_nights  13.09140    0.06397  204.64  <2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 738.6 on 122548 degrees of freedom
## (27050 observations deleted due to missingness)
## Multiple R-squared:  0.2547, Adjusted R-squared:  0.2547
## F-statistic: 4.188e+04 on 1 and 122548 DF,  p-value: < 2.2e-16
```

Research method

For the analysis of this research the means for the prices of the listings within 5 kilometers of the festival, are calculated and compared for during the festival and before/after. Moreover, four different linear regression are performed to get a deeper understanding of the differences between these periods.

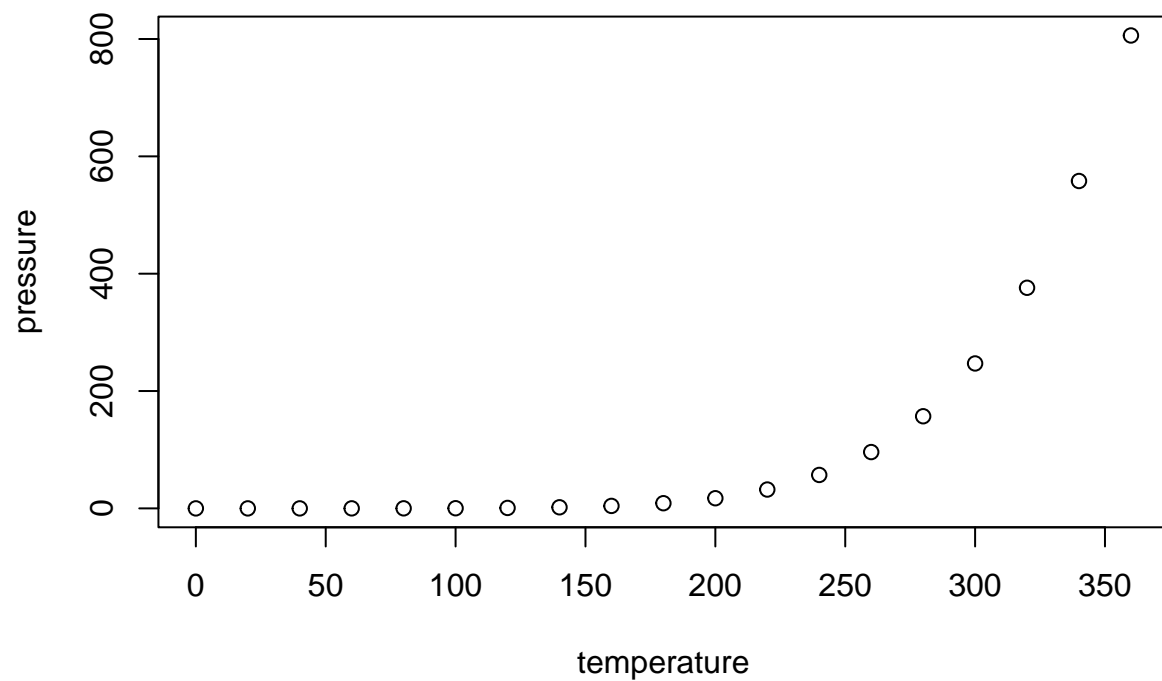
```
summary(cars)
```

```
##      speed      dist
## Min.   : 4.0    Min.   : 2.00
```

```
## 1st Qu.:12.0    1st Qu.: 26.00
## Median :15.0    Median : 36.00
## Mean   :15.4    Mean   : 42.98
## 3rd Qu.:19.0    3rd Qu.: 56.00
## Max.   :25.0    Max.    :120.00
```

Including Plots

You can also embed plots, for example:



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.