#analysis of WVS 2019

###Codes for WVS 2019

getwd()

setwd("D:/Users/Erwin/OneDrive - University of the Philippines/CSWCD/SD/SD 400/Dataset/WVS/2019")

library(readxl)

wvs2019 <- read\_excel("D:/Users/Erwin/OneDrive - University of the Philippines/CSWCD/SD/SD 400/Dataset/WVS/2019/testdata2.xlsx")

wvs2019 = as.data.frame(wvs2019)

library(psych)

library(tidyverse)

#https://www.datanovia.com/en/lessons/select-data-frame-columns-in-r/

wvs2019\_2 <- wvs2019 %>%select(Q106 ,

Q107 ,

Q108 ,

Q109 ,

Q110 ,

Q112 ,

Q120 ,

Q143 ,

Q158 ,

Q159 ,

Q160 ,

Q161 ,

Q162 ,

Q177 ,

Q178 ,

Q179 ,

Q180 ,

Q181 ,

Q182 ,

Q183 ,

Q184 ,

Q185 ,

Q186 ,

Q187 ,

Q188 ,

Q189 ,

Q190 ,

Q191 ,

Q192 ,

Q193 ,

Q194 ,

Q195 ,

Q234A ,

Q240 ,

Q241 ,

Q242 ,

Q243 ,

Q244 ,

Q245 ,

Q246 ,

Q247 ,

Q248 ,

Q249 ,

Q250 ,

Q251 ,

Q252 ,

Q286 ,

Q287 ,

Q288 ,

Q288R ,

Q291G2 ,

Q291G3 ,

Q291G4 ,

Q291G5 ,

Q291G6 ,

Q291P1 ,

Q291P2 ,

Q291P3 ,

Q291P4 ,

Q291P5 ,

Q291P6 ,

Q292A ,

Q292B ,

Q292C ,

Q292D ,

Q292E ,

Q292F ,

Q292G ,

Q292H ,

Q292I ,

Q292J ,

Q292K ,

Q292L ,

Q292M ,

Q292N ,

Q292O ,

Q293 ,

Q35 ,

Q36 ,

Q39 ,

Q40 ,

Q41 ,

Q47 ,

Q48 ,

Q49 ,

Q50)

#detach(wvs2019\_2)

attach(wvs2019\_2)

class(wvs2019\_2)

#subset middle class

#d <- as.numeric(c(1:5))

#d <- as.data.frame(d)

#d

#wvs2019\_2m <- subset(wvs2019\_2, Q287>1 & Q287<4)

#wvs2019\_2m = subset(wvs2019\_2, select = -c(Q287, Q288, Q288R))

wvs2019\_2m = subset(wvs2019\_2)

#737 obs

#descriptive

desc <- describe(wvs2019\_2m)

desc2 <- desc%>%select(skew,kurtosis)

desc2

mardia(wvs2019\_2, na.rm=TRUE, plot=TRUE)

out=outlier(wvs2019\_2, bad=5, cex=.5, plot=T, na.rm=TRUE, bg=c("blue"),

pch=21, ylab="D2", ylim=c(0,500))

#freq

table(Q1)

table(Q288)

table(Q288R)

table(Q287)

#crosstab

xtabs(~Q288+Q287)

#cor

wvs2019cor=cor(Q287, Q108)

wvs2019cor

wvs2019cor=cor(wvs2019)

wvs2019cor

#http://www.sthda.com/english/wiki/correlation-test-between-two-variables-in-r

testcor <- cor.test(wvs2019$Q288, wvs2019$Q287,

method = "pearson")

testcor

mulcor <- cor(wvs2019[, c('Q288', 'Q287', 'Q1')])

mulcor

#polychoric

wvs19poly = polychoric(wvs2019\_2)

#pearson

wvs19cor = cor(wvs2019\_2)

#visualize cor>.3

library(qgraph)

qgraph(wvs19cor,cut=.30,details=TRUE,posCol="darkgreen",negCol="red",

labels=names(wvs19cor))

#correlation plot from the psych package to see corr > .30

corPlot(wvs19cor,diag=F,zlim=c(.3,1),upper=F,numbers=TRUE,cex.axis=.5)

#DETERMINE NUMBER OF CORRELATIONS ABOVE .30

#also chekch for Singularity - too high correlation (r=1).

##create correlation matrix from raw data

wvs19cor = cor(wvs2019\_2m)

##compute number of coef>=.30 off-diagonal

BigR=sum(wvs19cor>=abs(.30) & wvs19cor<abs(1.0),na.rm=T)/2

print(BigR)

#BigR = 161

##Check for multicollinearity

#if determinant of cor matrix is >0.00001 then multicollinearity is probably not a problem

det(cor(wvs2019\_2m))

#KMO

KMO(wvs2019\_2)

#Bartlett's

cortest.bartlett(wvs2019\_2,n=1200)

#consider:

#https://stackoverflow.com/questions/15215457/standardize-data-columns-in-r

##How many factors to retain?

#PATTERN MATRIX FOR SOLUTION WITH EIGHT

#FACTORS FROM PSYCH PACKAGE

f8=fa(wvs2019\_2,nfactors=8,SMC=TRUE,min.err=0.001,max.iter=1000,fm="ml",rotate="none",n.obs=1200)

f8out <- print(f8,sort=TRUE, digits=2)

#PARALLEL ANALYSIS (PA) WITH PSYCH PACKAGE

#PA with 500 repetitions

#For correlation matrix the n.pbs must be added: n.obs=152

#compare eigen of simulated and actual

pawvs19=fa.parallel(wvs2019\_2m,fa="pc",n.iter = 500,ylab="Eigenvalues",quant=.50)

print(pawvs19)

#fa="pc" - extraction method=PCA

#fa="fa" - extraction method=common factor extraction

#quant = comparison standard, here = 50th percentile

#only 1 component (eigenvalue=7.90) is sufficient

#MAP WITH PSYCH PACKAGE

vss(wvs2019\_2m,rotate="none", fm="pc", plot=FALSE, n.obs=1200)

#The lowest MAP value identifies the number of factors to retain. In this

#case, MAP reaches a minimum at two factors

#lowest MAP=?

#indicates 5 to 8 factors

#SCREE PLOT WITH PSYCH PACKAGE

#display scree plot from both reduced and unreduced corr matrices

scree(wvs2019\_2m,pc=TRUE,factors=TRUE,hline="-1",main="Scree Plot")

#how many factors?

#scree = 2-4

#pa = 1

#MAP = 5 - 8

#################

# 6 factor model, promax rotation, ML extraction, save residuals

#missing data can be imputed with mean (impute="mean") or median

#(impute="median"). Default vaues for iteration (min.err, max.iter)

#and initial communality estimate (SMC)

#record output

#sink(file = "Out1.txt", split = TRUE, append = FALSE)

f6=fa(wvs2019\_2m,nfactors=6,rotate="promax",residuals=TRUE,SMC=TRUE,

missing=FALSE,fm="ml",n.obs=1200)

print(f6,digits=3,sort=TRUE)

#record

sink(file = "f6\_all.txt", split = TRUE, append = FALSE)

print(sort=TRUE,digits=3, cut=.3,f6$Structure)

sink()

#remove loading <.3

wvs2019\_2m = subset(wvs2019\_2m, select = -c(Q106 ,

Q107 ,

Q108 ,

Q109 ,

Q110 ,

Q112 ,

Q120 ,

Q143 ,

Q158 ,

Q160 ,

Q161 ,

Q162 ,

Q177 ,

Q178 ,

Q234A ,

Q240 ,

Q246 ,

Q250 ,

Q251 ,

Q252 ,

Q291P3 ,

Q292K ,

Q35 ,

Q36 ,

Q39 ,

Q40 ,

Q41 ,

Q47 ,

Q48 ,

Q49 ,

Q50 ,

Q293 ,

Q291G5 ,

Q291P5 ,

Q292H))

wvs2019\_2m = subset(wvs2019\_2m, select = -c(Q291G2, Q291G3, Q291P2))

wvs2019\_2m = subset(wvs2019\_2m, select = -c(Q159, Q286))

#residual matrix

resd=residuals(f6,diag=FALSE,na.rm=TRUE)

print(resd,digits=3)

#next, count the number of residuals > .05. Can be changed to .10

BigR=sum(resd>abs(0.05), na.rm=T)

print(BigR)

#Total number of off-diagonal elements in the data matrix

totR=length(wvs2019\_2m)\*(length(wvs2019\_2m)-1)/2

print(totR)

#proportion of off-diagonal elements >.5 in residual matrix

sum(BigR/totR\*100)

#largest residual in the matrix

max(abs(resd),na.rm=TRUE)

#record output stop

sink(file = NULL)

unlink("Out1.txt")

#structure of matrix if desired

#save to file

sink(file = "Out1.txt", split = TRUE, append = FALSE)

print(sort=TRUE,digits=3, cut=0,f6$Structure)

sink(file = NULL)

#decision:

#Remove vars with loading <.4, RUN

#Remove vars with loading <.5, RUN

#Try 4-factor model

#Try other or no retation

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################################################################

# 4 factor model, promax rotation, ML extraction, save residuals

####this was done. 3 factor seems better, no conceptual overlap off factors

#missing data can be imputed with mean (impute="mean") or median

#(impute="median"). Default vaues for iteration (min.err, max.iter)

#and initial communality estimate (SMC)

#remove vars with loading <.4

wvs2019\_2m = subset(wvs2019\_2m, select = -c(Q106 ,

Q107 ,

Q108 ,

Q109 ,

Q110 ,

Q112 ,

Q120 ,

Q143 ,

Q158 ,

Q160 ,

Q161 ,

Q162 ,

Q177 ,

Q178 ,

Q182 ,

Q234A ,

Q240 ,

Q241 ,

Q242 ,

Q245 ,

Q246 ,

Q250 ,

Q251 ,

Q252 ,

Q286 ,

Q291G5 ,

Q291P3 ,

Q291P5 ,

Q292E ,

Q292G ,

Q292I ,

Q292J ,

Q292K ,

Q292L ,

Q292M ,

Q292N ,

Q292O ,

Q293 ,

Q35 ,

Q36 ,

Q39 ,

Q40 ,

Q41 ,

Q47 ,

Q48 ,

Q49 ,

Q50 ))

#remove vars with loading <.3

f3=fa(wvs2019\_2m,nfactors=3,rotate = "promax",residuals=TRUE,SMC=TRUE,

missing=FALSE,fm="ml",n.obs=1200)

f3

sink(file = "Out1.txt", split = TRUE, append = FALSE)

print(sort=TRUE,digits=3, cut=.399,f3$Structure)

sink()

print(f4,digits=3,cut=.30, sort=TRUE)

print(sort=TRUE,digits=3, cut=0,f3$Structure)

#remove vars with loading <.3

wvs2019\_2m = subset(wvs2019\_2m, select = -c(Q159, Q291G2, Q291G3, Q291P2, Q292A,

Q292B, Q292C, Q292D, Q292F, Q292H))

f3=fa(wvs2019\_2m,nfactors=3,rotate = "promax",residuals=TRUE,SMC=TRUE,

missing=FALSE,fm="ml",n.obs=1200)

f3

sink(file = "Out1.txt", split = TRUE, append = FALSE)

print(sort=TRUE,digits=3, cut=.399,f3$Structure)

sink()

#factor scores

factor.scores(wvs2019\_2m, f3, method="tenBerge")

det(cor(wvs2019\_2m))

#KMO

KMO(wvs2019\_2m)

#Bartlett's

cortest.bartlett(wvs2019\_2m,n=737)

#mardia

mardia(wvs2019\_2m, na.rm=TRUE, plot=TRUE)

#residual matrix

resd=residuals(f3,diag=FALSE,na.rm=TRUE)

print(resd,digits=3)

#next, count the number of residuals > .05. Can be changed to .10

BigR=sum(resd>abs(0.05), na.rm=T)

print(BigR)

#Total number of off-diagonal elements in the data matrix

totR=length(wvs2019\_2m)\*(length(wvs2019\_2m)-1)/2

print(totR)

#proportion of off-diagonal elements >.05 in residual matrix

sum(BigR/totR\*100)

#largest residual in the matrix

max(abs(resd),na.rm=TRUE)

#structure of matrix if desired

#save to file

sink(file = "Out1.txt", split = TRUE, append = FALSE)

print(sort=TRUE,digits=3, cut=0,f3$Structure)

sink(file = NULL)

######################################################################

#########################################################################

# 1 factor model, promax rotation, ML extraction, save residuals

#missing data can be imputed with mean (impute="mean") or median

#(impute="median"). Default vaues for iteration (min.err, max.iter)

#and initial communality estimate (SMC)

f1=fa(wvs2019\_2m,nfactors=1,rotate="promax",residuals=TRUE,SMC=TRUE,

missing=FALSE,fm="ml",n.obs=1200)

print(f1,digits=3,sort=TRUE)

print(sort=TRUE,digits=3, cut=0,f1$Structure)

#residual matrix

resd=residuals(f3,diag=FALSE,na.rm=TRUE)

print(resd,digits=3)

#next, count the number of residuals > .05. Can be changed to .10

BigR=sum(resd>abs(0.05), na.rm=T)

print(BigR)

#Total number of off-diagonal elements in the data matrix

totR=length(wvs2019\_2m)\*(length(wvs2019\_2m)-1)/2

print(totR)

#proportion of off-diagonal elements >.05 in residual matrix

sum(BigR/totR\*100)

#largest residual in the matrix

max(abs(resd),na.rm=TRUE)

#structure of matrix if desired

#save to file

sink(file = "Out1.txt", split = TRUE, append = FALSE)

print(sort=TRUE,digits=3, cut=0,f3$Structure)

sink(file = NULL)

######################

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######################

##NOTE TO SELF#########

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####################

#I run with all obs.

#I changed f3 codes, obs = 1200

#same results.

#is this better?

#only if cross tab with q287 show difference?

crosstab(df = povhun00, x = GENDER, y = ECLASS\_1, weight = wgt, format = "long") %>% mutate(pct = pct) %>%

ggplot(aes(ECLASS\_1, pct, fill = GENDER, label = round(pct, digits = 2))) +

geom\_bar(stat = "identity", position = "dodge") + geom\_text(position = position\_dodge(width = .9), vjust = -0.5, size = 1.5) +

theme(axis.text.x = element\_text(size = 8, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=10, face=("bold"))) +

labs(title="", subtitle="", caption="Source: Social Weather Stations", x = "Where would you place your family in this card? (2000)", y = "Percent", fill = "SES") + scale\_y\_continuous(limits = c(0,100))

library(gmodels)

sink(file = "wvs19xtabs.txt", split = TRUE, append = FALSE)

CrossTable(wvs2019\_2m$Q181, wvs2019\_2m$Q287, chisq = TRUE) #\*\*

CrossTable(wvs2019\_2m$Q179, wvs2019\_2m$Q287, chisq = TRUE) #ns

CrossTable(wvs2019\_2m$Q180, wvs2019\_2m$Q287, chisq = TRUE) #ns

CrossTable(wvs2019\_2m$Q183, wvs2019\_2m$Q287, chisq = TRUE) #ns

CrossTable(wvs2019\_2m$Q184, wvs2019\_2m$Q287, chisq = TRUE) #ns

CrossTable(wvs2019\_2m$Q185, wvs2019\_2m$Q287, chisq = TRUE) #ns

CrossTable(wvs2019\_2m$Q186, wvs2019\_2m$Q287, chisq = TRUE) #ns borderline sig (sex before marriage)

CrossTable(wvs2019\_2m$Q187, wvs2019\_2m$Q287, chisq = TRUE) #ns

CrossTable(wvs2019\_2m$Q188, wvs2019\_2m$Q287, chisq = TRUE) #ns

CrossTable(wvs2019\_2m$Q189, wvs2019\_2m$Q287, chisq = TRUE) #ns

CrossTable(wvs2019\_2m$Q190, wvs2019\_2m$Q287, chisq = TRUE) #ns

CrossTable(wvs2019\_2m$Q191, wvs2019\_2m$Q287, chisq = TRUE) #ns borderline

CrossTable(wvs2019\_2m$Q192, wvs2019\_2m$Q287, chisq = TRUE) #ns

CrossTable(wvs2019\_2m$Q193, wvs2019\_2m$Q287, chisq = TRUE) #\*\*

CrossTable(wvs2019\_2m$Q194, wvs2019\_2m$Q287, chisq = TRUE) #ns

CrossTable(wvs2019\_2m$Q195, wvs2019\_2m$Q287, chisq = TRUE) #ns

#CrossTable(wvs2019\_2m$Q291G1, wvs2019\_2m$Q287, chisq = TRUE) #ns

CrossTable(wvs2019\_2m$Q291G4, wvs2019\_2m$Q287, chisq = TRUE) #ns

CrossTable(wvs2019\_2m$Q291G6, wvs2019\_2m$Q287, chisq = TRUE) #\*\*

#CrossTable(wvs2019\_2m$Q291P1, wvs2019\_2m$Q287, chisq = TRUE) #ns

CrossTable(wvs2019\_2m$Q291P4, wvs2019\_2m$Q287, chisq = TRUE) #ns

CrossTable(wvs2019\_2m$Q291P6, wvs2019\_2m$Q287, chisq = TRUE) #\*\*

CrossTable(wvs2019\_2m$Q243, wvs2019\_2m$Q287, chisq = TRUE) #ns

CrossTable(wvs2019\_2m$Q244, wvs2019\_2m$Q287, chisq = TRUE) #ns(democracy)

CrossTable(wvs2019\_2m$Q247, wvs2019\_2m$Q287, chisq = TRUE) #\*\* (democracy)

CrossTable(wvs2019\_2m$Q248, wvs2019\_2m$Q287, chisq = TRUE) #\*\* (democracy)

CrossTable(wvs2019\_2m$Q249, wvs2019\_2m$Q287, chisq = TRUE) #ns interesting gender result

CrossTable(wvs2019\_2m$Q195, wvs2019\_2m$Q287, chisq = TRUE) #

CrossTable(wvs2019\_2m$Q192, wvs2019\_2m$Q287, chisq = TRUE) #

CrossTable(wvs2019\_2m$Q182, wvs2019\_2m$Q287, chisq = TRUE) #

CrossTable(wvs2019\_2m$Q178, wvs2019\_2m$Q287, chisq = TRUE) #

CrossTable(wvs2019\_2m$Q247, wvs2019\_2m$Q287, chisq = TRUE) #

CrossTable(wvs2019\_2m$Q246, wvs2019\_2m$Q287, chisq = TRUE) #

CrossTable(wvs2019\_2m$Q241, wvs2019\_2m$Q287, chisq = TRUE) #

CrossTable(wvs2019\_2m$Q245, wvs2019\_2m$Q287, chisq = TRUE) #

CrossTable(wvs2019\_2m$Q242, wvs2019\_2m$Q287, chisq = TRUE) #

CrossTable(wvs2019\_2m$Q250, wvs2019\_2m$Q287, chisq = TRUE) #

CrossTable(wvs2019\_2m$Q251, wvs2019\_2m$Q287, chisq = TRUE) #

CrossTable(wvs2019\_2m$Q291P1, wvs2019\_2m$Q287, chisq = TRUE) #

sink()

#charts

setwd("D:/Users/Erwin/OneDrive - University of the Philippines/CSWCD/SD/SD 400/Data Analysis/WVS/2019")

library(dplyr)

library(weights)

library(sjstats)

library(gmodels)

library(pollster)

library(readxl)

library(ggplot2)

tab <- table(wvs2019\_2m$Q179)

tab<-prop.table(tab)

tab <- as.data.frame.table(tab)

tab

tab$Var1 = factor(tab$Var1, levels=c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10), labels = c("Never be Justified", "2", "3","4", "5", "6", "7", "8", "9", "Always be Justified"))

tab

Q179 <- ggplot(tab, aes(y = Freq\*100, x = Var1)) + scale\_y\_continuous(limits = c(0,100))

Q179

Q179 <- Q179 + geom\_bar(stat="identity", width = 0.8, position="dodge", fill="steel blue") +

labs(title="WVS 2019", subtitle="", caption="",

x = "Stealing Property", y = "Percent", fill = "Gender Focal \nPerson") +

theme(axis.text.x = element\_text(size = 12, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=15, face=("bold"))) +

geom\_text(aes(label=round(Freq, digits=3)\*100), size = 4, position=position\_dodge(width=0.9), vjust=-0.25)

Q179

ggsave("Q179.jpeg", plot = Q179)

tab <- table(wvs2019\_2m$Q180)

tab<-prop.table(tab)

tab <- as.data.frame.table(tab)

tab

tab$Var1 = factor(tab$Var1, levels=c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10), labels = c("Never be Justified", "2", "3","4", "5", "6", "7", "8", "9", "Always be Justified"))

tab

Q180 <- ggplot(tab, aes(y = Freq\*100, x = Var1)) + scale\_y\_continuous(limits = c(0,100))

Q180

Q180 <- Q180 + geom\_bar(stat="identity", width = 0.8, position="dodge", fill="steel blue") +

labs(title="WVS 2019", subtitle="", caption="",

x = "Cheating on taxes if you have the chance", y = "Percent", fill = "Gender Focal \nPerson") +

theme(axis.text.x = element\_text(size = 12, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=15, face=("bold"))) +

geom\_text(aes(label=round(Freq, digits=3)\*100), size = 4, position=position\_dodge(width=0.9), vjust=-0.25)

Q180

ggsave("Q180.jpeg", plot = Q180)

tab <- table(wvs2019\_2m$Q181)

tab<-prop.table(tab)

tab <- as.data.frame.table(tab)

tab

tab$Var1 = factor(tab$Var1, levels=c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10), labels = c("Never be Justified", "2", "3","4", "5", "6", "7", "8", "9", "Always be Justified"))

tab

Q181 <- ggplot(tab, aes(y = Freq\*100, x = Var1)) + scale\_y\_continuous(limits = c(0,100))

Q181

Q181 <- Q181 + geom\_bar(stat="identity", width = 0.8, position="dodge", fill="steel blue") +

labs(title="WVS 2019", subtitle="", caption="",

x = "Someone accepting a bribe \nin the course of their duties", y = "Percent", fill = "Gender Focal \nPerson") +

theme(axis.text.x = element\_text(size = 12, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=15, face=("bold"))) +

geom\_text(aes(label=round(Freq, digits=3)\*100), size = 4, position=position\_dodge(width=0.9), vjust=-0.25)

Q181

ggsave("Q181.jpeg", plot = Q181)

tab <- table(wvs2019\_2m$Q183)

tab<-prop.table(tab)

tab <- as.data.frame.table(tab)

tab

tab$Var1 = factor(tab$Var1, levels=c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10), labels = c("Never be Justified", "2", "3","4", "5", "6", "7", "8", "9", "Always be Justified"))

tab

Q183 <- ggplot(tab, aes(y = Freq\*100, x = Var1)) + scale\_y\_continuous(limits = c(0,100))

Q183

Q183 <- Q183 + geom\_bar(stat="identity", width = 0.8, position="dodge", fill="steel blue") +

labs(title="WVS 2019", subtitle="", caption="",

x = "Prostitution", y = "Percent", fill = "Gender Focal \nPerson") +

theme(axis.text.x = element\_text(size = 12, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=15, face=("bold"))) +

geom\_text(aes(label=round(Freq, digits=3)\*100), size = 4, position=position\_dodge(width=0.9), vjust=-0.25)

Q183

ggsave("Q183.jpeg", plot = Q183)

tab <- table(wvs2019\_2m$Q184)

tab<-prop.table(tab)

tab <- as.data.frame.table(tab)

tab

tab$Var1 = factor(tab$Var1, levels=c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10), labels = c("Never be Justified", "2", "3","4", "5", "6", "7", "8", "9", "Always be Justified"))

tab

Q184 <- ggplot(tab, aes(y = Freq\*100, x = Var1)) + scale\_y\_continuous(limits = c(0,100))

Q184

Q184 <- Q184 + geom\_bar(stat="identity", width = 0.8, position="dodge", fill="steel blue") +

labs(title="WVS 2019", subtitle="", caption="",

x = "Abortion", y = "Percent", fill = "Gender Focal \nPerson") +

theme(axis.text.x = element\_text(size = 12, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=15, face=("bold"))) +

geom\_text(aes(label=round(Freq, digits=3)\*100), size = 4, position=position\_dodge(width=0.9), vjust=-0.25)

Q184

ggsave("Q184.jpeg", plot = Q184)

tab <- table(wvs2019\_2m$Q185)

tab<-prop.table(tab)

tab <- as.data.frame.table(tab)

tab

tab$Var1 = factor(tab$Var1, levels=c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10), labels = c("Never be Justified", "2", "3","4", "5", "6", "7", "8", "9", "Always be Justified"))

tab

Q185 <- ggplot(tab, aes(y = Freq\*100, x = Var1)) + scale\_y\_continuous(limits = c(0,100))

Q185

Q185 <- Q185 + geom\_bar(stat="identity", width = 0.8, position="dodge", fill="steel blue") +

labs(title="WVS 2019", subtitle="", caption="",

x = "Divorce", y = "Percent", fill = "Gender Focal \nPerson") +

theme(axis.text.x = element\_text(size = 12, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=15, face=("bold"))) +

geom\_text(aes(label=round(Freq, digits=3)\*100), size = 4, position=position\_dodge(width=0.9), vjust=-0.25)

Q185

ggsave("Q185.jpeg", plot = Q185)

tab <- table(wvs2019\_2m$Q186)

tab<-prop.table(tab)

tab <- as.data.frame.table(tab)

tab

tab$Var1 = factor(tab$Var1, levels=c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10), labels = c("Never be Justified", "2", "3","4", "5", "6", "7", "8", "9", "Always be Justified"))

tab

Q186 <- ggplot(tab, aes(y = Freq\*100, x = Var1)) + scale\_y\_continuous(limits = c(0,100))

Q186

Q186 <- Q186 + geom\_bar(stat="identity", width = 0.8, position="dodge", fill="steel blue") +

labs(title="WVS 2019", subtitle="", caption="",

x = "Sex before marriage", y = "Percent", fill = "Gender Focal \nPerson") +

theme(axis.text.x = element\_text(size = 12, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=15, face=("bold"))) +

geom\_text(aes(label=round(Freq, digits=3)\*100), size = 4, position=position\_dodge(width=0.9), vjust=-0.25)

Q186

ggsave("Q186.jpeg", plot = Q186)

tab <- table(wvs2019\_2m$Q187)

tab<-prop.table(tab)

tab <- as.data.frame.table(tab)

tab

tab$Var1 = factor(tab$Var1, levels=c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10), labels = c("Never be Justified", "2", "3","4", "5", "6", "7", "8", "9", "Always be Justified"))

tab

Q187 <- ggplot(tab, aes(y = Freq\*100, x = Var1)) + scale\_y\_continuous(limits = c(0,100))

Q187

Q187 <- Q187 + geom\_bar(stat="identity", width = 0.8, position="dodge", fill="steel blue") +

labs(title="WVS 2019", subtitle="", caption="",

x = "Suicide", y = "Percent", fill = "Gender Focal \nPerson") +

theme(axis.text.x = element\_text(size = 12, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=15, face=("bold"))) +

geom\_text(aes(label=round(Freq, digits=3)\*100), size = 4, position=position\_dodge(width=0.9), vjust=-0.25)

Q187

ggsave("Q187.jpeg", plot = Q187)

tab <- table(wvs2019\_2m$Q188)

tab<-prop.table(tab)

tab <- as.data.frame.table(tab)

tab

tab$Var1 = factor(tab$Var1, levels=c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10), labels = c("Never be Justified", "2", "3","4", "5", "6", "7", "8", "9", "Always be Justified"))

tab

Q188 <- ggplot(tab, aes(y = Freq\*100, x = Var1)) + scale\_y\_continuous(limits = c(0,100))

Q188

Q188 <- Q188 + geom\_bar(stat="identity", width = 0.8, position="dodge", fill="steel blue") +

labs(title="WVS 2019", subtitle="", caption="",

x = "Euthanasia", y = "Percent", fill = "Gender Focal \nPerson") +

theme(axis.text.x = element\_text(size = 12, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=15, face=("bold"))) +

geom\_text(aes(label=round(Freq, digits=3)\*100), size = 4, position=position\_dodge(width=0.9), vjust=-0.25)

Q188

ggsave("Q188.jpeg", plot = Q188)

tab <- table(wvs2019\_2m$Q190)

tab<-prop.table(tab)

tab <- as.data.frame.table(tab)

tab

tab$Var1 = factor(tab$Var1, levels=c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10), labels = c("Never be Justified", "2", "3","4", "5", "6", "7", "8", "9", "Always be Justified"))

tab

Q190 <- ggplot(tab, aes(y = Freq\*100, x = Var1)) + scale\_y\_continuous(limits = c(0,100))

Q190

Q190 <- Q190 + geom\_bar(stat="identity", width = 0.8, position="dodge", fill="steel blue") +

labs(title="WVS 2019", subtitle="", caption="",

x = "Parents beating children", y = "Percent", fill = "Gender Focal \nPerson") +

theme(axis.text.x = element\_text(size = 12, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=15, face=("bold"))) +

geom\_text(aes(label=round(Freq, digits=3)\*100), size = 4, position=position\_dodge(width=0.9), vjust=-0.25)

Q190

ggsave("Q190.jpeg", plot = Q190)

tab <- table(wvs2019\_2m$Q191)

tab<-prop.table(tab)

tab <- as.data.frame.table(tab)

tab

tab$Var1 = factor(tab$Var1, levels=c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10), labels = c("Never be Justified", "2", "3","4", "5", "6", "7", "8", "9", "Always be Justified"))

tab

Q191 <- ggplot(tab, aes(y = Freq\*100, x = Var1)) + scale\_y\_continuous(limits = c(0,100))

Q191

Q191 <- Q191 + geom\_bar(stat="identity", width = 0.8, position="dodge", fill="steel blue") +

labs(title="WVS 2019", subtitle="", caption="",

x = "Violence against other people", y = "Percent", fill = "Gender Focal \nPerson") +

theme(axis.text.x = element\_text(size = 12, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=15, face=("bold"))) +

geom\_text(aes(label=round(Freq, digits=3)\*100), size = 4, position=position\_dodge(width=0.9), vjust=-0.25)

Q191

ggsave("Q191.jpeg", plot = Q191)

tab <- table(wvs2019\_2m$Q181)

tab<-prop.table(tab)

tab <- as.data.frame.table(tab)

tab

tab$Var1 = factor(tab$Var1, levels=c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10), labels = c("Never be Justified", "2", "3","4", "5", "6", "7", "8", "9", "Always be Justified"))

tab

Q181 <- ggplot(tab, aes(y = Freq\*100, x = Var1)) + scale\_y\_continuous(limits = c(0,100))

Q181

Q181 <- Q181 + geom\_bar(stat="identity", width = 0.8, position="dodge", fill="steel blue") +

labs(title="WVS 2019", subtitle="", caption="",

x = "Someone accepting a bribe \nin the course of their duties", y = "Percent", fill = "Gender Focal \nPerson") +

theme(axis.text.x = element\_text(size = 12, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=15, face=("bold"))) +

geom\_text(aes(label=round(Freq, digits=3)\*100), size = 4, position=position\_dodge(width=0.9), vjust=-0.25)

Q181

ggsave("Q181.jpeg", plot = Q181)

tab <- table(wvs2019\_2m$Q192)

tab<-prop.table(tab)

tab <- as.data.frame.table(tab)

tab

tab$Var1 = factor(tab$Var1, levels=c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10), labels = c("Never be Justified", "2", "3","4", "5", "6", "7", "8", "9", "Always be Justified"))

tab

Q192 <- ggplot(tab, aes(y = Freq\*100, x = Var1)) + scale\_y\_continuous(limits = c(0,100))

Q192

Q192 <- Q192 + geom\_bar(stat="identity", width = 0.8, position="dodge", fill="steel blue") +

labs(title="WVS 2019", subtitle="", caption="",

x = "Terrorism as a political,\n ideological or religious mean", y = "Percent", fill = "Gender Focal \nPerson") +

theme(axis.text.x = element\_text(size = 12, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=15, face=("bold"))) +

geom\_text(aes(label=round(Freq, digits=3)\*100), size = 4, position=position\_dodge(width=0.9), vjust=-0.25)

Q192

ggsave("Q192.jpeg", plot = Q192)

tab <- table(wvs2019\_2m$Q193)

tab<-prop.table(tab)

tab <- as.data.frame.table(tab)

tab

tab$Var1 = factor(tab$Var1, levels=c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10), labels = c("Never be Justified", "2", "3","4", "5", "6", "7", "8", "9", "Always be Justified"))

tab

Q193 <- ggplot(tab, aes(y = Freq\*100, x = Var1)) + scale\_y\_continuous(limits = c(0,100))

Q193

Q193 <- Q193 + geom\_bar(stat="identity", width = 0.8, position="dodge", fill="steel blue") +

labs(title="WVS 2019", subtitle="", caption="",

x = "Having casual Sex", y = "Percent", fill = "Gender Focal \nPerson") +

theme(axis.text.x = element\_text(size = 12, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=15, face=("bold"))) +

geom\_text(aes(label=round(Freq, digits=3)\*100), size = 4, position=position\_dodge(width=0.9), vjust=-0.25)

Q193

ggsave("Q193.jpeg", plot = Q193)

tab <- table(wvs2019\_2m$Q194)

tab<-prop.table(tab)

tab <- as.data.frame.table(tab)

tab

tab$Var1 = factor(tab$Var1, levels=c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10), labels = c("Never be Justified", "2", "3","4", "5", "6", "7", "8", "9", "Always be Justified"))

tab

Q194 <- ggplot(tab, aes(y = Freq\*100, x = Var1)) + scale\_y\_continuous(limits = c(0,100))

Q194

Q194 <- Q194 + geom\_bar(stat="identity", width = 0.8, position="dodge", fill="steel blue") +

labs(title="WVS 2019", subtitle="", caption="",

x = "Political Violence", y = "Percent", fill = "Gender Focal \nPerson") +

theme(axis.text.x = element\_text(size = 12, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=15, face=("bold"))) +

geom\_text(aes(label=round(Freq, digits=3)\*100), size = 4, position=position\_dodge(width=0.9), vjust=-0.25)

Q194

ggsave("Q194.jpeg", plot = Q194)

tab <- table(wvs2019\_2m$Q195)

tab<-prop.table(tab)

tab <- as.data.frame.table(tab)

tab

tab$Var1 = factor(tab$Var1, levels=c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10), labels = c("Never be Justified", "2", "3","4", "5", "6", "7", "8", "9", "Always be Justified"))

tab

Q195 <- ggplot(tab, aes(y = Freq\*100, x = Var1)) + scale\_y\_continuous(limits = c(0,100))

Q195

Q195 <- Q195 + geom\_bar(stat="identity", width = 0.8, position="dodge", fill="steel blue") +

labs(title="WVS 2019", subtitle="", caption="",

x = "Death Penalty", y = "Percent", fill = "Gender Focal \nPerson") +

theme(axis.text.x = element\_text(size = 12, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=15, face=("bold"))) +

geom\_text(aes(label=round(Freq, digits=3)\*100), size = 4, position=position\_dodge(width=0.9), vjust=-0.25)

Q195

ggsave("Q195.jpeg", plot = Q195)

tab <- table(wvs2019\_2m$Q291G1)

tab<-prop.table(tab)

tab <- as.data.frame.table(tab)

tab

tab$Var1 = factor(tab$Var1, levels=c(1, 2, 3, 4, 5), labels = c("Strongly Agree", "Agree", "Neither","Disagree", "Strongly Disagree"))

tab

Q291G1 <- ggplot(tab, aes(y = Freq\*100, x = Var1)) + scale\_y\_continuous(limits = c(0,100))

Q291G1

Q291G1 <- Q291G1 + geom\_bar(stat="identity", width = 0.8, position="dodge", fill="steel blue") +

labs(title="WVS 2019", subtitle="", caption="",

x = "Overall, the government is\ncompetent and efficient", y = "Percent", fill = "Gender Focal \nPerson") +

theme(axis.text.x = element\_text(size = 12, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=15, face=("bold"))) +

geom\_text(aes(label=round(Freq, digits=3)\*100), size = 4, position=position\_dodge(width=0.9), vjust=-0.25)

Q291G1

ggsave("Q291G1.jpeg", plot = Q291G1)

tab <- table(wvs2019\_2m$Q291G4)

tab<-prop.table(tab)

tab <- as.data.frame.table(tab)

tab

tab$Var1 = factor(tab$Var1, levels=c(1, 2, 3, 4, 5), labels = c("Strongly Agree", "Agree", "Neither","Disagree", "Strongly Disagree"))

tab

Q291G4 <- ggplot(tab, aes(y = Freq\*100, x = Var1)) + scale\_y\_continuous(limits = c(0,100))

Q291G4

Q291G4 <- Q291G4 + geom\_bar(stat="identity", width = 0.8, position="dodge", fill="steel blue") +

labs(title="WVS 2019", subtitle="", caption="",

x = "The government wants to \ndo its best for the country ", y = "Percent", fill = "Gender Focal \nPerson") +

theme(axis.text.x = element\_text(size = 12, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=15, face=("bold"))) +

geom\_text(aes(label=round(Freq, digits=3)\*100), size = 4, position=position\_dodge(width=0.9), vjust=-0.25)

Q291G4

ggsave("Q291G4.jpeg", plot = Q291G4)

tab <- table(wvs2019\_2m$Q291G6)

tab<-prop.table(tab)

tab <- as.data.frame.table(tab)

tab

tab$Var1 = factor(tab$Var1, levels=c(1, 2, 3, 4, 5), labels = c("Strongly Agree", "Agree", "Neither","Disagree", "Strongly Disagree"))

tab

Q291G6 <- ggplot(tab, aes(y = Freq\*100, x = Var1)) + scale\_y\_continuous(limits = c(0,100))

Q291G6

Q291G6 <- Q291G6 + geom\_bar(stat="identity", width = 0.8, position="dodge", fill="steel blue") +

labs(title="WVS 2019", subtitle="", caption="",

x = "The government's work is \nopen and transparent", y = "Percent", fill = "Gender Focal \nPerson") +

theme(axis.text.x = element\_text(size = 12, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=15, face=("bold"))) +

geom\_text(aes(label=round(Freq, digits=3)\*100), size = 4, position=position\_dodge(width=0.9), vjust=-0.25)

Q291G6

ggsave("Q291G6.jpeg", plot = Q291G6)

tab <- table(wvs2019\_2m$Q291P1)

tab<-prop.table(tab)

tab <- as.data.frame.table(tab)

tab

tab$Var1 = factor(tab$Var1, levels=c(1, 2, 3, 4, 5), labels = c("Strongly Agree", "Agree", "Neither","Disagree", "Strongly Disagree"))

tab

Q291P1 <- ggplot(tab, aes(y = Freq\*100, x = Var1)) + scale\_y\_continuous(limits = c(0,100))

Q291P1

Q291P1 <- Q291P1 + geom\_bar(stat="identity", width = 0.8, position="dodge", fill="steel blue") +

labs(title="WVS 2019", subtitle="", caption="",

x = "Overall, the Congress is\ncompetent and efficient", y = "Percent", fill = "Gender Focal \nPerson") +

theme(axis.text.x = element\_text(size = 12, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=15, face=("bold"))) +

geom\_text(aes(label=round(Freq, digits=3)\*100), size = 4, position=position\_dodge(width=0.9), vjust=-0.25)

Q291P1

ggsave("Q291P1.jpeg", plot = Q291P1)

tab <- table(wvs2019\_2m$Q291P4)

tab<-prop.table(tab)

tab <- as.data.frame.table(tab)

tab

tab$Var1 = factor(tab$Var1, levels=c(1, 2, 3, 4, 5), labels = c("Strongly Agree", "Agree", "Neither","Disagree", "Strongly Disagree"))

tab

Q291P4 <- ggplot(tab, aes(y = Freq\*100, x = Var1)) + scale\_y\_continuous(limits = c(0,100))

Q291P4

Q291P4 <- Q291P4 + geom\_bar(stat="identity", width = 0.8, position="dodge", fill="steel blue") +

labs(title="WVS 2019", subtitle="", caption="",

x = "The congress wants to \ndo its best for the country ", y = "Percent", fill = "Gender Focal \nPerson") +

theme(axis.text.x = element\_text(size = 12, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=15, face=("bold"))) +

geom\_text(aes(label=round(Freq, digits=3)\*100), size = 4, position=position\_dodge(width=0.9), vjust=-0.25)

Q291P4

ggsave("Q291P4.jpeg", plot = Q291P4)

tab <- table(wvs2019\_2m$Q291P6)

tab<-prop.table(tab)

tab <- as.data.frame.table(tab)

tab

tab$Var1 = factor(tab$Var1, levels=c(1, 2, 3, 4, 5), labels = c("Strongly Agree", "Agree", "Neither","Disagree", "Strongly Disagree"))

tab

Q291P6 <- ggplot(tab, aes(y = Freq\*100, x = Var1)) + scale\_y\_continuous(limits = c(0,100))

Q291P6

Q291P6 <- Q291P6 + geom\_bar(stat="identity", width = 0.8, position="dodge", fill="steel blue") +

labs(title="WVS 2019", subtitle="", caption="",

x = "The congress' work is \nopen and transparent", y = "Percent", fill = "Gender Focal \nPerson") +

theme(axis.text.x = element\_text(size = 12, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=15, face=("bold"))) +

geom\_text(aes(label=round(Freq, digits=3)\*100), size = 4, position=position\_dodge(width=0.9), vjust=-0.25)

Q291P6

ggsave("Q291P6.jpeg", plot = Q291P6)

tab <- table(wvs2019\_2m$Q243)

tab<-prop.table(tab)

tab <- as.data.frame.table(tab)

tab

tab$Var1 = factor(tab$Var1, levels=c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10), labels = c("Not Needed in Democracy", "2", "3","4", "5", "6", "7", "8", "9", "Needed in Democracy"))

tab

Q243 <- ggplot(tab, aes(y = Freq\*100, x = Var1)) + scale\_y\_continuous(limits = c(0,100))

Q243

Q243 <- Q243 + geom\_bar(stat="identity", width = 0.8, position="dodge", fill="steel blue") +

labs(title="WVS 2019", subtitle="", caption="",

x = "People choose their leaders \nin free elections", y = "Percent", fill = "Gender Focal \nPerson") +

theme(axis.text.x = element\_text(size = 12, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=15, face=("bold"))) +

geom\_text(aes(label=round(Freq, digits=3)\*100), size = 4, position=position\_dodge(width=0.9), vjust=-0.25)

Q243

ggsave("Q243.jpeg", plot = Q243)

tab <- table(wvs2019\_2m$Q244)

tab<-prop.table(tab)

tab <- as.data.frame.table(tab)

tab

tab$Var1 = factor(tab$Var1, levels=c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10), labels = c("Not Needed in Democracy", "2", "3","4", "5", "6", "7", "8", "9", "Needed in Democracy"))

tab

Q244 <- ggplot(tab, aes(y = Freq\*100, x = Var1)) + scale\_y\_continuous(limits = c(0,100))

Q244

Q244 <- Q244 + geom\_bar(stat="identity", width = 0.8, position="dodge", fill="steel blue") +

labs(title="WVS 2019", subtitle="", caption="",

x = "People receive state \naid for unemployment", y = "Percent", fill = "Gender Focal \nPerson") +

theme(axis.text.x = element\_text(size = 12, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=15, face=("bold"))) +

geom\_text(aes(label=round(Freq, digits=3)\*100), size = 4, position=position\_dodge(width=0.9), vjust=-0.25)

Q244

ggsave("Q244.jpeg", plot = Q244)

tab <- table(wvs2019\_2m$Q248)

tab<-prop.table(tab)

tab <- as.data.frame.table(tab)

tab

tab$Var1 = factor(tab$Var1, levels=c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10), labels = c("Not Needed in Democracy", "2", "3","4", "5", "6", "7", "8", "9", "Needed in Democracy"))

tab

Q248 <- ggplot(tab, aes(y = Freq\*100, x = Var1)) + scale\_y\_continuous(limits = c(0,100))

Q248

Q248 <- Q248 + geom\_bar(stat="identity", width = 0.8, position="dodge", fill="steel blue") +

labs(title="WVS 2019", subtitle="", caption="",

x = "People obey their rulers", y = "Percent", fill = "Gender Focal \nPerson") +

theme(axis.text.x = element\_text(size = 12, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=15, face=("bold"))) +

geom\_text(aes(label=round(Freq, digits=3)\*100), size = 4, position=position\_dodge(width=0.9), vjust=-0.25)

Q248

ggsave("Q248.jpeg", plot = Q248)

tab <- table(wvs2019\_2m$Q249)

tab<-prop.table(tab)

tab <- as.data.frame.table(tab)

tab

tab$Var1 = factor(tab$Var1, levels=c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10), labels = c("Not Needed in Democracy", "2", "3","4", "5", "6", "7", "8", "9", "Needed in Democracy"))

tab

Q249 <- ggplot(tab, aes(y = Freq\*100, x = Var1)) + scale\_y\_continuous(limits = c(0,100))

Q249

Q249 <- Q249 + geom\_bar(stat="identity", width = 0.8, position="dodge", fill="steel blue") +

labs(title="WVS 2019", subtitle="", caption="",

x = "Women have same rights as men", y = "Percent", fill = "Gender Focal \nPerson") +

theme(axis.text.x = element\_text(size = 12, angle=65, vjust=1, hjust=1), axis.title=element\_text(size=15, face=("bold"))) +

geom\_text(aes(label=round(Freq, digits=3)\*100), size = 4, position=position\_dodge(width=0.9), vjust=-0.25)

Q249

ggsave("Q249.jpeg", plot = Q249)