spud

R Markdown

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see http://rmarkdown.rstudio.com.

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
df = read.csv("trial.csv")   #This file has some dummy data in which femail participants who see a feed
                             # reduce their beef consumption next week by one meail, wiht probablity of
#rename some columns
# pre_ is weekly consumption before they watch the video
# post_ is weekly plan for next week

names(df)[names(df) == 'q10_5_text'] <- 'pre_beef'
names(df)[names(df) == 'q11_5_text'] <- 'post_beef'
names(df)[names(df) == 'q10_6_text'] <- 'pre_pork'
names(df)[names(df) == 'q11_6_text'] <- 'post_pork'
names(df)[names(df) == 'q9'] <- 'sex'
summary(df)
```

```
##    mturkcode              q1            sex        q10_1_text
##  Min.   :3.638e+07   Min.   :15.00   Female:205   Min.   : 0.000
##  1st Qu.:2.854e+09   1st Qu.:17.00   Male  :195   1st Qu.: 2.000
##  Median :5.222e+09   Median :20.00                Median : 5.000
##  Mean   :5.109e+09   Mean   :20.01                Mean   : 5.125
##  3rd Qu.:7.299e+09   3rd Qu.:23.00                3rd Qu.: 8.000
##  Max.   :9.993e+09   Max.   :25.00                Max.   :10.000
##    q10_2_text       q10_3_text      q10_4_text        pre_beef
##  Min.   : 0.000   Min.   : 0.00   Min.   : 0.000   Min.   :0.000
##  1st Qu.: 2.000   1st Qu.: 2.00   1st Qu.: 2.000   1st Qu.:4.000
##  Median : 5.000   Median : 5.00   Median : 5.000   Median :4.000
##  Mean   : 4.973   Mean   : 5.01   Mean   : 5.037   Mean   :4.125
##  3rd Qu.: 8.000   3rd Qu.: 8.00   3rd Qu.: 8.000   3rd Qu.:5.000
##  Max.   :10.000   Max.   :10.00   Max.   :10.000   Max.   :6.000
##     pre_pork                                    q8        q11_1_text
##  Min.   : 0.000   Use of animals in agriculture   :267   Min.   : 0.000
##  1st Qu.: 1.000   Use of irrigation in agriculture:133   1st Qu.: 3.000
##  Median : 4.000                                          Median : 5.000
##  Mean   : 4.275                                          Mean   : 5.178
##  3rd Qu.: 7.000                                          3rd Qu.: 8.000
##  Max.   :10.000                                          Max.   :10.000
##    q11_2_text       q11_3_text       q11_4_text      post_beef
##  Min.   : 0.000   Min.   : 0.000   Min.   : 0.00   Min.   :0.000
##  1st Qu.: 2.000   1st Qu.: 2.000   1st Qu.: 2.00   1st Qu.:3.000
##  Median : 5.000   Median : 5.000   Median : 5.00   Median :4.000
##  Mean   : 5.027   Mean   : 4.832   Mean   : 5.02   Mean   :4.035
##  3rd Qu.: 8.000   3rd Qu.: 8.000   3rd Qu.: 8.00   3rd Qu.:5.000
##  Max.   :10.000   Max.   :10.000   Max.   :10.00   Max.   :7.000
##    post_pork      video_type attention_correct
##  Min.   : 0.000   F:134      true:400
```

```
##  1st Qu.: 1.000   I:133
##  Median : 4.000   P:133
##  Mean   : 4.332
##  3rd Qu.: 7.000
##  Max.   :10.000
```

```r
# remember, video_type:  "F" => feedlot, "P" => Pasture, "I" => Irrigation
# Create a new column "vegetarian" for those who never eat meat before treatment
#mean(df$pre_beef)
#mean(df$post_beef)
#mean(df$post_beef[df$sex=="Male"])
#mean(df$post_beef[df$sex=="Female"])
#mean(df$post_beef[df$sex=="Female" & df$video_type=="F"])
#mean(df$post_beef[df$sex=="Female" & df$video_type=="P"])
#mean(df$post_beef[df$sex=="Female" & df$video_type=="I"])


# try a simple regression; set male and Irrigation video as reference levels for those factors
df$sex <-relevel(df$sex, ref = "Male")
df$video_type <-relevel(df$video_type, ref = "I")
df$vegetarian <- (df$pre_beef == 0) & (df$pre_pork == 0)
model1 = lm( post_beef ~ pre_beef + vegetarian + factor(sex)*factor(video_type)*vegetarian, data=df)
summary(model1)
```

```
##
## Call:
## lm(formula = post_beef ~ pre_beef + vegetarian + factor(sex) *
##     factor(video_type) * vegetarian, data = df)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -1.5020 -0.9217  0.0000  0.9746  1.5313
##
## Coefficients:
##                                                          Estimate Std. Error
## (Intercept)                                              0.074835   0.270462
## pre_beef                                                 0.983338   0.054949
## vegetarianTRUE                                          -0.074835   0.388207
## factor(sex)Female                                        0.017222   0.153933
## factor(video_type)F                                      0.001865   0.152848
## factor(video_type)P                                     -0.015378   0.161636
## factor(sex)Female:factor(video_type)F                   -0.525298   0.215870
## factor(sex)Female:factor(video_type)P                   -0.088293   0.218438
## vegetarianTRUE:factor(sex)Female                        -0.017222   0.466458
## vegetarianTRUE:factor(video_type)F                      -0.001865   0.447919
## vegetarianTRUE:factor(video_type)P                       0.015378   0.436956
## vegetarianTRUE:factor(sex)Female:factor(video_type)F     0.525298   0.692676
## vegetarianTRUE:factor(sex)Female:factor(video_type)P     0.088293   0.684435
##                                                         t value Pr(>|t|)
## (Intercept)                                               0.277   0.7822
## pre_beef                                                 17.896   <2e-16 ***
## vegetarianTRUE                                           -0.193   0.8472
## factor(sex)Female                                         0.112   0.9110
## factor(video_type)F                                       0.012   0.9903
## factor(video_type)P                                      -0.095   0.9243
```

```
## factor(sex)Female:factor(video_type)F                 -2.433   0.0154 *
## factor(sex)Female:factor(video_type)P                 -0.404   0.6863
## vegetarianTRUE:factor(sex)Female                      -0.037   0.9706
## vegetarianTRUE:factor(video_type)F                    -0.004   0.9967
## vegetarianTRUE:factor(video_type)P                     0.035   0.9719
## vegetarianTRUE:factor(sex)Female:factor(video_type)F   0.758   0.4487
## vegetarianTRUE:factor(sex)Female:factor(video_type)P   0.129   0.8974
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.8355 on 387 degrees of freedom
## Multiple R-squared:  0.7803, Adjusted R-squared:  0.7735
## F-statistic: 114.5 on 12 and 387 DF,  p-value: < 2.2e-16
```

Nicer output courtesy of stargazer

```
stargazer(model1, type="latex", header=FALSE, no.space=FALSE)
```

```
# Now try it with standarized beef scores

df$standardized_pre_beef <- scale(df$pre_beef)
df$standardized_post_beef <- scale(df$post_beef)
model2 = lm( standardized_post_beef ~ standardized_pre_beef + vegetarian + factor(sex)*factor(video_typ
summary(model2)
```

```
##
## Call:
## lm(formula = standardized_post_beef ~ standardized_pre_beef +
##     vegetarian + factor(sex) * factor(video_type) * vegetarian,
##     data = df)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -0.8556 -0.5251  0.0000  0.5552  0.8724
##
## Coefficients:
##                                                       Estimate Std. Error
## (Intercept)                                           0.054746   0.064073
## standardized_pre_beef                                 0.882266   0.049301
## vegetarianTRUE                                       -0.042631   0.221148
## factor(sex)Female                                     0.009811   0.087691
## factor(video_type)F                                   0.001063   0.087073
## factor(video_type)P                                  -0.008760   0.092079
## factor(sex)Female:factor(video_type)F                -0.299245   0.122974
## factor(sex)Female:factor(video_type)P                -0.050297   0.124437
## vegetarianTRUE:factor(sex)Female                     -0.009811   0.265725
## vegetarianTRUE:factor(video_type)F                   -0.001063   0.255164
## vegetarianTRUE:factor(video_type)P                    0.008760   0.248919
## vegetarianTRUE:factor(sex)Female:factor(video_type)F  0.299245   0.394594
## vegetarianTRUE:factor(sex)Female:factor(video_type)P  0.050297   0.389899
##                                                      t value Pr(>|t|)
## (Intercept)                                            0.854   0.3934
## standardized_pre_beef                                 17.896   <2e-16 ***
## vegetarianTRUE                                        -0.193   0.8472
## factor(sex)Female                                      0.112   0.9110
```

Table 1:

	Dependent variable:
	post_beef
pre_beef	0.983***
	(0.055)
vegetarian	−0.075
	(0.388)
factor(sex)Female	0.017
	(0.154)
factor(video_type)F	0.002
	(0.153)
factor(video_type)P	−0.015
	(0.162)
factor(sex)Female:factor(video_type)F	−0.525**
	(0.216)
factor(sex)Female:factor(video_type)P	−0.088
	(0.218)
vegetarianTRUE:factor(sex)Female	−0.017
	(0.466)
vegetarianTRUE:factor(video_type)F	−0.002
	(0.448)
vegetarianTRUE:factor(video_type)P	0.015
	(0.437)
vegetarianTRUE:factor(sex)Female:factor(video_type)F	0.525
	(0.693)
vegetarianTRUE:factor(sex)Female:factor(video_type)P	0.088
	(0.684)
Constant	0.075
	(0.270)
Observations	400
R^2	0.780
Adjusted R^2	0.773
Residual Std. Error	0.835 (df = 387)
F Statistic	114.541*** (df = 12; 387)
Note:	*p<0.1; **p<0.05; ***p<0.01

```
## factor(video_type)F                                      0.012   0.9903
## factor(video_type)P                                     -0.095   0.9243
## factor(sex)Female:factor(video_type)F                   -2.433   0.0154 *
## factor(sex)Female:factor(video_type)P                   -0.404   0.6863
## vegetarianTRUE:factor(sex)Female                        -0.037   0.9706
## vegetarianTRUE:factor(video_type)F                      -0.004   0.9967
## vegetarianTRUE:factor(video_type)P                       0.035   0.9719
## vegetarianTRUE:factor(sex)Female:factor(video_type)F     0.758   0.4487
## vegetarianTRUE:factor(sex)Female:factor(video_type)P     0.129   0.8974
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.4759 on 387 degrees of freedom
## Multiple R-squared:  0.7803, Adjusted R-squared:  0.7735
## F-statistic: 114.5 on 12 and 387 DF,  p-value: < 2.2e-16
```

```
stargazer(model2, type="latex", header=FALSE, no.space=FALSE)
```

Table 2:

	Dependent variable:
	standardized_post_beef
standardized_pre_beef	0.882***
	(0.049)
vegetarian	−0.043
	(0.221)
factor(sex)Female	0.010
	(0.088)
factor(video_type)F	0.001
	(0.087)
factor(video_type)P	−0.009
	(0.092)
factor(sex)Female:factor(video_type)F	−0.299**
	(0.123)
factor(sex)Female:factor(video_type)P	−0.050
	(0.124)
vegetarianTRUE:factor(sex)Female	−0.010
	(0.266)
vegetarianTRUE:factor(video_type)F	−0.001
	(0.255)
vegetarianTRUE:factor(video_type)P	0.009
	(0.249)
vegetarianTRUE:factor(sex)Female:factor(video_type)F	0.299
	(0.395)
vegetarianTRUE:factor(sex)Female:factor(video_type)P	0.050
	(0.390)
Constant	0.055
	(0.064)
Observations	400
R^2	0.780
Adjusted R^2	0.773
Residual Std. Error	0.476 (df = 387)
F Statistic	114.541*** (df = 12; 387)
Note:	*p<0.1; **p<0.05; ***p<0.01