RMarkdown.R

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2020-12-05

#Creación del modelo logistico final  
#creacion de variables de trabajo recodificandolas   
#determinación de que variables son significativas en el modelo por país  
#citacion stargazer  
  
#Hlavac, Marek (2018). stargazer: Well-Formatted Regression and Summary Statistics  
#Tables. R package version 5.2.2. https://CRAN.R-project.org/package=stargazer  
  
#ojo definicion del diretorio de trabajo de R  
  
  
a<-"C:/Users/amart/Documents/UOC/2020\_2/TFM/Eurobarometro\_FS\_464"  
setwd(a)  
  
#librerias a cargar  
library(glm.predict)

## Warning: package 'glm.predict' was built under R version 3.6.2

## Loading required package: MASS

## Warning: package 'MASS' was built under R version 3.6.2

## Loading required package: parallel

library(glm2)

##   
## Attaching package: 'glm2'

## The following object is masked from 'package:MASS':  
##   
## crabs

library(glmc)

## Warning: package 'glmc' was built under R version 3.6.2

## Fitting Generalized Linear Models Subject to  
## Constraints  
## Version 0.3-1 created on 2018-12-11.

## 'Title: Fitting Generalized Linear Models Subject to  
## Constraints'  
## Version Version: 0.3-1 created on Date: 2018-12-11.

## copyright (c) 2004, Mark S. Handcock, University of Washington

## To cite, see citation("glmc")

## Type help(package="glmc") to get started.

library(glmm)

## Warning: package 'glmm' was built under R version 3.6.2

## Loading required package: trust

## Warning: package 'trust' was built under R version 3.6.2

## Loading required package: mvtnorm

## Loading required package: Matrix

## Loading required package: doParallel

## Warning: package 'doParallel' was built under R version 3.6.2

## Loading required package: foreach

## Warning: package 'foreach' was built under R version 3.6.2

## Loading required package: iterators

## Warning: package 'iterators' was built under R version 3.6.2

library(glmmboot)

## Warning: package 'glmmboot' was built under R version 3.6.2

library(dplyr)

##   
## Attaching package: 'dplyr'

## The following object is masked from 'package:MASS':  
##   
## select

## The following objects are masked from 'package:stats':  
##   
## filter, lag

## The following objects are masked from 'package:base':  
##   
## intersect, setdiff, setequal, union

library(tidyr)

##   
## Attaching package: 'tidyr'

## The following objects are masked from 'package:Matrix':  
##   
## expand, pack, unpack

library(haven)  
library(Rcmdr)

## Loading required package: splines

## Loading required package: RcmdrMisc

## Loading required package: car

## Loading required package: carData

##   
## Attaching package: 'car'

## The following object is masked from 'package:dplyr':  
##   
## recode

## Loading required package: sandwich

## Loading required package: effects

## Registered S3 methods overwritten by 'lme4':  
## method from  
## cooks.distance.influence.merMod car   
## influence.merMod car   
## dfbeta.influence.merMod car   
## dfbetas.influence.merMod car

## lattice theme set by effectsTheme()  
## See ?effectsTheme for details.

## La interfaz R-Commander sólo funciona en sesiones interactivas

##   
## Attaching package: 'Rcmdr'

## The following object is masked from 'package:base':  
##   
## errorCondition

library(car)  
library(ggplot2) #, pos = 19)  
library(abind) #, pos = 19)  
library(gmodels)  
library(e1071) #, pos = 22)  
library(lattice)  
library(survival)

## Warning: package 'survival' was built under R version 3.6.3

##   
## Attaching package: 'survival'

## The following object is masked from 'package:glm2':  
##   
## heart

library(Formula)  
library(Hmisc)

##   
## Attaching package: 'Hmisc'

## The following object is masked from 'package:e1071':  
##   
## impute

## The following object is masked from 'package:RcmdrMisc':  
##   
## Dotplot

## The following objects are masked from 'package:dplyr':  
##   
## src, summarize

## The following objects are masked from 'package:base':  
##   
## format.pval, units

library(catspec)

## Warning: package 'catspec' was built under R version 3.6.2

library(stargazer)

##   
## Please cite as:

## Hlavac, Marek (2018). stargazer: Well-Formatted Regression and Summary Statistics Tables.

## R package version 5.2.2. https://CRAN.R-project.org/package=stargazer

library(nnet)

## Warning: package 'nnet' was built under R version 3.6.3

library(texreg)

## Version: 1.37.1  
## Date: 2020-05-29  
## Author: Philip Leifeld (University of Essex)  
##   
## Please cite the JSS article in your publications -- see citation("texreg").

##   
## Attaching package: 'texreg'

## The following object is masked from 'package:tidyr':  
##   
## extract

library(reshape2)

##   
## Attaching package: 'reshape2'

## The following object is masked from 'package:tidyr':  
##   
## smiths

library(MASS)  
library(mgcv)

## Warning: package 'mgcv' was built under R version 3.6.3

## Loading required package: nlme

##   
## Attaching package: 'nlme'

## The following object is masked from 'package:dplyr':  
##   
## collapse

## This is mgcv 1.8-31. For overview type 'help("mgcv-package")'.

##   
## Attaching package: 'mgcv'

## The following object is masked from 'package:nnet':  
##   
## multinom

library(oglmx)

## Warning: package 'oglmx' was built under R version 3.6.3

## Loading required package: maxLik

## Warning: package 'maxLik' was built under R version 3.6.3

## Loading required package: miscTools

## Warning: package 'miscTools' was built under R version 3.6.3

##   
## Please cite the 'maxLik' package as:  
## Henningsen, Arne and Toomet, Ott (2011). maxLik: A package for maximum likelihood estimation in R. Computational Statistics 26(3), 443-458. DOI 10.1007/s00180-010-0217-1.  
##   
## If you have questions, suggestions, or comments regarding the 'maxLik' package, please use a forum or 'tracker' at maxLik's R-Forge site:  
## https://r-forge.r-project.org/projects/maxlik/

library(AER)

## Warning: package 'AER' was built under R version 3.6.3

## Loading required package: lmtest

## Loading required package: zoo

##   
## Attaching package: 'zoo'

## The following objects are masked from 'package:base':  
##   
## as.Date, as.Date.numeric

library(ggmosaic)

## Warning: package 'ggmosaic' was built under R version 3.6.3

library(mgcv)  
library(blorr)

## Warning: package 'blorr' was built under R version 3.6.3

library(PMCMR)

## Warning: package 'PMCMR' was built under R version 3.6.3

## PMCMR is superseded by PMCMRplus and will be no longer maintained. You may wish to install PMCMRplus instead.

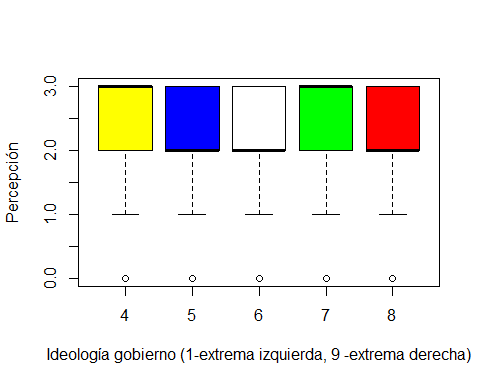
load("global.RData")  
  
  
  
  
#eliminar NA de un factor  
#d1 edad, d2 sexo, d4r2 fin estudios, q2 veces que encuentras desinformación, q3 confianza, sd2 veces que usas la red  
  
datos1 <- global  
  
datos1 <- datos1[!is.na(datos1$q4\_2ORD),]  
  
datos1 <- within(datos1, {  
 percepcion <- as.numeric(as.character(q4\_2ORD))  
})  
  
  
datos1 <- datos1[!is.na(datos1$q3),]  
  
datos1 <- within(datos1, {  
 q3\_ORD <- Recode(q3, "c(\"Not at all confident\" ) = 0;c( \"Not very confident\" ) = 1;  
 c( \"Somewhat confident\" ) = 2;c( \"Very confident\" ) = 3 ;",   
 as.factor = TRUE)})  
  
datos1 <- within(datos1, {  
confianza <- as.numeric(as.character(q3\_ORD))  
})  
  
datos1 <- datos1[!is.na(datos1$d2),]  
  
datos1 <- within(datos1, {  
 d2ORD <- Recode(d2, "c(\"Female\" ) = 0;c( \"Male\" ) = 1 ;",   
 as.factor = TRUE)  
})  
datos1 <- within(datos1, {  
 sexo <- as.numeric(as.character(d2ORD))  
})  
  
  
datos1 <- datos1[!is.na(datos1$q2),]  
  
datos1 <- within(datos1, {  
 q2ORD <- Recode(q2, "c(\"Seldom or Never\" ) = 0;c( \"Several times a month\" ) = 1;  
 c( \"At least once a week\" ) = 2;c( \"Every day or almost everyday\" ) = 3 ;",   
 as.factor = TRUE)  
})  
  
datos1 <- within(datos1, {  
 deteccion <- as.numeric(as.character(q2ORD))  
})  
  
datos1 <- datos1[!is.na(datos1$d4r2),]  
datos1 <- within(datos1, {  
 d4r2ORD <- Recode(d4r2, "c(\"No full-time education\" ) = 0;c( \"Up to 15\" ) = 1;  
 c( \"16-19\" ) = 2;c( \"20 years and older\" ) = 3;c( \"Still Studying\" ) = 4 ;",   
 as.factor = TRUE)  
})  
  
datos1 <- within(datos1, {  
 estudios <- as.numeric(as.character(d4r2ORD))  
})  
  
datos1 <- datos1[!is.na(datos1$sd2),]  
datos1 <- within(datos1, {  
 sd2ORD <- Recode(sd2, "c(\"Seldom or Never\" ) = 0;c( \"Several times a month\" ) = 1;  
 c( \"At least once a week\" ) = 2;c( \"Every day or almost everyday\" ) = 3 ;",   
 as.factor = TRUE)  
})  
  
datos1 <- within(datos1, {  
 veces\_uso <- as.numeric(as.character(sd2ORD))  
})  
  
datos1 <- within(datos1, {  
 ideologia <- as.numeric(as.character(idgov))  
})  
  
datos1 <- within(datos1, {  
 edad <- d1  
})  
  
datos1 <- within(datos1, {  
 sobreexp <- (veces\_uso \* deteccion)   
})  
  
save("datos1", file = "datos1.RData")  
  
  
#global  
datosp <-datos1  
  
#tabla contingencia global q4\_2 e ideologia del gobierno  
#leer por filas y comparar las columnas de cada fila  
#el componente del chi cuadrado es la composició del valor del Chi quadrado como sale su suma  
#supongamos, por ejemplo el valor NO, definitley not para la opción 4 es 0,47  
#eso significa que si el Chi quadrado es 200, solo esa casilla tiene un peso de 0,47 en la composición del 200;  
#y por elejmeplo el valor Yes, to some extent para la opción 7 tiene un peso de 20,67   
#la suma de todas las casillas dará 200  
  
#austria 8, 6 belgica, 7 bulgaria, 4 rumania, 5 alemania  
#val <- "RO"  
#ç  
  
datosp <- filter(datos1, isocntry %in% c("AT", "BE", "BG", "DE", "RO"))  
  
local({  
 .Table <- xtabs(~q4\_2 + idgov, data = datosp)  
 cat("\nFrequency table:\n")  
 print(.Table)  
 cat("\nTotal percentages:\n")  
 .Table\_1 <-totPercents(.Table)  
 print(totPercents(.Table))  
 .Test <- chisq.test(.Table, correct = FALSE)  
 print(.Test)  
 cat("\nChi-square components:\n")  
 print(round(.Test$residuals^2, 2))  
})

##   
## Frequency table:  
## idgov  
## q4\_2 4 5 6 7 8  
## No, definitely not 42 37 68 56 27  
## No, not really 71 86 148 48 90  
## Yes, to some extent 201 393 358 196 412  
## Yes, definitely 472 378 330 528 384  
##   
## Total percentages:  
## 4 5 6 7 8 Total  
## No, definitely not 1.0 0.9 1.6 1.3 0.6 5.3  
## No, not really 1.6 2.0 3.4 1.1 2.1 10.2  
## Yes, to some extent 4.6 9.1 8.3 4.5 9.5 36.1  
## Yes, definitely 10.9 8.7 7.6 12.2 8.9 48.4  
## Total 18.2 20.7 20.9 19.1 21.1 100.0  
##   
## Pearson's Chi-squared test  
##   
## data: .Table  
## X-squared = 276.2, df = 12, p-value < 2.2e-16  
##   
##   
## Chi-square components:  
## idgov  
## q4\_2 4 5 6 7 8  
## No, definitely not 0.00 2.34 8.26 3.25 9.57  
## No, not really 1.12 0.34 33.15 15.98 0.13  
## Yes, to some extent 24.01 15.43 3.13 35.28 20.76  
## Yes, definitely 22.17 6.85 26.31 40.59 7.52

datosp <- datos1  
  
#sink(file="mf\_lmcopiarv4.txt")  
  
  
for (val in c("AT","BE","BG","CY","CZ", "DE",  
 "DK","EE","ES","FI","FR","GB", "GR",  
 "HR", "HU","IE","IT","LT", "LU",  
 "LV","MT","NL","PL","PT","RO",  
 "SE","SI", "SK",  
 "GLOBAL"))   
  
{  
  
 #para tratar el fichero globalmente utilizo Val = "GLOBAL" con if  
  
#val <- "GLOBAL"   
   
if (val == "GLOBAL")  
{ pais <- "GLOBAL"  
 datosp <- datos1}  
 else   
 { datosp <- filter(datos1, isocntry == val)  
 pais <- datosp$country  
 }  
   
   
#print(val)   
#print(pais)  
#prueba  
   
   
 mbg1 <- lm(percepcion ~ edad + sexo + veces\_uso + confianza + deteccion + estudios, weights = wex,  
 data=datosp)  
  
#print (summary(mbg1))  
  
 # ci\_1 <- confint(mbg1)  
# ci\_1  
  
#correlaciones  
   
 # cor(datosp[, c("confianza", "edad", "sexo", "deteccion", "estudios", "veces\_uso")], use = "complete")  
  
 stargazer(mbg1, title=paste("País: ",pais,". Resultados modelo", sep=""),  
 align=TRUE, type="text",  
 dep.var.labels=c("Percepción problema para la democracia"),  
 column.labels=c("Modelo"),  
 ci=TRUE,  
 omit.stat = NULL,  
 omit.summary.stat = NULL,  
 # omit.stat=c("all"),   
 no.space=TRUE,   
 single.row=TRUE)  
   
   
#summary(mbg1)  
  
}

##   
## País: AT - Austria. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad -0.002\* (-0.005, 0.0004)   
## sexo 0.012 (-0.085, 0.108)   
## veces\_uso 0.005 (-0.034, 0.043)   
## confianza 0.060\* (-0.006, 0.125)   
## deteccion 0.085\*\*\* (0.039, 0.131)   
## estudios 0.082\*\*\* (0.023, 0.140)   
## Constant 1.932\*\*\* (1.659, 2.205)   
## ----------------------------------------------------------  
## Observations 913   
## R2 0.039   
## Adjusted R2 0.033   
## Residual Std. Error 64.174 (df = 906)   
## F Statistic 6.119\*\*\* (df = 6; 906)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: BE - Belgium. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad 0.002 (-0.002, 0.006)   
## sexo -0.078 (-0.191, 0.036)   
## veces\_uso -0.018 (-0.067, 0.031)   
## confianza 0.129\*\*\* (0.054, 0.204)   
## deteccion 0.127\*\*\* (0.074, 0.180)   
## estudios 0.099\*\* (0.014, 0.184)   
## Constant 1.319\*\*\* (0.914, 1.725)   
## ----------------------------------------------------------  
## Observations 904   
## R2 0.047   
## Adjusted R2 0.041   
## Residual Std. Error 84.282 (df = 897)   
## F Statistic 7.432\*\*\* (df = 6; 897)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: BG - Bulgaria. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad 0.003\* (-0.0005, 0.007)   
## sexo -0.132\*\* (-0.253, -0.011)   
## veces\_uso 0.017 (-0.035, 0.069)   
## confianza 0.067\* (-0.010, 0.143)   
## deteccion 0.089\*\*\* (0.034, 0.144)   
## estudios 0.084\* (-0.011, 0.179)   
## Constant 1.793\*\*\* (1.449, 2.136)   
## ----------------------------------------------------------  
## Observations 828   
## R2 0.036   
## Adjusted R2 0.029   
## Residual Std. Error 68.810 (df = 821)   
## F Statistic 5.149\*\*\* (df = 6; 821)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: CY - Cyprus (Republic). Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad 0.005\*\* (0.0004, 0.009)   
## sexo 0.069 (-0.062, 0.200)   
## veces\_uso 0.001 (-0.060, 0.063)   
## confianza 0.147\*\*\* (0.057, 0.237)   
## deteccion 0.096\*\*\* (0.037, 0.155)   
## estudios 0.097\*\* (0.005, 0.190)   
## Constant 1.601\*\*\* (1.185, 2.017)   
## ----------------------------------------------------------  
## Observations 441   
## R2 0.083   
## Adjusted R2 0.070   
## Residual Std. Error 26.386 (df = 434)   
## F Statistic 6.512\*\*\* (df = 6; 434)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: CZ - Czech Republic. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad 0.002 (-0.002, 0.006)   
## sexo -0.019 (-0.135, 0.097)   
## veces\_uso 0.037 (-0.012, 0.085)   
## confianza 0.128\*\*\* (0.035, 0.220)   
## deteccion 0.085\*\*\* (0.028, 0.142)   
## estudios -0.043 (-0.135, 0.049)   
## Constant 1.789\*\*\* (1.360, 2.219)   
## ----------------------------------------------------------  
## Observations 841   
## R2 0.028   
## Adjusted R2 0.021   
## Residual Std. Error 79.480 (df = 834)   
## F Statistic 4.040\*\*\* (df = 6; 834)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: DE - Germany. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad 0.003\* (-0.0004, 0.006)   
## sexo -0.154\*\*\* (-0.259, -0.049)   
## veces\_uso 0.001 (-0.039, 0.042)   
## confianza -0.001 (-0.077, 0.076)   
## deteccion 0.147\*\*\* (0.099, 0.195)   
## estudios 0.021 (-0.052, 0.094)   
## Constant 1.889\*\*\* (1.570, 2.207)   
## ----------------------------------------------------------  
## Observations 894   
## R2 0.049   
## Adjusted R2 0.043   
## Residual Std. Error 214.966 (df = 887)   
## F Statistic 7.648\*\*\* (df = 6; 887)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: DK - Denmark. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad 0.001 (-0.003, 0.004)   
## sexo 0.024 (-0.086, 0.134)   
## veces\_uso 0.025 (-0.028, 0.078)   
## confianza 0.077\* (-0.014, 0.168)   
## deteccion 0.100\*\*\* (0.048, 0.152)   
## estudios -0.037 (-0.117, 0.044)   
## Constant 1.740\*\*\* (1.356, 2.124)   
## ----------------------------------------------------------  
## Observations 807   
## R2 0.027   
## Adjusted R2 0.020   
## Residual Std. Error 54.349 (df = 800)   
## F Statistic 3.672\*\*\* (df = 6; 800)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: EE - Estonia. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad 0.003 (-0.001, 0.007)   
## sexo 0.091 (-0.019, 0.202)   
## veces\_uso -0.002 (-0.051, 0.048)   
## confianza 0.012 (-0.073, 0.097)   
## deteccion 0.146\*\*\* (0.095, 0.197)   
## estudios -0.102\*\* (-0.188, -0.017)   
## Constant 1.910\*\*\* (1.509, 2.311)   
## ----------------------------------------------------------  
## Observations 714   
## R2 0.064   
## Adjusted R2 0.056   
## Residual Std. Error 25.298 (df = 707)   
## F Statistic 8.008\*\*\* (df = 6; 707)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: ES -Spain. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad 0.005\*\*\* (0.002, 0.009)   
## sexo -0.104\*\* (-0.200, -0.009)   
## veces\_uso 0.007 (-0.035, 0.050)   
## confianza 0.122\*\*\* (0.061, 0.184)   
## deteccion 0.124\*\*\* (0.074, 0.174)   
## estudios 0.113\*\*\* (0.051, 0.176)   
## Constant 1.452\*\*\* (1.140, 1.763)   
## ----------------------------------------------------------  
## Observations 955   
## R2 0.070   
## Adjusted R2 0.064   
## Residual Std. Error 146.600 (df = 948)   
## F Statistic 11.921\*\*\* (df = 6; 948)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: FI - Finland. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad -0.002 (-0.006, 0.001)   
## sexo -0.061 (-0.166, 0.044)   
## veces\_uso -0.019 (-0.064, 0.026)   
## confianza 0.097\*\* (0.016, 0.177)   
## deteccion 0.116\*\*\* (0.067, 0.166)   
## estudios 0.085\*\* (0.006, 0.165)   
## Constant 1.804\*\*\* (1.401, 2.207)   
## ----------------------------------------------------------  
## Observations 787   
## R2 0.059   
## Adjusted R2 0.051   
## Residual Std. Error 51.023 (df = 780)   
## F Statistic 8.110\*\*\* (df = 6; 780)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: FR - France. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad 0.005\*\*\* (0.002, 0.008)   
## sexo -0.199\*\*\* (-0.305, -0.092)   
## veces\_uso 0.021 (-0.024, 0.066)   
## confianza 0.062\* (-0.010, 0.134)   
## deteccion 0.099\*\*\* (0.045, 0.153)   
## estudios 0.184\*\*\* (0.104, 0.264)   
## Constant 1.198\*\*\* (0.839, 1.556)   
## ----------------------------------------------------------  
## Observations 895   
## R2 0.067   
## Adjusted R2 0.060   
## Residual Std. Error 188.733 (df = 888)   
## F Statistic 10.579\*\*\* (df = 6; 888)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: GB - United Kingdom. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad 0.003\*\* (0.0001, 0.007)   
## sexo 0.066 (-0.037, 0.170)   
## veces\_uso 0.047\*\* (0.002, 0.091)   
## confianza 0.116\*\*\* (0.045, 0.187)   
## deteccion 0.141\*\*\* (0.088, 0.194)   
## estudios 0.092\*\* (0.022, 0.163)   
## Constant 1.152\*\*\* (0.823, 1.481)   
## ----------------------------------------------------------  
## Observations 870   
## R2 0.075   
## Adjusted R2 0.069   
## Residual Std. Error 180.867 (df = 863)   
## F Statistic 11.724\*\*\* (df = 6; 863)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: GR - Greece. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad 0.005\*\*\* (0.001, 0.009)   
## sexo 0.033 (-0.072, 0.138)   
## veces\_uso 0.003 (-0.044, 0.049)   
## confianza 0.092\*\* (0.019, 0.165)   
## deteccion 0.091\*\*\* (0.034, 0.148)   
## estudios 0.123\*\*\* (0.046, 0.199)   
## Constant 1.501\*\*\* (1.142, 1.861)   
## ----------------------------------------------------------  
## Observations 924   
## R2 0.038   
## Adjusted R2 0.032   
## Residual Std. Error 77.343 (df = 917)   
## F Statistic 6.044\*\*\* (df = 6; 917)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: HR - Croatia. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad 0.004\*\* (0.001, 0.008)   
## sexo -0.032 (-0.138, 0.074)   
## veces\_uso 0.031 (-0.015, 0.077)   
## confianza 0.266\*\*\* (0.185, 0.346)   
## deteccion 0.109\*\*\* (0.053, 0.165)   
## estudios -0.021 (-0.095, 0.053)   
## Constant 1.256\*\*\* (0.908, 1.605)   
## ----------------------------------------------------------  
## Observations 858   
## R2 0.081   
## Adjusted R2 0.075   
## Residual Std. Error 47.050 (df = 851)   
## F Statistic 12.498\*\*\* (df = 6; 851)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: HU - Hungary. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad -0.001 (-0.004, 0.003)   
## sexo -0.123\*\* (-0.229, -0.017)   
## veces\_uso 0.026 (-0.018, 0.069)   
## confianza 0.178\*\*\* (0.112, 0.244)   
## deteccion 0.173\*\*\* (0.118, 0.227)   
## estudios -0.009 (-0.083, 0.065)   
## Constant 1.806\*\*\* (1.486, 2.127)   
## ----------------------------------------------------------  
## Observations 765   
## R2 0.105   
## Adjusted R2 0.098   
## Residual Std. Error 67.976 (df = 758)   
## F Statistic 14.841\*\*\* (df = 6; 758)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: IE - Ireland. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad 0.003\* (-0.0001, 0.007)   
## sexo 0.058 (-0.043, 0.159)   
## veces\_uso 0.052\*\* (0.007, 0.097)   
## confianza 0.044 (-0.032, 0.119)   
## deteccion 0.132\*\*\* (0.080, 0.184)   
## estudios 0.078\*\* (0.001, 0.154)   
## Constant 1.374\*\*\* (1.014, 1.733)   
## ----------------------------------------------------------  
## Observations 881   
## R2 0.058   
## Adjusted R2 0.051   
## Residual Std. Error 45.893 (df = 874)   
## F Statistic 8.888\*\*\* (df = 6; 874)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: IT - Italy. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad 0.004\*\* (0.0002, 0.007)   
## sexo 0.030 (-0.073, 0.134)   
## veces\_uso 0.001 (-0.042, 0.044)   
## confianza 0.079\*\* (0.007, 0.152)   
## deteccion 0.082\*\*\* (0.035, 0.130)   
## estudios -0.010 (-0.074, 0.054)   
## Constant 1.970\*\*\* (1.648, 2.292)   
## ----------------------------------------------------------  
## Observations 910   
## R2 0.026   
## Adjusted R2 0.019   
## Residual Std. Error 181.452 (df = 903)   
## F Statistic 3.951\*\*\* (df = 6; 903)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: LT - Lithuania. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad -0.0001 (-0.005, 0.004)   
## sexo -0.049 (-0.175, 0.076)   
## veces\_uso -0.002 (-0.062, 0.057)   
## confianza 0.075 (-0.015, 0.164)   
## deteccion 0.106\*\*\* (0.048, 0.164)   
## estudios 0.027 (-0.072, 0.126)   
## Constant 1.899\*\*\* (1.426, 2.373)   
## ----------------------------------------------------------  
## Observations 697   
## R2 0.027   
## Adjusted R2 0.018   
## Residual Std. Error 40.752 (df = 690)   
## F Statistic 3.152\*\*\* (df = 6; 690)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: LU - Luxembourg. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad -0.002 (-0.008, 0.003)   
## sexo -0.131\* (-0.278, 0.017)   
## veces\_uso -0.052\* (-0.114, 0.009)   
## confianza -0.001 (-0.104, 0.102)   
## deteccion 0.043 (-0.025, 0.110)   
## estudios 0.165\*\*\* (0.056, 0.275)   
## Constant 1.927\*\*\* (1.406, 2.447)   
## ----------------------------------------------------------  
## Observations 457   
## R2 0.040   
## Adjusted R2 0.028   
## Residual Std. Error 24.965 (df = 450)   
## F Statistic 3.151\*\*\* (df = 6; 450)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: LV - Latvia. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad 0.001 (-0.003, 0.004)   
## sexo 0.068 (-0.043, 0.180)   
## veces\_uso 0.026 (-0.022, 0.074)   
## confianza 0.060 (-0.025, 0.145)   
## deteccion 0.096\*\*\* (0.045, 0.147)   
## estudios 0.030 (-0.050, 0.109)   
## Constant 1.691\*\*\* (1.323, 2.059)   
## ----------------------------------------------------------  
## Observations 862   
## R2 0.032   
## Adjusted R2 0.025   
## Residual Std. Error 32.415 (df = 855)   
## F Statistic 4.660\*\*\* (df = 6; 855)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: MT - Malta. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad 0.004 (-0.002, 0.009)   
## sexo -0.032 (-0.178, 0.113)   
## veces\_uso 0.007 (-0.064, 0.079)   
## confianza 0.085\* (-0.008, 0.178)   
## deteccion -0.007 (-0.073, 0.058)   
## estudios -0.068 (-0.173, 0.038)   
## Constant 2.363\*\*\* (1.854, 2.871)   
## ----------------------------------------------------------  
## Observations 382   
## R2 0.032   
## Adjusted R2 0.017   
## Residual Std. Error 19.643 (df = 375)   
## F Statistic 2.095\* (df = 6; 375)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: NL - The Netherlands. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad -0.00004 (-0.004, 0.003)   
## sexo -0.014 (-0.117, 0.088)   
## veces\_uso -0.023 (-0.070, 0.024)   
## confianza 0.061 (-0.016, 0.138)   
## deteccion 0.081\*\*\* (0.030, 0.132)   
## estudios -0.046 (-0.127, 0.035)   
## Constant 2.088\*\*\* (1.703, 2.473)   
## ----------------------------------------------------------  
## Observations 874   
## R2 0.019   
## Adjusted R2 0.012   
## Residual Std. Error 92.412 (df = 867)   
## F Statistic 2.798\*\* (df = 6; 867)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: PL - Poland. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad 0.006\*\*\* (0.002, 0.009)   
## sexo -0.014 (-0.123, 0.095)   
## veces\_uso 0.036 (-0.008, 0.081)   
## confianza 0.250\*\*\* (0.165, 0.334)   
## deteccion 0.111\*\*\* (0.054, 0.167)   
## estudios 0.034 (-0.050, 0.118)   
## Constant 1.153\*\*\* (0.786, 1.521)   
## ----------------------------------------------------------  
## Observations 874   
## R2 0.091   
## Adjusted R2 0.084   
## Residual Std. Error 145.636 (df = 867)   
## F Statistic 14.410\*\*\* (df = 6; 867)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: PT - Portugal. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad 0.001 (-0.003, 0.004)   
## sexo -0.049 (-0.154, 0.056)   
## veces\_uso 0.003 (-0.044, 0.050)   
## confianza 0.080\*\* (0.006, 0.155)   
## deteccion 0.002 (-0.046, 0.050)   
## estudios 0.071\*\* (0.006, 0.136)   
## Constant 1.971\*\*\* (1.648, 2.294)   
## ----------------------------------------------------------  
## Observations 866   
## R2 0.017   
## Adjusted R2 0.010   
## Residual Std. Error 73.564 (df = 859)   
## F Statistic 2.518\*\* (df = 6; 859)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: RO - Romania. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad 0.007\*\*\* (0.003, 0.011)   
## sexo -0.046 (-0.165, 0.074)   
## veces\_uso 0.025 (-0.027, 0.076)   
## confianza 0.146\*\*\* (0.064, 0.229)   
## deteccion 0.159\*\*\* (0.101, 0.216)   
## estudios 0.125\*\*\* (0.040, 0.210)   
## Constant 1.089\*\*\* (0.733, 1.445)   
## ----------------------------------------------------------  
## Observations 786   
## R2 0.091   
## Adjusted R2 0.084   
## Residual Std. Error 109.169 (df = 779)   
## F Statistic 13.050\*\*\* (df = 6; 779)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: SE - Sweden. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad 0.002 (-0.002, 0.005)   
## sexo 0.033 (-0.066, 0.131)   
## veces\_uso 0.055\*\* (0.010, 0.099)   
## confianza 0.032 (-0.043, 0.106)   
## deteccion 0.052\*\* (0.005, 0.100)   
## estudios 0.141\*\*\* (0.062, 0.220)   
## Constant 1.592\*\*\* (1.202, 1.981)   
## ----------------------------------------------------------  
## Observations 847   
## R2 0.042   
## Adjusted R2 0.035   
## Residual Std. Error 66.275 (df = 840)   
## F Statistic 6.149\*\*\* (df = 6; 840)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: SI - Slovenia. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad 0.005\*\* (0.001, 0.008)   
## sexo -0.021 (-0.124, 0.083)   
## veces\_uso -0.015 (-0.060, 0.030)   
## confianza 0.122\*\*\* (0.038, 0.205)   
## deteccion 0.065\*\*\* (0.016, 0.113)   
## estudios -0.032 (-0.114, 0.051)   
## Constant 1.843\*\*\* (1.478, 2.209)   
## ----------------------------------------------------------  
## Observations 840   
## R2 0.040   
## Adjusted R2 0.033   
## Residual Std. Error 32.343 (df = 833)   
## F Statistic 5.845\*\*\* (df = 6; 833)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: SK - Slovakia. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad -0.0003 (-0.004, 0.003)   
## sexo 0.102\*\* (0.0004, 0.203)   
## veces\_uso 0.008 (-0.036, 0.051)   
## confianza 0.083\* (-0.003, 0.170)   
## deteccion 0.098\*\*\* (0.049, 0.147)   
## estudios 0.065 (-0.016, 0.145)   
## Constant 1.718\*\*\* (1.370, 2.065)   
## ----------------------------------------------------------  
## Observations 868   
## R2 0.040   
## Adjusted R2 0.034   
## Residual Std. Error 51.424 (df = 861)   
## F Statistic 6.022\*\*\* (df = 6; 861)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
##   
## País: GLOBAL. Resultados modelo  
## ==========================================================  
## Dependent variable:   
## --------------------------------------  
## Percepción problema para la democracia  
## Modelo   
## ----------------------------------------------------------  
## edad 0.003\*\*\* (0.003, 0.004)   
## sexo -0.060\*\*\* (-0.081, -0.039)   
## veces\_uso 0.019\*\*\* (0.010, 0.027)   
## confianza 0.085\*\*\* (0.070, 0.099)   
## deteccion 0.120\*\*\* (0.111, 0.130)   
## estudios 0.050\*\*\* (0.036, 0.065)   
## Constant 1.602\*\*\* (1.535, 1.669)   
## ----------------------------------------------------------  
## Observations 22,540   
## R2 0.042   
## Adjusted R2 0.042   
## Residual Std. Error 104.434 (df = 22533)   
## F Statistic 164.803\*\*\* (df = 6; 22533)   
## ==========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

#sink()  
  
#GLOBAL  
#con la variable ideologia para la hipotesis 3  
  
datosp <- datos1  
  
#ideologia a nivel global  
  
boxplot(percepcion ~ idgov, col = c("yellow", "blue", "white","green", "red"),  
 xlab="Ideología gobierno (1-extrema izquierda, 9 -extrema derecha)",  
 ylab = "Percepción", data=datosp)



with(datos1, (tapply(percepcion, idgov, mean)))

## 4 5 6 7 8   
## 2.359234 2.231435 2.225031 2.349925 2.279239

fm = aov( lm(percepcion ~ idgov, data=datos1) )  
  
summary(fm)

## Df Sum Sq Mean Sq F value Pr(>F)   
## idgov 4 81 20.33 31.26 <2e-16 \*\*\*  
## Residuals 22535 14657 0.65   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

names(fm)

## [1] "coefficients" "residuals" "effects" "rank"   
## [5] "fitted.values" "assign" "qr" "df.residual"   
## [9] "contrasts" "xlevels" "call" "terms"   
## [13] "model"

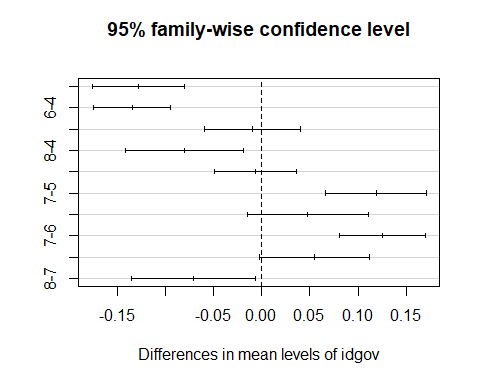
#Identifica en la tabla ANOVA los grados de libertad del factor,   
#los grados de libertad residuales, la suma de cuadrados de los grupos,   
#la suma de cuadrados del error, las medias correspondientes de las sumas de cuadrados   
#de los grupos y del error, el valor del estadístico F.   
#Describe cómo obtenemos cada uno de ellos.  
  
#¿Cuál es el valor crítico de F bajo la hipótesis nula con un nivel   
#de significación alfa = 0.05? (Este valor nos delimitará la región de aceptación y rechazo)  
  
#Bajo la Ho el estadístico de contraste F se distribuye como una F de grados de libertad (I-1),   
#(n-I) donde I es el número de grupos que disponemos y n el tamaño total de la muestral.   
#Así obtenemos el cuantil buscado:  
qf(0.05, 4, 22535, lower.tail = F)

## [1] 2.372326

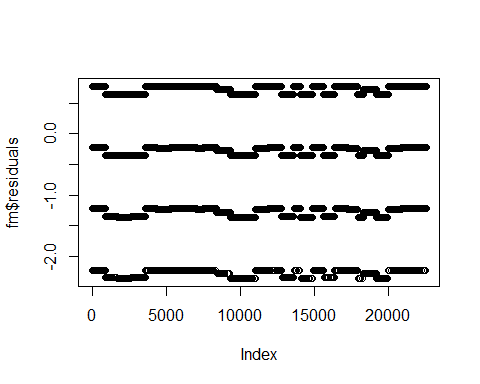
#Valores del estadístico > 2.372336 estarán incluidos en la región de rechazo.   
#En nuetro caso 31.26 es mucho mayor que el valor crítico obtenido.  
  
#¿Qué valor de la tabla ANOVA nos proporciona la varianza muestral   
#común (pooled variance en inglés)? ¿Para qué es útil?  
  
# La raíz cuadrada de la media de los cuadrados del error,  
#además de proporcionarnos una estimación de la varianza muestral de todos los datos,   
#se utiliza en la obtención de los intervalos de confianza de las medias en cada uno de   
#los grupos de interés.  
  
#Por ejemplo, este sería el intervalo de confianza de la media de los percepciones identificas para las  
#ideologías del gobierno 8, con un nivel de confianza del 95%:  
  
intervals = TukeyHSD(fm)  
intervals

## Tukey multiple comparisons of means  
## 95% family-wise confidence level  
##   
## Fit: aov(formula = lm(percepcion ~ idgov, data = datos1))  
##   
## $idgov  
## diff lwr upr p adj  
## 5-4 -0.127798431 -0.175881494 -0.079715368 0.0000000  
## 6-4 -0.134202992 -0.173992831 -0.094413154 0.0000000  
## 7-4 -0.009308265 -0.059154150 0.040537620 0.9864652  
## 8-4 -0.079994802 -0.141236600 -0.018753003 0.0033737  
## 6-5 -0.006404562 -0.048966330 0.036157207 0.9940498  
## 7-5 0.118490166 0.066404802 0.170575529 0.0000000  
## 8-5 0.047803629 -0.015274345 0.110881603 0.2343484  
## 7-6 0.124894727 0.080351092 0.169438362 0.0000000  
## 8-6 0.054208191 -0.002801291 0.111217673 0.0714687  
## 8-7 -0.070686536 -0.135118377 -0.006254696 0.0231846

plot(intervals)



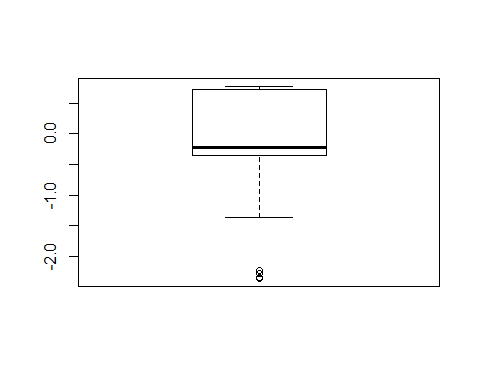
plot(fm$residuals)



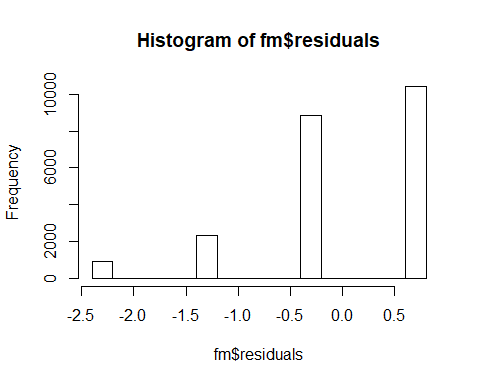
summary(fm$residuals)

## Min. 1st Qu. Median Mean 3rd Qu. Max.   
## -2.3592 -0.3499 -0.2250 0.0000 0.7208 0.7750

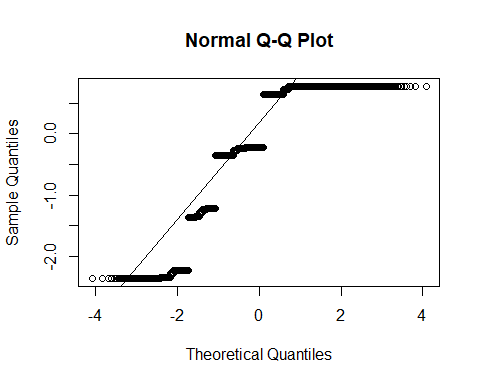
boxplot(fm$residuals)



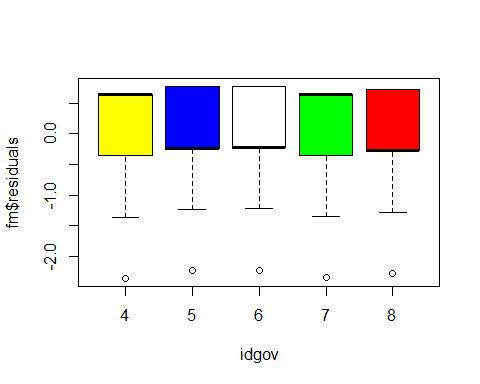
hist(fm$residuals)



qqnorm(fm$residuals)   
qqline(fm$residuals)



#shapiro.test(fm$residuals)  
boxplot(fm$residuals~idgov, col = c("yellow", "blue", "white","green","red"),data=datos1)



desviaciones <- with(datos1,tapply(fm$residuals, idgov, sd))  
max(desviaciones) / min(desviaciones)

## [1] 1.029821

bartlett.test(fm$residuals ~ idgov,data=datos1)

##   
## Bartlett test of homogeneity of variances  
##   
## data: fm$residuals by idgov  
## Bartlett's K-squared = 4.8965, df = 4, p-value = 0.2981

#El test de Bartlett indica que no tenemos evidencia suficiente para rechazar   
#la hipótesis nula (las varianzas son iguales)  
  
  
#¿Qué hipótesis contrasta el test ANOVA?  
# Ho: las medias son iguales en todas las poblaciones  
  
#Ha: hay alguna media distinta  
  
#¿Qué hipótesis contrasta la prueba de Kruskal-Wallis?  
# Ho: la variable respuesta es la misma en todas las poblaciones valoradas  
  
#Ha: la variable respuesta es mayor en alguna de las poblaciones  
  
#Cuando no se cumplen las hipótesis exigidas por el modelo ANOVA, es posible utilizar la prueba no paramétrica Kruskal-Wallis:  
# ¿hay diferencias significativas entre las poblaciones?  
  
with(datos1, kruskal.test(percepcion, idgov))

##   
## Kruskal-Wallis rank sum test  
##   
## data: percepcion and idgov  
## Kruskal-Wallis chi-squared = 191.83, df = 4, p-value < 2.2e-16

#Indica cuál es el estadístico de contraste, los grados de libertad, el p-valor correspondiente y cuál sería el   
#valor crítico que definiría las regiones de aceptación y rechazo con un nivel de significación alfa = 0.05.  
  
#Bajo la Ho el estadístico de contraste H del test de Kruskal-Wallis se distribuye   
#como una Chi-cuadrado de grados de libertad (I-1) (donde I es el número de grupos que disponemos). Así obtenemos el cuantil buscado:  
qchisq(0.05, 5-1, lower.tail = F)

## [1] 9.487729

#Valores del estadístico > 9.487729 estarán incluidos en la región de rechazo.   
  
#En nuetro caso 191.81 es mucho mayor que el   
#valor crítico obtenido.  
  
#Si transformáramos los datos de la variable respuesta, utilizando logaritmos y   
#después aplicáramos el test de KrusKal-Wallis al logaritmo del número de insectos atrapados, ¿variarían los resultados del test estadístico?  
  
with(datos1, kruskal.test(log(percepcion), idgov))

##   
## Kruskal-Wallis rank sum test  
##   
## data: log(percepcion) and idgov  
## Kruskal-Wallis chi-squared = 191.83, df = 4, p-value < 2.2e-16

#no varia  
#Si hemos detectado diferencias significativas en la variable respuesta para las distintas poblaciones.  
#¿Sería posible saber cuáles son los grupos que generan estas diferencias?  
with(datos1, kruskal.test(percepcion, idgov))

##   
## Kruskal-Wallis rank sum test  
##   
## data: percepcion and idgov  
## Kruskal-Wallis chi-squared = 191.83, df = 4, p-value < 2.2e-16

with(datos1, posthoc.kruskal.nemenyi.test(percepcion, idgov, method="Tukey"))

## Warning in posthoc.kruskal.nemenyi.test.default(percepcion, idgov, method =  
## "Tukey"): Ties are present, p-values are not corrected.

##   
## Pairwise comparisons using Tukey and Kramer (Nemenyi) test   
## with Tukey-Dist approximation for independent samples   
##   
## data: percepcion and idgov   
##   
## 4 5 6 7   
## 5 8.1e-14 - - -   
## 6 4.5e-14 0.96289 - -   
## 7 0.99775 1.6e-11 3.6e-14 -   
## 8 0.00033 0.23363 0.04214 0.00209  
##   
## P value adjustment method: none

with(datos1, posthoc.kruskal.nemenyi.test(percepcion, idgov, method = "Chisq"))

## Warning in posthoc.kruskal.nemenyi.test.default(percepcion, idgov, method =  
## "Chisq"): Ties are present, p-values are not corrected.

##   
## Pairwise comparisons using Tukey and Kramer (Nemenyi) test   
## with Tukey-Dist approximation for independent samples   
##   
## data: percepcion and idgov   
##   
## 4 5 6 7   
## 5 8.1e-14 - - -   
## 6 4.5e-14 0.96289 - -   
## 7 0.99775 1.6e-11 3.6e-14 -   
## 8 0.00033 0.23363 0.04214 0.00209  
##   
## P value adjustment method: none

numSummary(datos1[, "percepcion", drop = FALSE], statistics = c("mean", "sd", "IQR",   
 "quantiles"), quantiles = c(0, 0.25, 0.5, 0.75, 1))

## mean sd IQR 0% 25% 50% 75% 100% n  
## 2.276664 0.8086538 1 0 2 2 3 3 22540

numSummary(datos1[, "ideologia", drop = FALSE], statistics = c("mean", "sd", "IQR",   
 "quantiles"), quantiles = c(0, 0.25, 0.5, 0.75, 1))

## mean sd IQR 0% 25% 50% 75% 100% n  
## 5.726087 1.176678 1 4 5 6 6 8 22540

AnovaModel.1 <- lm(percepcion ~ country, data = datos1, contrasts = list(country = "contr.Sum"))  
Anova(AnovaModel.1)

## Anova Table (Type II tests)  
##   
## Response: percepcion  
## Sum Sq Df F value Pr(>F)   
## country 424.4 27 24.721 < 2.2e-16 \*\*\*  
## Residuals 14314.3 22512   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

with(datos1, (tapply(percepcion, list(country), mean, na.rm = TRUE))) # means

## AT - Austria BE - Belgium BG - Bulgaria   
## 2.262870 2.050885 2.444444   
## CY - Cyprus (Republic) CZ - Czech Republic DE - Germany   
## 2.634921 2.237812 2.243848   
## DK - Denmark EE - Estonia ES -Spain   
## 2.058240 2.056022 2.439791   
## FI - Finland FR - France GB - United Kingdom   
## 2.176620 2.188827 2.156322   
## GR - Greece HR - Croatia HU - Hungary   
## 2.467532 2.244755 2.443137   
## IE - Ireland IT - Italy LT - Lithuania   
## 2.214529 2.460440 2.261119   
## LU - Luxembourg LV - Latvia MT - Malta   
## 2.150985 2.161253 2.575916   
## NL - The Netherlands PL - Poland PT - Portugal   
## 2.161327 2.296339 2.297921   
## RO - Romania SE - Sweden SI - Slovenia   
## 2.403308 2.285714 2.325000   
## SK - Slovakia   
## 2.281106

with(datos1, (tapply(percepcion, list(country), sd, na.rm = TRUE))) # std. deviations

## AT - Austria BE - Belgium BG - Bulgaria   
## 0.7543087 0.9099300 0.8772583   
## CY - Cyprus (Republic) CZ - Czech Republic DE - Germany   
## 0.6846071 0.8482739 0.7910765   
## DK - Denmark EE - Estonia ES -Spain   
## 0.8003277 0.7469049 0.7643031   
## FI - Finland FR - France GB - United Kingdom   
## 0.7331221 0.8401877 0.7960925   
## GR - Greece HR - Croatia HU - Hungary   
## 0.8301118 0.8044519 0.7833146   
## IE - Ireland IT - Italy LT - Lithuania   
## 0.7495863 0.7919256 0.8343181   
## LU - Luxembourg LV - Latvia MT - Malta   
## 0.8064733 0.8126367 0.6821658   
## NL - The Netherlands PL - Poland PT - Portugal   
## 0.7584974 0.8442571 0.7894802   
## RO - Romania SE - Sweden SI - Slovenia   
## 0.8618979 0.7412668 0.7675441   
## SK - Slovakia   
## 0.7665213

xtabs(~country, data = datos1) # counts

## country  
## AT - Austria BE - Belgium BG - Bulgaria   
## 913 904 828   
## CY - Cyprus (Republic) CZ - Czech Republic DE - Germany   
## 441 841 894   
## DK - Denmark EE - Estonia ES -Spain   
## 807 714 955   
## FI - Finland FR - France GB - United Kingdom   
## 787 895 870   
## GR - Greece HR - Croatia HU - Hungary   
## 924 858 765   
## IE - Ireland IT - Italy LT - Lithuania   
## 881 910 697   
## LU - Luxembourg LV - Latvia MT - Malta   
## 457 862 382   
## NL - The Netherlands PL - Poland PT - Portugal   
## 874 874 866   
## RO - Romania SE - Sweden SI - Slovenia   
## 786 847 840   
## SK - Slovakia   
## 868

AnovaModel.2 <- lm(percepcion ~ idgov, data = datos1, contrasts = list(idgov = "contr.Sum"))  
Anova(AnovaModel.2)

## Anova Table (Type II tests)  
##   
## Response: percepcion  
## Sum Sq Df F value Pr(>F)   
## idgov 81.3 4 31.259 < 2.2e-16 \*\*\*  
## Residuals 14657.4 22535   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1