AntiAmerican_clean_data.R

Antigone

Sat Feb 07 14:14:21 2015

```r
# Author: Norberto Morales
# Project: Anti-American Public Opinion
# Purpose: Cleaning data and creating variables
# Last Updated: 06/25/2014
# Machine(Windows 7): S/No: 0039130478
############################################################################
## Clean data, identify variables, and explore data.
## Variables are to be employed in a Hierchierchical/Multi-Level Model
############################################################################
rm(list = ls()) #clear workspace

#libraries:

# install.packages("R2WinBUGS")
# install.packages("MASS")
# install.packages("poLCA")
# install.packages("ltm")

library(car)
library(R2WinBUGS)
```

```
## Loading required package: coda
## Loading required package: lattice
## Loading required package: boot
##
## Attaching package: 'boot'
##
## The following object is masked from 'package:lattice':
##
##     melanoma
##
## The following object is masked from 'package:car':
##
##     logit
```

```r
library(MASS)
library(poLCA)
```

```
## Loading required package: scatterplot3d
```

```r
library(ltm)
```

```
## Loading required package: msm
##
## Attaching package: 'msm'
```

```
##
## The following object is masked from 'package:boot':
##
##     cav
##
## Loading required package: polycor
## Loading required package: mvtnorm
## Loading required package: sfsmisc
```

```r
# set working directory
#setwd("")
setwd("C:/Users/Antigone/Dropbox/Papers/anti-american_paper_data")
getwd()
```

```
## [1] "C:/Users/Antigone/Dropbox/Papers/anti-american_paper_data"
```

```r
## Bar charts of media content analysis
## number of articles positive, neutral, negative

sen.sol <- c(35,22,8)
sen.sud <- c(15,14,15)
sen <- sen.sol+sen.sud

mor.auj <- c(23,40,40)
mor.mat <- c(23,38,18)
mor <- mor.auj+mor.mat

turk.hurr <- c(7,24,49)
turk.zam <- c(16,18,37)
turk <- turk.hurr+turk.zam

windows(6,3.5)
par(mar=c(2.5,4,1,1),las=1)
barplot(100*cbind(sen/sum(sen),mor/sum(mor),turk/sum(turk)),beside=T,
        ylab="Percent of articles",axes=T,ylim=c(0,70),axis.lty=1,
        col=c("gray90","gray60","gray30"),cex.lab=1.2,cex.names=1.2,
        names.arg=c("Senegal","Morocco","Turkey"),cex.axis=1.2,
        legend.text=c("Positive","Neutral","Negative"),
        args.legend=list(x=10.5,y=72,bty="n",ncol=3))
text(seq(1.5,11.5,1),5+100*c(sen/sum(sen),NA,mor/sum(mor),NA,turk/sum(turk)),
     round(100*c(sen/sum(sen),0,mor/sum(mor),0,turk/sum(turk))))
```
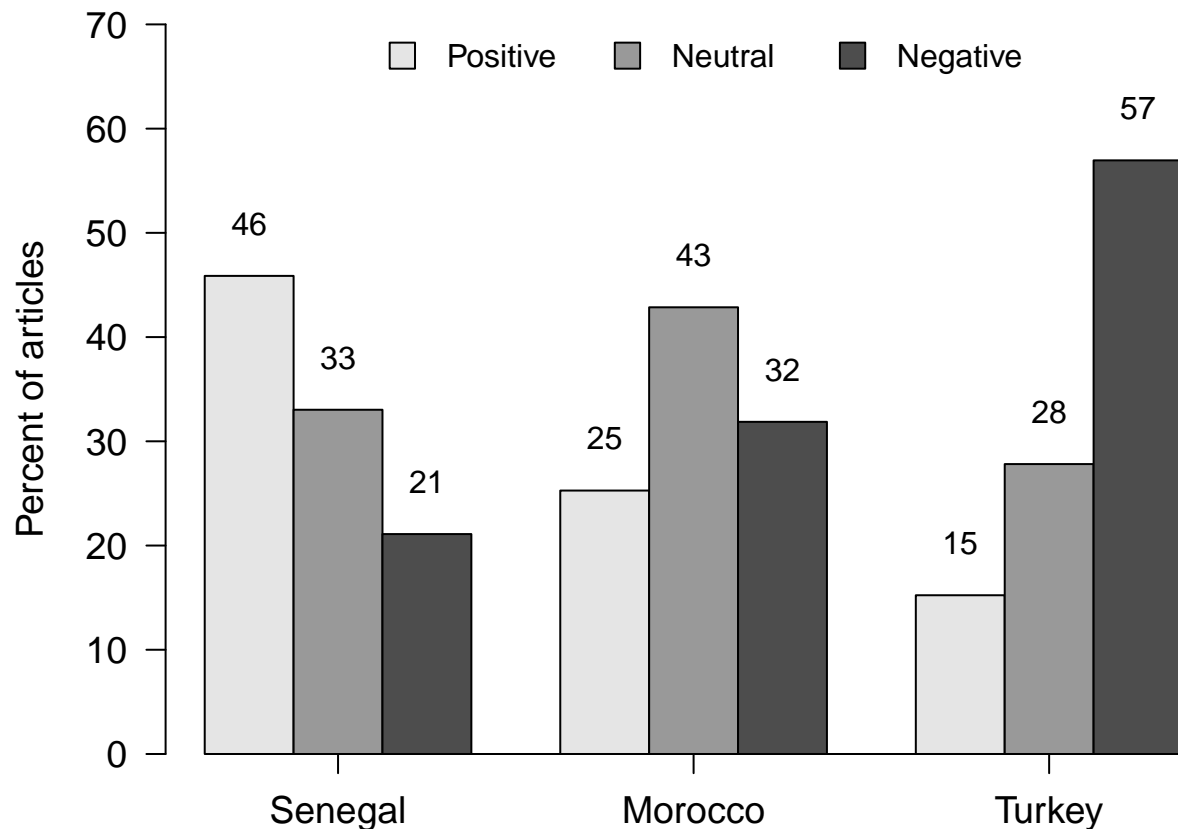
```
#savePlot("mediabars",type="pdf")

## Pew GAP 2007 ##
## http://pewglobal.org/database/?indicator=1&survey=8&response=Favorable&mode=table
## http://pewglobal.org/datasets/

# open data in SPSS format
library(foreign)

gap07 <- read.spss("Data-Raw/Pew-GAP 2007/GAP_2007_Data.sav",to.data.frame=T) # read data file
```

```
## Warning in read.spss("Data-Raw/Pew-GAP 2007/GAP_2007_Data.sav",
## to.data.frame = T): Data-Raw/Pew-GAP 2007/GAP_2007_Data.sav: Unrecognized
## record type 7, subtype 8 encountered in system file

## Warning in read.spss("Data-Raw/Pew-GAP 2007/GAP_2007_Data.sav",
## to.data.frame = T): Data-Raw/Pew-GAP 2007/GAP_2007_Data.sav: Unrecognized
## record type 7, subtype 18 encountered in system file

## Warning in `levels<-`(`*tmp*`, value = if (nl == nL) as.character(labels)
## else paste0(labels, : duplicated levels in factors are deprecated

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```

```r
# # export data frame to Stata binary format
# write.dta(gap07, "Data-Raw/gap07.dta",convert.factors = c("labels", "string", "numeric", "codes"))
#
# # read Stata data file
# gap07 <- read.dta("Data/gap07.dta",convert.factors = TRUE,
#                   missing.type = FALSE)

dat <- gap07
dat$cnum <- as.numeric(dat$country)

# Muslim respondents
```

```r
levels(dat$country)[levels(dat$country)=="Palestinian Territories"] <- "Palestinian ter."
dat$muspray <- 0+(!is.na(dat$Q114))      # 11436 Muslims asked about prayer
dat$Q44GHA[is.na(dat$Q44GHA)] <- "Don't know"
dat$Q44KEN[is.na(dat$Q44KEN)] <- "Don't know"
levels(dat$Q44INDA) <- c(levels(dat$Q44INDA),"Don't know")
dat$Q44INDA[is.na(dat$Q44INDA)] <- "Don't know"
dat$Q44MOR[is.na(dat$Q44MOR)] <- "Don't know"
dat$Q44UGA[is.na(dat$Q44UGA)] <- "Other "
dat$muslim <- 0+(dat$muspray==1 | dat$Q44GHA=="Muslim" | dat$Q44KEN=="Islam" |
                 dat$Q44INDA=="Muslim" | dat$Q44MOR=="Islam" | dat$Q44UGA=="Islam")

## Data set of 12,831 Muslims in 21 countries
mus <- dat[dat$muslim==1,]
cnames <- names(table(mus$country)[table(mus$country)>0])
mus$cnum2 <- recode(mus$cnum,"2=1;10=2;11=3;14=4;16=5;17=6;20=7;22=8;
                              23=9;24=10;25=11;26=12;27=13;29=14;30=15;
                              31=16;32=17;36=18;42=19;43=20;45=21")

## Create variables for analysis

## Attitudes towards the United States
mus$us <- as.numeric(mus$Q16A)            # [1] opinions of US (4=worst)
mus$us[mus$us>4] <- NA

mus$amer <- as.numeric(mus$Q16B)          # [2] opinions of Americans (4=worst)
mus$amer[mus$amer>4] <- NA

mus$spread <- as.numeric(mus$Q27)         # [3] spread of American customs (2=bad)
mus$spread[mus$spread>2] <- NA

mus$democ <- as.numeric(mus$Q28)          # [4] American ideas re democracy (2=dislike)
mus$democ[mus$democ>2] <- NA

mus$bus <- as.numeric(mus$Q29)            # [5] American ideas re business (2=dislike)
mus$bus[mus$bus>2] <- NA

mus$movies <- as.numeric(mus$Q30)         # [6] American music, movies, TV (2=dislike)
mus$movies[mus$movies>2] <- NA

mus$admire <- as.numeric(mus$Q31)         # [7] Admire America's tech (2=do not admire)
mus$admire[mus$admire>2] <- NA

mus$us.scale <- rowMeans(cbind((mus$us-1)/3,(mus$amer-1)/3,mus$spread-1,
                         mus$democ-1,mus$bus-1,mus$movies-1,mus$admire-1),na.rm=T)
mus$us.scale[is.na(mus$us.scale)] <- NA

# Anti-Americanism scale has a Cronbach's alpha of 0.78
cronbach.alpha(cbind((mus$us-1)/3,(mus$amer-1)/3,mus$spread-1,
                     mus$democ-1,mus$bus-1,mus$movies-1,mus$admire-1),na.rm=T)


##
## Cronbach's alpha for the 'cbind((mus$us - 1)/3, (mus$amer - 1)/3, mus$spread - 1, mus$democ - ' '
##
```

```
## Items: 7
## Sample units: 12831
## alpha: 0.777
```

```
## Attitudes about religion and government
mus$struggle <- 2-as.numeric(mus$Q75)      # 1=think there is a struggle
mus$struggle[mus$struggle<0] <- NA         # between modernizers/Fundamentalists

mus$id.fund <- as.numeric(mus$Q75B)-1      # 1=identify with fundamentalists, if see struggle
mus$id.fund[mus$id.fund>1] <- NA

## Religiosity
mus$pray <- as.numeric(mus$Q114)
mus$pray[mus$pray>7] <- NA
mus$pray5 <- (mus$pray==7)+0               # 1=pray 5x/day

mus$fast <- as.numeric(mus$Q116)
mus$fast[mus$fast>4] <- NA

mus$relimpt <- as.numeric(mus$Q117)
mus$relimpt[mus$relimpt>4] <- NA
mus$relimpt <- 5-mus$relimpt

table(mus$fast,mus$relimpt,mus$pray5)
```

```
## , ,  = 0
##
##
##        1    2    3    4
##   1   17   62   70  102
##   2    9   39  159  458
##   3    6   33  445 1848
##   4    6   11   74  675
##
## , ,  = 1
##
##
##        1    2    3    4
##   1   39   19    3   67
##   2    3    4   17  223
##   3    6   10  244 2947
##   4    6    6  132 3445
```

```
table(mus$relimpt)/sum(table(mus$relimpt))
```

```
##
##           1           2           3           4
## 0.009003652 0.016648263 0.104476344 0.869871740
```

```
table(mus$fast[mus$relimpt==4])/sum(table(mus$fast[mus$relimpt==4]))
```

```
##
```

```
##          1          2          3          4
## 0.01764169 0.06965426 0.49214235 0.42056170
```

```r
table(mus$pray5[mus$relimpt==4])/sum(table(mus$pray5[mus$relimpt==4]))
```

```
##
##         0         1
## 0.3160585 0.6839415
```

```r
mus$pious <- ((mus$pray5==1) & (mus$fast>=3) & (mus$relimpt==4)) + 0
mus$pious[is.na(mus$pray5) | is.na(mus$fast)] <- NA

# Validate dichotomous coding scheme with a latent class model
if (F) {
mus$pray5b <- mus$pray5+1
lc <- poLCA(cbind(pray5b,fast,relimpt)~1,mus,nclass=2,na.rm=F)
plot(lc)
# posterior classification finds expected clusters
table(lc$predclass,mus$pious)
windows()
hist(lc$posterior[,1])
}


## Attitudinal scale: policy and economic evaluations
mus$righttrack <- 2-as.numeric(mus$Q7)       # [1] satisfied with how things going in country
mus$righttrack[mus$righttrack<0] <- NA

mus$econsit <- (4-as.numeric(mus$Q11))/3      # [2] current economic situation in country
mus$econsit[mus$econsit<0] <- NA

mus$kids <- (2-as.numeric(mus$Q13))           # [3] children better off or worse off than people are now?
mus$kids[mus$kids<0] <- NA

mus$govt <- (4-as.numeric(mus$Q23A))/3        # [4] influence of national government
mus$govt[mus$govt<0] <- NA

mus$satisfied <- rowMeans(cbind(mus$righttrack,mus$econsit,mus$kids,mus$govt),na.rm=T)
mus$satisfied[is.na(mus$satisfied)] <- NA

## Media awareness
mus$news <- as.numeric(mus$Q37)-1             # follow int'l news (2=most of the time)
mus$news[mus$news>1] <- NA

# compare to percentages in other countries
table(dat$country,dat$Q37)
```

```
##
##                   Only when something important is happening
##    Argentina                                             449
##    Bangladesh                                            601
##    Bolivia                                               312
##    Brazil                                                388
```

```
## Bulgaria                                                                      150
## Canada                                                                        149
## Chile                                                                         412
## China                                                                        1293
## Czech Republic                                                                211
## Egypt                                                                         391
## Ethiopia                                                                      292
## France                                                                        145
## Germany                                                                       103
## Ghana                                                                         299
## Great Britain                                                                 182
## India                                                                         867
## Indonesia                                                                     594
## Israel                                                                        493
## Italy                                                                         176
## Ivory Coast                                                                   260
## Japan                                                                         345
## Jordan                                                                        484
## Kenya                                                                         549
## Kuwait                                                                        256
## Lebanon                                                                       538
## Malaysia                                                                      283
## Mali                                                                          167
## Mexico                                                                        347
## Morocco                                                                       435
## Nigeria                                                                       434
## Pakistan                                                                      923
## Palestinian ter.                                                             411
## Peru                                                                          310
## Poland                                                                        211
## Russia                                                                        500
## Senegal                                                                       196
## Slovakia                                                                      153
## South Africa                                                                  339
## South Korea                                                                   409
## Spain                                                                         182
## Sweden                                                                        160
## Tanzania                                                                      246
## Turkey                                                                        414
## United States                                                                 387
## Uganda                                                                        475
## Ukraine                                                                       273
## Venezuela                                                                     311
##
##                    Most of the time, whether or not something important is happening
## Argentina                                                                             315
## Bangladesh                                                                            364
## Bolivia                                                                               495
## Brazil                                                                                606
## Bulgaria                                                                              340
## Canada                                                                                349
## Chile                                                                                 363
## China                                                                                1566
## Czech Republic                                                                        234
```

```
##    Egypt                              604
##    Ethiopia                           414
##    France                             356
##    Germany                            393
##    Ghana                              336
##    Great Britain                      311
##    India                             1103
##    Indonesia                          370
##    Israel                             370
##    Italy                              307
##    Ivory Coast                        440
##    Japan                              400
##    Jordan                             512
##    Kenya                              425
##    Kuwait                             232
##    Lebanon                            424
##    Malaysia                           365
##    Mali                               530
##    Mexico                             455
##    Morocco                            507
##    Nigeria                            653
##    Pakistan                           592
##    Palestinian ter.                   373
##    Peru                               471
##    Poland                             286
##    Russia                             453
##    Senegal                            494
##    Slovakia                           289
##    South Africa                       615
##    South Korea                        278
##    Spain                              310
##    Sweden                             335
##    Tanzania                           433
##    Turkey                             478
##    United States                      601
##    Uganda                             560
##    Ukraine                            210
##    Venezuela                          484
##
##                     Don't know Refused
##    Argentina                23      13
##    Bangladesh               33       2
##    Bolivia                  19       8
##    Brazil                    6       0
##    Bulgaria                  7       3
##    Canada                    0       3
##    Chile                    11      14
##    China                   269      14
##    Czech Republic            3       2
##    Egypt                     0       5
##    Ethiopia                  3       1
##    France                    0       1
##    Germany                   3       1
##    Ghana                    67       5
```

```
##    Great Britain              7        2
##    India                     57       16
##    Indonesia                 40        4
##    Israel                    28        9
##    Italy                     14        4
##    Ivory Coast                0        0
##    Japan                     17        0
##    Jordan                     4        0
##    Kenya                     23        3
##    Kuwait                     9        3
##    Lebanon                   34        4
##    Malaysia                  48        4
##    Mali                       2        1
##    Mexico                    20        6
##    Morocco                   52        6
##    Nigeria                   37        4
##    Pakistan                 424       69
##    Palestinian ter.          18        6
##    Peru                      12        7
##    Poland                     6        1
##    Russia                    46        3
##    Senegal                    3        7
##    Slovakia                   5        3
##    South Africa              43        3
##    South Korea               27        4
##    Spain                      5        3
##    Sweden                     5        0
##    Tanzania                  19        6
##    Turkey                    64       15
##    United States            22        8
##    Uganda                    69       18
##    Ukraine                   10        7
##    Venezuela                  5        3
```

```r
sort(table(dat$country,dat$Q37)[,2]/rowSums(table(dat$country,dat$Q37)[,1:2]))
```

```
##          Bangladesh            Indonesia             Pakistan          South Korea
##           0.3772021            0.3838174            0.3907591            0.4046579
##           Argentina               Israel              Ukraine                Kenya
##           0.4123037            0.4287370            0.4347826            0.4363450
##             Lebanon                Chile               Russia               Kuwait
##           0.4407484            0.4683871            0.4753410            0.4754098
## Palestinian ter.                Jordan       Czech Republic                Ghana
##           0.4757653            0.5140562            0.5258427            0.5291339
##              Turkey                Japan              Morocco               Uganda
##           0.5358744            0.5369128            0.5382166            0.5410628
##               China                India             Malaysia               Mexico
##           0.5477440            0.5598985            0.5632716            0.5673317
##              Poland             Ethiopia              Nigeria                 Peru
##           0.5754527            0.5864023            0.6007360            0.6030730
##               Egypt        United States            Venezuela               Brazil
##           0.6070352            0.6082996            0.6088050            0.6096579
##             Bolivia          Ivory Coast                Spain         Great Britain
##           0.6133829            0.6285714            0.6300813            0.6308316
```

11

```
##        Italy        Tanzania    South Africa       Slovakia
##     0.6356108       0.6377025       0.6446541      0.6538462
##        Sweden        Bulgaria          Canada         France
##     0.6767677       0.6938776       0.7008032      0.7105788
##        Senegal          Mali         Germany
##     0.7159420       0.7604017       0.7923387
```

```r
sort(table(mus$country,mus$news)[,2]/rowSums(table(mus$country,mus$news)))
```

```
##       Indonesia      Bangladesh        Pakistan         Kuwait
##       0.3652762       0.3676815       0.3918089      0.4685466
## Palestinian ter.           Kenya         Lebanon       Ethiopia
##       0.4748387       0.4827586       0.5050847      0.5128205
##          Jordan          Turkey         Morocco         Uganda
##       0.5135135       0.5350172       0.5382166      0.5539568
##           India           Ghana        Malaysia          Egypt
##       0.5670103       0.5783133       0.5932203      0.6093917
##         Nigeria     Ivory Coast        Tanzania        Senegal
##       0.6560935       0.7065217       0.7120000      0.7130045
##            Mali
##       0.7612903
```

```r
## Demographic variables: age, gender, economic status, education
mus$male <- 2-as.numeric(mus$Q107)  # 1=male, 0=female
mus$age <- as.numeric(mus$Q108)
mus$age[mus$age>97] <- NA


# Socioeconomic status
sesvars <- c("Q123BAN","Q123EGY","Q123ETH","Q123GHA","Q123INDA","Q123INDO","Q123IVO",
             "Q123JOR","Q123KEN","Q123KUW","Q123LEB","Q123MALA","Q123MALI","Q123MOR",
             "Q123NIG","Q123PAK","Q123PAL","Q123SEN","Q123TAN","Q123TUR","Q123UGA")
sesmat <- mus[,sesvars]
mus$ses <- NA
for (i in 1:ncol(sesmat)) {
    seltab <- table(sesmat[,i])
    for (j in 1:length(seltab)) {
        mus$ses[(mus$country==cnames[i]) & (sesmat[,i]==names(seltab)[j])] <- j-1
    }
    mus$ses[grep("Refused",sesmat[,i])] <- NA
    mus$ses[grep("know",sesmat[,i])] <- NA
    mus$ses[mus$country==cnames[i]] <- mus$ses[mus$country==cnames[i]]/max(mus$ses[mus$country==cnames[
}


# Education level
edvars <- c("Q118BAN","Q118EGY","Q118ETH","Q118GHA","Q118INDA","Q118INDO","Q118IVO",
            "Q118JOR","Q118KEN","Q118KUW","Q118LEB","Q118MALA","Q118MALI","Q118MOR",
            "Q118NIG","Q118PAK","Q118PAL","Q118SEN","Q118TAN","Q118TUR","Q118UGA")
edmat <- mus[,edvars]    # highest level of education
apply(edmat,2,table)
```

```
## $Q118BAN
```

```
##
##                                          Complete primary school
##                                                                 139
##   Complete secondary school: technical/vocational type
##                                                                  98
##       Complete secondary: university-preparatory type
##                                                                  60
##                                        Incomplete primary school
##                                                                 124
## Incomplete secondary school: technical/vocational type
##                                                                 196
##       Incomplete secondary: university-preparatory type
##                                                                  27
##                                             No formal education
##                                                                 176
##       Some university-level education, without a degree
##                                                                  19
##              University-level education, with degree
##                                                                  48
##
## $Q118EGY
##
##                                             Completed college
##                                                              79
##                                          Completed elementary
##                                                             126
##                                           Completed secondary
##                                                              98
##     Completed university in Middle East/Africa
##                                                              50
## Completed university in Western Europe/America
##                                                              71
##                          Did not complete intermediate
##                                                             123
##                             Did not complete secondary
##                                                              44
##                                              Illiterate
##                                                             114
##                               No formal education
##                                                             237
##
## $Q118ETH
##
##                                          Complete primary school
##                                                                  19
##   Complete secondary school: technical/vocational type
##                                                                  76
##       Complete secondary: university-preparatory type
##                                                                  27
##                                        Incomplete primary school
##                                                                  17
## Incomplete secondary school: technical/vocational type
##                                                                  20
##       Incomplete secondary: university-preparatory type
```

```
##                                               17
##                              No formal education
##                                               20
##      Some university-level education, without a degree
##                                               23
##             University-level education, with degree
##                                               18
##
## $Q118GHA
##
##                            Complete JSS/Middle school
##                                                9
##                              Complete primary school
##                                               11
##        Complete SSS/Vocational/Technical/ School
##                                               19
##                          Incomplete JSS/Middle school
##                                               12
##                            Incomplete primary school
##                                                9
##      Incomplete SSS/Vocational/Technical/ School
##                                                6
##                              No formal education
##                                               35
## Some university-level education, without a degree
##                                                2
##             University-level education, with degree
##                                                4
##
## $Q118INDA
##
##       Graduate/Post grad-Gen BA MSc BCom etc
##                                               19
## Graduate/Post grad-Prof BE MTech MBA MBBS etc
##                                                7
##             Literate but no formal schooling
##                                                1
##                       School up to 4 years
##                                                1
##                       School up to 5 to 9 years
##                                               18
##             Some college but not graduated
##                                               12
##                                          SSC/HSC
##                                               42
##
## $Q118INDO
##
##                              Complete primary school
##                                              240
##   Complete secondary school technical/vocational type
##                                              433
##       Complete Secondary University-preparatory type
##                                                8
```

```
##                                          Incomplete primary school
##                                                                  66
## Incomplete secondary school technical/vocational type
##                                                                 116
##        Incomplete secondary University-preparatory type
##                                                                   6
##                                               No formal education
##                                                                  14
##                 University-level education, with degree
##                                                                  39
##              University-level education, without degree
##                                                                   6
##
## $Q118IVO
##
##                                             Complete primary school
##                                                                   7
##    Complete secondary school: technical/vocational type
##                                                                   7
##         Complete secondary: university-preparatory type
##                                                                   5
##                                           Incomplete primary school
##                                                                   7
## Incomplete secondary school: technical/vocational type
##                                                                   4
##      Incomplete secondary: university-preparatory type
##                                                                  28
##                                               No formal education
##                                                                  12
##      Some university-level education, without a degree
##                                                                   9
##                 University-level education, with degree
##                                                                  13
##
## $Q118JOR
##
##                    Complete primary    Complete secondary (preparatory)
##                                 137                                 187
##      Complete secondary (vocational)                 Incomplete primary
##                                  31                                 211
## Incomplete secondary (preparatory)  Incomplete secondary (vocational)
##                                  26                                  18
##                    No formal education    Some university without degree
##                                 185                                 102
##               University with degree
##                                  68
##
## $Q118KEN
##
##                       Complete primary school
##                                             5
##                     Complete secondary school
##                                            11
## Completed college (Diploma/Certificate)
```

```
##                                        2
##                  Incomplete primary school
##                                        3
##                Incomplete secondary school
##                                        6
##                        No formal education
##                                        3
##                                    Refused
##                                        1
##        Some college (Diploma/Certifiate)
##                                        2
## University-level education, with degree
##                                        1
##
## $Q118KUW
##
##                      Incomplete primary school
##                                              3
##                            No formal education
##                                              3
## Completed complementary: not sec/vocational
##                                             60
##              Completed diploma/ vocational type
##                                             18
##                      Completed primary school
##                                             15
##                    Completed secondary school
##                                            149
##         Entered university, did not complete
##                                             72
##                                        Refused
##                                              3
##    University-level education, with a degree
##                                            150
##
## $Q118LEB
##
##                    Complete primary   Complete secondary (preparatory)
##                                  89                                 84
##     Complete secondary (vocational)               Incomplete primary
##                                  48                                 49
## Incomplete secondary (preparatory)  Incomplete secondary (vocational)
##                                  20                                 30
##                  No formal education    Some university without degree
##                                  32                                110
##              University with degree
##                                 162
##
## $Q118MALA
##
##                          Completed elementary
##                                             78
##                          Completed secondary
##                                            182
```

16

```
##                      Completed university or more
##                                                27
##         Completed vocational/technical institute
##                                                13
##                                       Don't know
##                                                 1
##                            Some elementary or less
##                                                35
## Some post-secondary (university or technical)
##                                                28
##                                    Some secondary
##                                                83
##
## $Q118MALI
##
##                                  Complete primary school
##                                                42
##    Complete secondary school: technical/vocational type
##                                                92
##        Complete secondary: university-preparatory type
##                                                36
##                                Incomplete primary school
##                                                56
## Incomplete secondary school: technical/vocational type
##                                                77
##      Incomplete secondary: university-preparatory type
##                                                37
##                                       No formal education
##                                               171
##      Some university-level education, without a degree
##                                                34
##              University-level education, with degree
##                                                78
##
## $Q118MOR
##
##                                  Complete primary school
##                                                95
##    Complete secondary school: technical/vocational type
##                                                35
##        Complete secondary: university-preparatory type
##                                                39
##                                Incomplete primary school
##                                               212
## Incomplete secondary school: technical/vocational type
##                                                57
##      Incomplete secondary: university-preparatory type
##                                                56
##                                       No formal education
##                                               404
##      Some university-level education, without a degree
##                                                51
##              University-level education, with degree
##                                                51
```

```
## 
## $Q118NIG
## 
##                             Complete College of Education
##                                                         30
##                                     Complete Polytechnic
##                                                         36
##                                   Complete primary school
##                                                         75
##   Complete secondary school: technical/vocational type
##                                                         93
##       Complete secondary: university-preparatory type
##                                                         82
##                                               Don't know
##                                                          1
##                           Incomplete College of Education
##                                                         14
##                                   Incomplete Polytechnic
##                                                         24
##                                 Incomplete primary school
##                                                         33
## Incomplete secondary school: technical/vocational type
##                                                         41
##       Incomplete secondary: university-preparatory type
##                                                         25
##                                         No formal education
##                                                         85
##                                                    Refused
##                                                         10
##       Some university-level education, without a degree
##                                                         28
##             University-level education, with degree
##                                                         36
## 
## $Q118PAK
## 
##                                               5-9 classes
##                                                        423
##                                                Don't know
##                                                          1
##                                                  Graduate
##                                                        126
##                                              Intermediate
##                                                        164
##                                         Less than 5 classes
##                                                        115
##                                                     Matric
##                                                        317
##                                         No formal education
##                                                        719
## No formal education but can read and write
##                                                         30
##                                             Post-graduate
##                                                         35
```

```
## 
## $Q118PAL
## 
##                                Complete primary school 
##                                                      94 
##    Complete secondary school: technical/vocational type 
##                                                      78 
##        Complete secondary: university-preparatory type 
##                                                      65 
##                              Incomplete primary school 
##                                                      63 
## Incomplete secondary school: technical/vocational type 
##                                                      46 
##      Incomplete secondary: university-preparatory type 
##                                                      34 
##                                    No formal education 
##                                                      29 
##                                                Refused 
##                                                       5 
##      Some university-level education, without a degree 
##                                                     134 
##                University-level education, with degree 
##                                                     248 
## 
## $Q118SEN
## 
##                                Complete primary school 
##                                                      47 
##    Complete secondary school: technical/vocational type 
##                                                      27 
##        Complete secondary: university-preparatory type 
##                                                      27 
##                              Incomplete primary school 
##                                                     139 
## Incomplete secondary school: technical/vocational type 
##                                                      53 
##      Incomplete secondary: university-preparatory type 
##                                                     142 
##                                    No formal education 
##                                                     197 
##      Some university-level education, without a degree 
##                                                      14 
##                University-level education, with degree 
##                                                      33 
## 
## $Q118TAN
## 
##                                Complete primary school 
##                                                     149 
##    Complete secondary school: technical/vocational type 
##                                                      27 
##                              Incomplete primary school 
##                                                      24 
## Incomplete secondary school: technical/vocational type 
```

19

```
##                                                            21
##        Incomplete secondary: university-preparatory type
##                                                             2
##                                        No formal education
##                                                            31
##        Some university-level education, without a degree
##                                                             2
##                   University-level education, with degree
##                                                             1
##
## $Q118TUR
##
##                                        Complete primary school
##                                                            407
##    Complete secondary school: technical/vocational type
##                                                            80
##        Complete secondary: university-preparatory type
##                                                           185
##                                        Incomplete primary school
##                                                            45
## Incomplete secondary school: technical/vocational type
##                                                            30
##        Incomplete secondary: university-preparatory type
##                                                            30
##                                        No formal education
##                                                            80
##                                                     Refused
##                                                             3
##        Some university-level education, without a degree
##                                                            24
##                   University-level education, with degree
##                                                            59
##
## $Q118UGA
##
##                                        Complete primary school
##                                                            18
##    Complete secondary school: technical/vocational type
##                                                             8
##        Complete secondary: university-preparatory type
##                                                             7
##                                        Incomplete primary school
##                                                            41
## Incomplete secondary school: technical/vocational type
##                                                            39
##        Incomplete secondary: university-preparatory type
##                                                            11
##                                        No formal education
##                                                            18
##        Some university-level education, without a degree
##                                                             8
##                   University-level education, with degree
##                                                             4
```

```r
edlevels <- sort(names(table(as.matrix(edmat)))) # 71 outcome categories
# in Pakistan, "Matric" means secondary school

primary <- c(" Incomplete primary school",
             " No formal education",
             "5-9 classes",
             "Complete primary",
             "Complete primary school",
             "Completed elementary",
             "Completed primary school",
             "Did not complete intermediate",
             "Illiterate",
             "Incomplete primary",
             "Incomplete primary school",
             "Less than 5 classes",
             "Literate but no formal schooling",
             "No formal education",
             "No formal education but can read and write",
             "School up to 4 years",
             "School up to 5 to 9 years",
             "Some elementary or less")

secondary <- c("Complete JSS/Middle school",
               "Complete Polytechnic",
               "Complete secondary (preparatory)",
               "Complete secondary (vocational)",
               "Complete secondary school",
               "Complete secondary school technical/vocational type",
               "Complete secondary school: technical/vocational type",
               "Complete Secondary University-preparatory type",
               "Complete secondary: university-preparatory type",
               "Complete SSS/Vocational/Technical/ School",
               "Completed vocational/technical institute",
               "Completed complementary: not sec/vocational ",
               "Completed secondary",
               "Completed secondary school",
               "Did not complete secondary",
               "Incomplete JSS/Middle school",
               "Incomplete Polytechnic",
               "Incomplete secondary (preparatory)",
               "Incomplete secondary (vocational)",
               "Incomplete secondary school",
               "Incomplete secondary school technical/vocational type",
               "Incomplete secondary school: technical/vocational type",
               "Incomplete secondary University-preparatory type",
               "Incomplete secondary: university-preparatory type",
               "Incomplete SSS/Vocational/Technical/ School",
               "Intermediate",
               "Matric",
               "Some secondary",
               "SSC/HSC")

university <- c("Complete College of Education",
```

```
                "Completed college",
                "Completed college (Diploma/Certificate)",
                "Completed diploma/ vocational type",
                "Completed university in Middle East/Africa",
                "Completed university in Western Europe/America",
                "Completed university or more",
                "Entered university, did not complete",
                "Graduate",
                "Graduate/Post grad-Gen BA MSc BCom etc",
                "Graduate/Post grad-Prof BE MTech MBA MBBS etc",
                "Incomplete College of Education",
                "Post-graduate",
                "Some college (Diploma/Certifiate)",
                "Some college but not graduated",
                "Some post-secondary (university or technical)",
                "Some university-level education, without a degree",
                "Some university without degree",
                "University-level education, with a degree",
                "University-level education, with degree",
                "University-level education, without degree",
                "University with degree")

other <- c("Don't know","Refused")

length(c(primary,secondary,university,other)) # 71
```

```
## [1] 71
```

```
mus$educ <- NA
for (i in 1:ncol(edmat)) {
    mus$educ[edmat[,i] %in% primary] <- 1
    mus$educ[edmat[,i] %in% secondary] <- 2
    mus$educ[edmat[,i] %in% university] <- 3
}

mus$ed2 <- 0+(mus$educ==2)
mus$ed3 <- 0+(mus$educ==3)



## Set up country-level variables:

# Percent of country that is Muslim. Source: Pew study, http://pewforum.org/docs/?DocID=450
# Distance in 1000 miles between country capital and Jerusalem. Source: Google maps
# Imports from the US, in thousands of dollars, 2007. Source: http://tse.export.gov
# Population, total, 2007. Source: World Bank WDI
# GDP per capita (current US$), 2005. Source: World Bank WDI
# Total Economic Assistance (no military), 2007, in millions, historical 2007 $US
#   Source: U.S. Overseas Loans and Grants [Greenbook] http://gbk.eads.usaidallnet.gov/
# Gallup world poll: http://www.gallup.com/poll/142631/Worldwide-Leadership-Approval.aspx

#cvars <- read.csv("Data-Raw/cvars.csv",row.names=1)
# read Stata data file
cvars <- read.dta("Data/cvarsALL.dta",convert.factors = TRUE, missing.type = FALSE)
```

```
struggle <- (table(mus$cnum,mus$struggle)/rowSums(table(mus$cnum,mus$struggle)))[,2]
struggle[is.na(struggle)] <- NA
cvars$struggle <- struggle
pctrel <- (table(mus$cnum,mus$pious)/rowSums(table(mus$cnum,mus$pious)))[,2]
pctrel[is.na(pctrel)] <- NA
cvars$pctrel <- pctrel
cvars$decdisp  <- cvars$decdisp   #Militarized Disputes
cvars$decexp   <- cvars$decexp   #U.S. Military Aid to Disputing Neighbors
cvars$decvote <-cvars$decvote   #UN Vote Distance with U.S.
cvars$fivedisp  <- cvars$fivedisp   #Militarized Disputes (Five Years)
cvars$fiveexp  <- cvars$fiveexp   #U.S. Military Aid to Disputing Neighbors (Five Years)
cvars$fivevote <-cvars$fivevote   #UN Vote Distance with U.S.
cvars$pctAA <- as.vector((table(mus$cnum,mus$us)/rowSums(table(mus$cnum,mus$us)))[,4])
cvars$meanAA <- sapply(split(mus$us.scale,mus$cnum),mean,na.rm=T)
cvars$log.usimppc <- log(cvars$usimppc)
cvars$log.gdppc <- log(cvars$gdppc)

cvars$gallup <- (100-c(34,6,NA,69,31,46,94,9,82,43,25,23,87,33,73,11,13,76,76,16,84))/100
cor(cvars$gallup,cvars$meanAA,use="complete.obs")
```

```
## [1] 0.7970873
```

```
#plot(cvars$gallup,cvars$meanAA)

## Tabulate pro-/anti-American using a barplot
anti34 <- rowSums((table(mus$cnum,mus$us)/rowSums(table(mus$cnum,mus$us)))[,3:4])
o <- order(anti34)

windows()
par(mar=c(2.5,8,1,1),las=1)
barplot(t(table(mus$cnum,mus$us)/rowSums(table(mus$cnum,mus$us)))[2:1,o],
        horiz=T,names.arg=cnames[o],xlim=c(-1.1,1.1),xaxt="n",space=0.5,cex.names=1.2)
barplot(-t(table(mus$cnum,mus$us)/rowSums(table(mus$cnum,mus$us)))[3:4,o],
        horiz=T,add=T,xaxt="n",yaxt="n",space=0.5)
axis(1,at=seq(-1,1,0.2),labels=c(seq(100,0,-20),seq(20,100,20)))
abline(v=0)
text(rep(-0.95,21),1.5*c(1:21)-0.65,format(round(100*anti34[o])),pos=2)
text(rep(1.05,21),1.5*c(1:21)-0.65,format(100-round(100*anti34[o])),pos=2)
mtext("Percent anti-American Percent pro-American",side=3,font=2)
```

Percent anti–American Percent pro–American

Country	Anti			Pro
Turkey	90			10
Malaysia	90			10
Palestinian ter.	90			10
Pakistan	82			18
Jordan	80			20
Morocco	79			21
Egypt	78			22
Indonesia	72			28
Lebanon	70			30
Ethiopia	53			47
Tanzania	52			48
Kuwait	52			48
Nigeria	49			51
Bangladesh	45			55
Kenya	44			56
India	38			62
Uganda	36			64
Ghana	31			69
Senegal	30			70
Mali	20			80
Ivory Coast	20			80

100 80 60 40 20 0 20 40 60 80 100

```
#savePlot("countryAA",type="pdf")

## Scatterplot average AA vs. pct seeing a struggle (asked in 17 countries)
windows(5.5,5.5)
par(mar=c(4.5,4,1,1),las=1)
plot(meanAA~struggle,cvars,xlim=c(0,0.8),ylim=c(0.1,1),col="white",
     cex.axis=1.2,cex.lab=1.2,
     xlab="Proportion seeing a reformer-fundamentalist struggle",
     ylab="Average unfavorability of United States")
text(cvars$struggle,cvars$meanAA,cnames)
```

Average unfavorability of United States — Proportion seeing a reformer–fundamentalist struggle
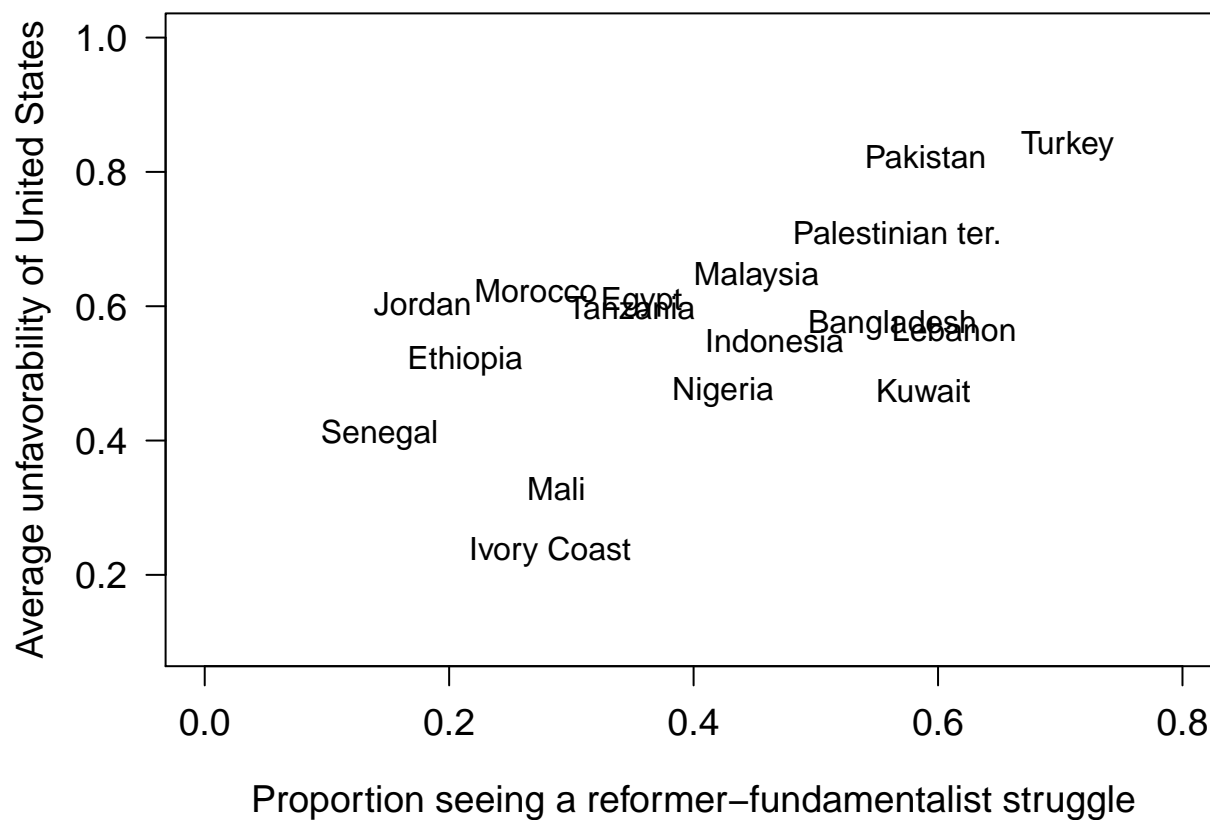
```
#savePlot("AAstruggle",type="pdf")

## Scatterplot percent strongly AA vs. pct seeing a struggle (asked in 17 countries)
windows(5.5,5.5)
par(mar=c(4.5,4,1,1),las=1)
plot(pctAA~struggle,cvars,xlim=c(0,0.8),ylim=c(0,1),col="white",
     cex.axis=1.2,cex.lab=1.2,
     xlab="Proportion seeing a reformer-fundamentalist struggle",
     ylab="Proportion strongly unfavorable of the United States")
text(cvars$struggle,cvars$pctAA,cnames)
```
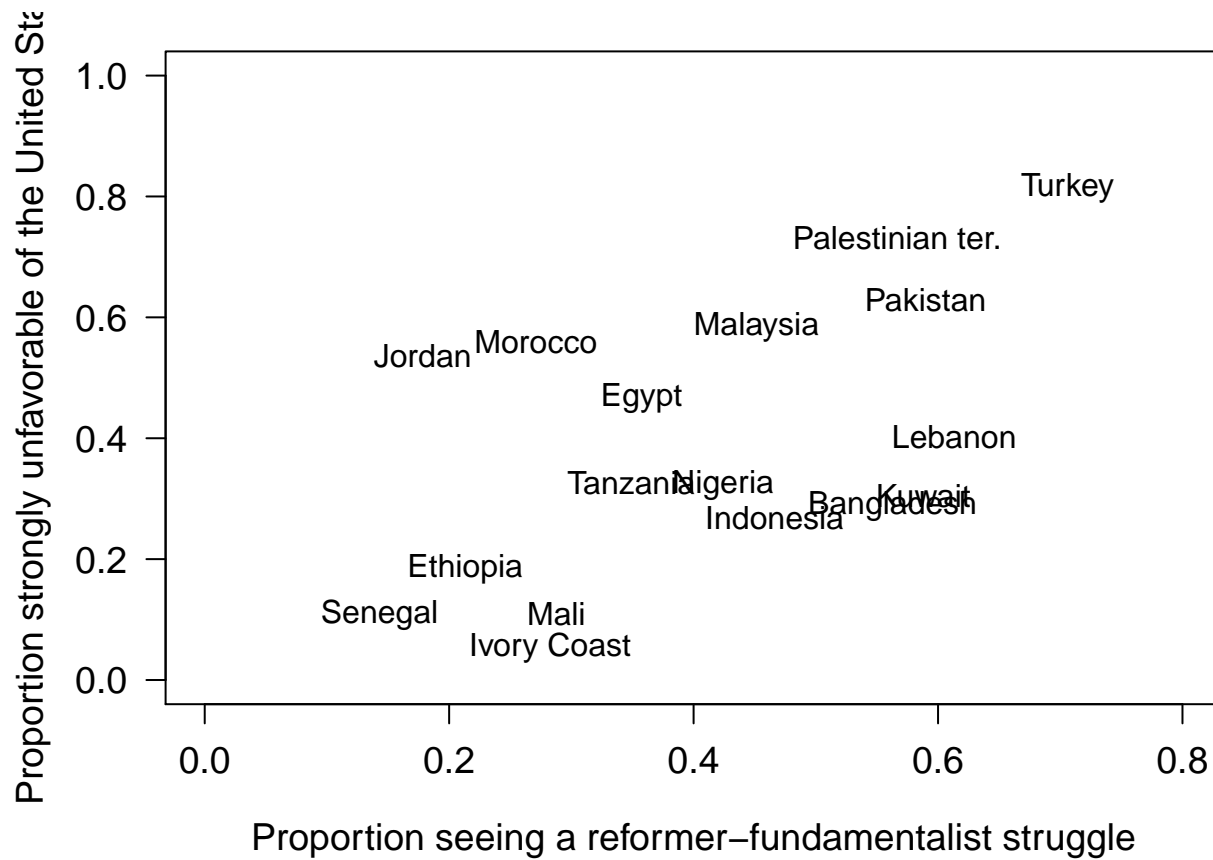
```
#savePlot("AAstruggle2",type="pdf")

## Plot mean AA vs. percent religious
windows(5.5,5.5)
par(mar=c(4.5,4,1,1),las=1)
plot(meanAA~pctrel,cvars,ylim=c(0.1,1),xlim=c(0.2,1),col="white",
     cex.axis=1.2,cex.lab=1.2,
     xlab="Proportion highly religious",
     ylab="Average unfavorability of United States")
text(cvars$pctrel,cvars$meanAA,cnames)
```
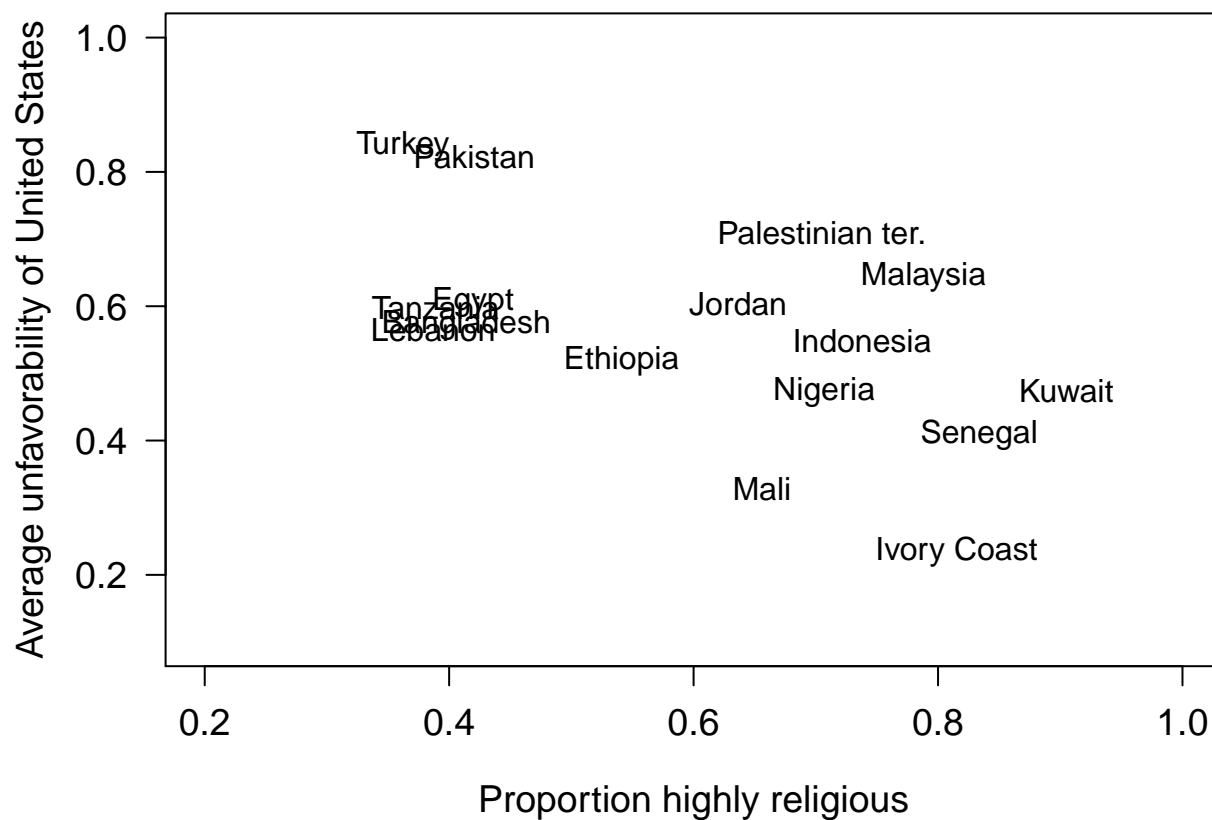
```
#savePlot("AAreligious",type="pdf")

#Save data frames in R format
save(cnames, file="Data/cnames.Rda")
save(cvars, file="Data/cvars.Rda")
save(dat, file="Data/dta.Rda")
save(edmat, file="Data/edmat.Rda")
save(gap07, file="Data/gap07.Rda")
save(mus, file="Data/mus.Rda")
save(sesmat, file="Data/sesmat.Rda")

# end of file
########################################################################
```