Fry Analysis

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FIRST WEEK

```
day1 <- ndata_list[[1]]
day1 <- day1[,-2]
day1 <- day1[,-11]
mod1 <- lm(Overall.Liking~.,data=day1)
summary(mod1)
```

```
##
## Call:
## lm(formula = Overall.Liking ~ ., data = day1)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -2.1111 -0.2938  0.0049  0.2485  1.7017
##
## Coefficients:
##               Estimate Std. Error t value Pr(>|t|)
## (Intercept) -0.5692736  0.5367084  -1.061   0.2906
## Samp.Set    -0.0033866  0.0023988  -1.412   0.1602
## Samp.        0.0700342  0.0979379   0.715   0.4757
## Gender       0.2007011  0.1031729   1.945   0.0537 .
## Age         -0.0046874  0.0378202  -0.124   0.9015
## Temperature  0.0982355  0.0676416   1.452   0.1486
## Appearance   0.1038888  0.0460802   2.255   0.0257 *
## Color       -0.0027467  0.0667375  -0.041   0.9672
## Taste        0.6411746  0.0437009  14.672  < 2e-16 ***
## Texture      0.2311034  0.0456160   5.066 1.22e-06 ***
## Preference  -0.0008317  0.0642330  -0.013   0.9897
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.6058 on 145 degrees of freedom
## Multiple R-squared:  0.8463, Adjusted R-squared:  0.8357
## F-statistic: 79.83 on 10 and 145 DF,  p-value: < 2.2e-16
```

```
day2 <- ndata_list[[2]]
day2 <- day2[,-2]
day2 <- day2[,-11]
mod2 <- lm(Overall.Liking~.,data=day2)
summary(mod2)
```

```
##
## Call:
## lm(formula = Overall.Liking ~ ., data = day2)
##
## Residuals:
```

```
##     Min      1Q  Median      3Q     Max
## -2.6639 -0.2611  0.0231  0.2875  1.4955
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept) -0.347305   0.481787  -0.721   0.4722
## Samp.Set     0.005351   0.002371   2.257   0.0256 *
## Samp.        0.003272   0.097565   0.034   0.9733
## Gender       0.051064   0.098569   0.518   0.6053
## Age          0.060944   0.038310   1.591   0.1140
## Temperature -0.092379   0.065970  -1.400   0.1637
## Appearance   0.096049   0.048802   1.968   0.0511 .
## Color        0.077320   0.066472   1.163   0.2468
## Taste        0.602162   0.052308  11.512  < 2e-16 ***
## Texture      0.289275   0.051086   5.663 8.42e-08 ***
## Preference   0.030658   0.076048   0.403   0.6875
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.5692 on 137 degrees of freedom
## Multiple R-squared:  0.8627, Adjusted R-squared:  0.8527
## F-statistic: 86.07 on 10 and 137 DF,  p-value: < 2.2e-16
```

```
day3 <- ndata_list[[3]]
day3 <- day3[,-3]
day3 <- day3[,-11]
mod3 <- lm(Overall.Liking~.,data=day3)
summary(mod3)
```

```
##
## Call:
## lm(formula = Overall.Liking ~ ., data = day3)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -2.05979 -0.31462 -0.00782  0.28454  1.81164
##
## Coefficients:
##               Estimate Std. Error t value Pr(>|t|)
## (Intercept) -2.013e+05  1.612e+05  -1.249   0.2138
## Samp.Set    -1.693e-02  1.466e-02  -1.154   0.2504
## Time.Stamp   1.448e-04  1.159e-04   1.249   0.2138
## Gender      -1.430e-03  1.147e-01  -0.012   0.9901
## Age          4.569e-02  4.901e-02   0.932   0.3528
## Temperature  5.333e-02  8.401e-02   0.635   0.5266
## Appearance   1.111e-01  5.436e-02   2.044   0.0429 *
## Color       -5.043e-02  7.172e-02  -0.703   0.4831
## Taste        5.556e-01  5.485e-02  10.128  < 2e-16 ***
## Texture      2.550e-01  5.578e-02   4.571 1.08e-05 ***
## Preference  -5.789e-02  7.661e-02  -0.756   0.4512
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.6447 on 135 degrees of freedom
## Multiple R-squared:  0.8298, Adjusted R-squared:  0.8172
```

```
## F-statistic: 65.83 on 10 and 135 DF,  p-value: < 2.2e-16
```

```
day4 <- ndata_list[[4]]
day4 <- day4[,-4]
day4 <- day4[,-11]
mod4 <- lm(Overall.Liking~.,data=day4)
summary(mod4)
```

```
##
## Call:
## lm(formula = Overall.Liking ~ ., data = day4)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -2.13145 -0.22371 -0.06157  0.27104  1.51244
##
## Coefficients:
##               Estimate Std. Error t value Pr(>|t|)
## (Intercept)  1.642e+05  2.045e+05   0.803   0.4230
## Samp.Set     1.192e-02  1.579e-02   0.755   0.4512
## Time.Stamp  -1.181e-04  1.470e-04  -0.803   0.4231
## Samp.       -4.601e-02  8.727e-02  -0.527   0.5987
## Age          1.142e-02  3.265e-02   0.350   0.7269
## Temperature  3.687e-02  5.794e-02   0.636   0.5254
## Appearance   1.019e-01  4.491e-02   2.269   0.0245 *
## Color       -1.260e-03  5.101e-02  -0.025   0.9803
## Taste        6.308e-01  4.602e-02  13.707  < 2e-16 ***
## Texture      2.266e-01  4.015e-02   5.643 6.44e-08 ***
## Preference  -4.779e-02  5.825e-02  -0.820   0.4131
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.5976 on 179 degrees of freedom
## Multiple R-squared:  0.8143, Adjusted R-squared:  0.8039
## F-statistic: 78.49 on 10 and 179 DF,  p-value: < 2.2e-16
```

```
day5 <- ndata_list[[5]]
day5 <- day5[,-4]
day5 <- day5[,-11]
mod5 <- lm(Overall.Liking~.,data=day5)
summary(mod5)
```

```
##
## Call:
## lm(formula = Overall.Liking ~ ., data = day5)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -2.68616 -0.35370  0.01023  0.32858  2.79840
##
## Coefficients:
##               Estimate Std. Error t value Pr(>|t|)
## (Intercept) -7.135e+04  1.383e+05  -0.516 0.606639
## Samp.Set    -6.662e-03  1.094e-02  -0.609 0.543408
## Time.Stamp   5.130e-05  9.947e-05   0.516 0.606642
```

```
## Samp.        9.452e-02  9.308e-02   1.016 0.311154
## Age         -3.553e-02  3.473e-02  -1.023 0.307539
## Temperature  3.230e-03  5.815e-02   0.056 0.955767
## Appearance   1.585e-01  4.416e-02   3.589 0.000422 ***
## Color        1.270e-01  7.198e-02   1.764 0.079356 .
## Taste        5.503e-01  4.780e-02  11.512  < 2e-16 ***
## Texture      2.657e-01  4.251e-02   6.250 2.66e-09 ***
## Preference  -1.958e-02  6.188e-02  -0.316 0.752070
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.6435 on 189 degrees of freedom
## Multiple R-squared:  0.7762, Adjusted R-squared:  0.7644
## F-statistic: 65.56 on 10 and 189 DF,  p-value: < 2.2e-16
```

```
#multi.hist(day1) #error, not numeric
```

```
histosforall <- function(x){
  dayx <- ndata_list[[x]]
  dayx <- dayx[,-2]
  dayx <- dayx[,-11]
  jpeg(paste0("Day",x,".jpg"))
  multi.hist(dayx, main = paste("Day", x, sep=""))
}
```

```
histosforall(1)
#\includegraphics[width=450pt]{Day1.jpg}
```

```
histosforall(2)
#\includegraphics[width=450pt]{Day2.jpg}
```

```
histosforall(3)
#\includegraphics[width=450pt]{Day3.jpg}
```

```
histosforall(4)
#\includegraphics[width=450pt]{Day4.jpg}
```

```
histosforall(5)
#\includegraphics[width=450pt]{Day5.jpg}
```

SECOND WEEK

```
data_list <- list(Day8, Day7, Day8, Day9, Day10)

#ndata_list <- lapply(data_list, `[`,-c(7:23))
ndata_list <- lapply(data_list, `[`,-c(4:5))
ndata_list <- lapply(ndata_list, `[`,-1)

day6 <- ndata_list[[1]]
  day6 <- day6[,-2]
  day6 <- day6[,-15]
  day6 <- day6[,-4]
  day6 <- day6[,-3]
```

```r
day7 <- ndata_list[[2]]
  day7 <- day7[,-2]
  day7 <- day7[,-15]
  day7 <- day7[,-4]
  day7 <- day7[,-3]

day8 <- ndata_list[[3]]
  day8 <- day8[,-2]
  day8 <- day8[,-15]
  day8 <- day8[,-4]
  day8 <- day8[,-3]

day9 <- ndata_list[[4]]
  day9 <- day9[,-2]
  day9 <- day9[,-15]
  day9 <- day9[,-4]
  day9 <- day9[,-3]

day10 <- ndata_list[[5]]
  day10 <- day10[,-2]
  day10 <- day10[,-15]
  day10 <- day10[,-4]
  day10 <- day10[,-3]

mod6 <- lm(Overall.Liking~.,data=day6)
summary(mod6)
```

```
##
## Call:
## lm(formula = Overall.Liking ~ ., data = day6)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -1.73996 -0.27917 -0.02974  0.29164  2.27068
##
## Coefficients: (1 not defined because of singularities)
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.480854   0.473983   1.014    0.312
## Samp.Set    -0.001396   0.001564  -0.893    0.373
## Samp.        0.042873   0.083956   0.511    0.610
## Samp.BC            NA         NA      NA       NA
## Samp.Pos     0.033078   0.085540   0.387    0.699
## Gender      -0.133386   0.088102  -1.514    0.132
## Age         -0.057096   0.037532  -1.521    0.130
## Temperature -0.012379   0.061759  -0.200    0.841
## Appearance   0.230448   0.039980   5.764 3.40e-08 ***
## Color       -0.069681   0.058563  -1.190    0.236
## Taste        0.499300   0.048590  10.276  < 2e-16 ***
## Texture      0.320806   0.045572   7.039 3.71e-11 ***
## Preference  -0.047551   0.063734  -0.746    0.457
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.5841 on 184 degrees of freedom
```

```
## Multiple R-squared:  0.8487, Adjusted R-squared:  0.8396
## F-statistic: 93.82 on 11 and 184 DF,  p-value: < 2.2e-16
```

```
mod7 <- lm(Overall.Liking~.,data=day7)
summary(mod7)
```

```
##
## Call:
## lm(formula = Overall.Liking ~ ., data = day7)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -1.83659 -0.20384 -0.01142  0.18156  2.47543
##
## Coefficients: (1 not defined because of singularities)
##               Estimate Std. Error t value Pr(>|t|)
## (Intercept)  5.311e-01  4.024e-01   1.320  0.18817
## Samp.Set     4.583e-05  1.056e-03   0.043  0.96541
## Samp.        3.062e-02  7.346e-02   0.417  0.67715
## Samp.BC             NA         NA      NA       NA
## Samp.Pos     2.903e-03  7.321e-02   0.040  0.96840
## Gender       8.288e-02  7.490e-02   1.106  0.26965
## Age          6.073e-03  2.698e-02   0.225  0.82214
## Temperature -7.248e-02  4.555e-02  -1.591  0.11290
## Appearance   1.233e-01  3.908e-02   3.156  0.00181 **
## Color       -1.841e-02  5.281e-02  -0.349  0.72776
## Taste        5.191e-01  3.979e-02  13.045  < 2e-16 ***
## Texture      3.297e-01  3.717e-02   8.868  < 2e-16 ***
## Preference  -2.823e-02  5.544e-02  -0.509  0.61105
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.571 on 236 degrees of freedom
## Multiple R-squared:  0.8194, Adjusted R-squared:  0.811
## F-statistic: 97.36 on 11 and 236 DF,  p-value: < 2.2e-16
```

```
mod8 <- lm(Overall.Liking~.,data=day8)
summary(mod8)
```

```
##
## Call:
## lm(formula = Overall.Liking ~ ., data = day8)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -1.73996 -0.27917 -0.02974  0.29164  2.27068
##
## Coefficients: (1 not defined because of singularities)
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.480854   0.473983   1.014    0.312
## Samp.Set    -0.001396   0.001564  -0.893    0.373
## Samp.        0.042873   0.083956   0.511    0.610
## Samp.BC            NA         NA      NA       NA
## Samp.Pos     0.033078   0.085540   0.387    0.699
## Gender      -0.133386   0.088102  -1.514    0.132
```

```
## Age         -0.057096   0.037532  -1.521    0.130
## Temperature -0.012379   0.061759  -0.200    0.841
## Appearance   0.230448   0.039980   5.764 3.40e-08 ***
## Color       -0.069681   0.058563  -1.190    0.236
## Taste        0.499300   0.048590  10.276  < 2e-16 ***
## Texture      0.320806   0.045572   7.039 3.71e-11 ***
## Preference  -0.047551   0.063734  -0.746    0.457
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.5841 on 184 degrees of freedom
## Multiple R-squared:  0.8487, Adjusted R-squared:  0.8396
## F-statistic: 93.82 on 11 and 184 DF,  p-value: < 2.2e-16
```

```
mod9 <- lm(Overall.Liking~.,data=day9)
summary(mod9)
```

```
##
## Call:
## lm(formula = Overall.Liking ~ ., data = day9)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -1.81989 -0.35002 -0.02726  0.25392  1.98503
##
## Coefficients: (1 not defined because of singularities)
##               Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.0091217  0.4432896   0.021   0.9836
## Samp.Set    -0.0002735  0.0014650  -0.187   0.8521
## Samp.       -0.0355358  0.0831155  -0.428   0.6695
## Samp.BC             NA         NA      NA       NA
## Samp.Pos    -0.1513898  0.0819780  -1.847   0.0663 .
## Gender       0.0678411  0.0829857   0.818   0.4147
## Age         -0.0162401  0.0322037  -0.504   0.6146
## Temperature  0.0582639  0.0540910   1.077   0.2828
## Appearance   0.2021070  0.0394986   5.117 7.51e-07 ***
## Color       -0.0366631  0.0550520  -0.666   0.5062
## Taste        0.5375433  0.0423714  12.686  < 2e-16 ***
## Texture      0.2888400  0.0395333   7.306 7.17e-12 ***
## Preference  -0.0199004  0.0567695  -0.351   0.7263
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.582 on 192 degrees of freedom
## Multiple R-squared:  0.8639, Adjusted R-squared:  0.8561
## F-statistic: 110.8 on 11 and 192 DF,  p-value: < 2.2e-16
```

```
mod10 <- lm(Overall.Liking~.,data=day10)
summary(mod10)
```

```
##
## Call:
## lm(formula = Overall.Liking ~ ., data = day10)
##
## Residuals:
```

```
##      Min       1Q   Median       3Q      Max
## -1.65768 -0.24985 -0.00662  0.28493  2.41453
##
## Coefficients: (1 not defined because of singularities)
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept) -0.759828   0.444116  -1.711  0.08891 .
## Samp.Set     0.004482   0.001765   2.540  0.01197 *
## Samp.       -0.048168   0.089433  -0.539  0.59086
## Samp.BC            NA         NA      NA       NA
## Samp.Pos     0.001216   0.090980   0.013  0.98936
## Gender      -0.035203   0.095868  -0.367  0.71392
## Age         -0.007504   0.035358  -0.212  0.83217
## Temperature  0.070506   0.050382   1.399  0.16349
## Appearance   0.113380   0.042824   2.648  0.00886 **
## Color        0.054906   0.064031   0.857  0.39237
## Taste        0.576026   0.045429  12.680  < 2e-16 ***
## Texture      0.332094   0.042498   7.814 5.25e-13 ***
## Preference  -0.070937   0.059205  -1.198  0.23250
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.6012 on 172 degrees of freedom
## Multiple R-squared:  0.8446, Adjusted R-squared:  0.8346
## F-statistic: 84.97 on 11 and 172 DF,  p-value: < 2.2e-16
```

```
#View(ndata_list[1])
histosforall <- function(x){
  dayx <- ndata_list[[x]]
  dayx <- dayx[,-2]
  dayx <- dayx[,-15]
  dayx <- dayx[,-4]
  dayx <- dayx[,-3]
  jpeg(paste0("Day",x,".jpg"))
  multi.hist(dayx, main = paste("Day", x, sep=""))
}
```

```
histosforall(1)
#\includegraphics[width=450pt]{Day1.jpg}
```

```
histosforall(2)
#\includegraphics[width=450pt]{Day2.jpg}
```

```
histosforall(3)
#\includegraphics[width=450pt]{Day3.jpg}
```

```
histosforall(4)
#\includegraphics[width=450pt]{Day4.jpg}
```

```
histosforall(5)
#\includegraphics[width=450pt]{Day5.jpg}
```

```
#### Only done for Day 1
# paste cells into one string, use ";" as separator
comments.string <- paste(Day1$Comments , collapse = " " )
# split string at ";"
comments.vector <- strsplit(comments.string , " " )[[1]]
```

```r
# get rid of white space to prevent errors
comments.vector.clean <- gsub ( " " , "" , comments.vector )
# tabulate data
sort(table(comments.vector.clean),decreasing = TRUE)
```