Assignment 2

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**Is the perception of media freedom associated with citizens’ satisfaction with democracy in Ghana?**

*Explainatory Variable*: Perception of Media Freedom (Q33H)

*Response Variable*: Satisfaction of democracy (Q31)

**Does primary langauge used in interview influence the length of the interview?**

*Explanatory Variable*: Language of interview (Q102)

*Response Variable*: Length of interview (LENGTH)

# SECTION 1:

library(descr)

## Warning: package 'descr' was built under R version 4.4.2

library(haven)

## Warning: package 'haven' was built under R version 4.4.2

GH\_AFRO\_9 <- read\_sav("C:/Users/AiAsum/Downloads/afrobarometer\_release-dataset\_gha\_r9\_en\_2023-04-01.sav")

# Section 2:

Sub

vars <- c("Q33H", "Q31", "Q102", "LENGTH")   
cleanData <- GH\_AFRO\_9[vars]  
save(cleanData, file='PA2\_Research.RDATA')

# Section 2 b: Error handling and Labeling variable response categories

# first research questions  
  
# Perception of Media Freedom (Q33H)  
cleanData$Q33H <- as.character(cleanData$Q33H)  
  
cleanData$Q33H[cleanData$Q33H == "8"] <- NA  
cleanData$Q33H[cleanData$Q33H == "9"] <- NA  
cleanData$Q33H[cleanData$Q33H == "-1"] <- NA  
  
  
# Satisfaction of democracy (Q31)  
cleanData$Q31 <- as.character(cleanData$Q31)  
cleanData$Q31[cleanData$Q31 == "8"] <- NA  
cleanData$Q31[cleanData$Q31 == "9"] <- NA  
cleanData$Q31[cleanData$Q31 == "-1"] <- NA  
  
  
  
# Second research question  
# Language of interview (Q102)  
cleanData$Q102 <- as.character(cleanData$Q102)  
  
  
summary(cleanData$LENGTH)

## Min. 1st Qu. Median Mean 3rd Qu. Max.   
## 30.00 56.00 66.00 71.47 80.00 394.00

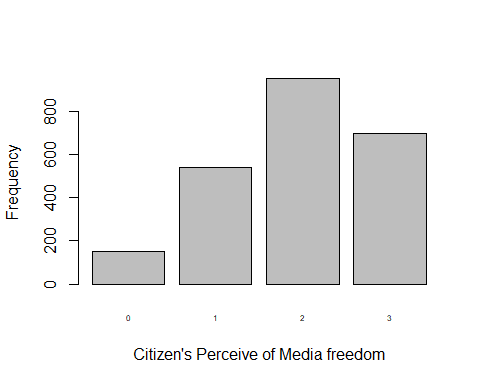
mean(cleanData$LENGTH, na.rm = TRUE)

## [1] 71.46644

sd(cleanData$LENGTH, na.rm = TRUE)

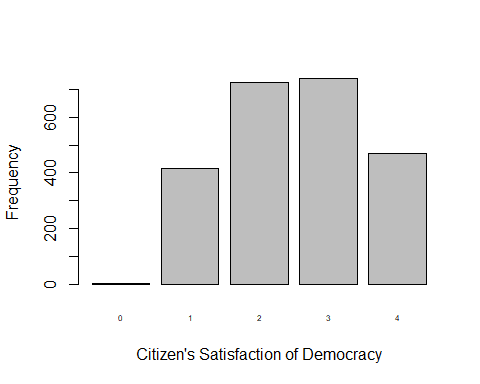
## [1] 28.4942

freq(cleanData$Q33H, cex.names=0.5, ylab = "Frequency", xlab = "Citizen's Perceive of Media freedom")



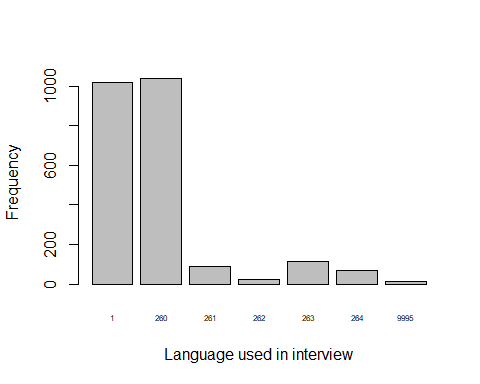
## cleanData$Q33H   
## Frequency Percent Valid Percent  
## 0 150 6.332 6.418  
## 1 540 22.794 23.107  
## 2 951 40.144 40.693  
## 3 696 29.379 29.782  
## NA's 32 1.351   
## Total 2369 100.000 100.000

freq(cleanData$Q31, cex.names=0.5, ylab = "Frequency", xlab = "Citizen's Satisfaction of Democracy")



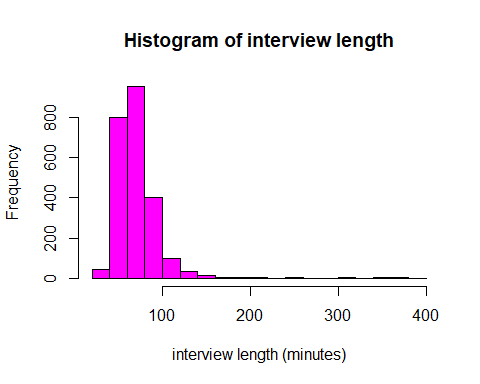
## cleanData$Q31   
## Frequency Percent Valid Percent  
## 0 3 0.1266 0.1274  
## 1 417 17.6024 17.7145  
## 2 725 30.6036 30.7986  
## 3 739 31.1946 31.3934  
## 4 470 19.8396 19.9660  
## NA's 15 0.6332   
## Total 2369 100.0000 100.0000

freq(cleanData$Q102, cex.names=0.5, ylab = "Frequency", xlab = "Language used in interview")



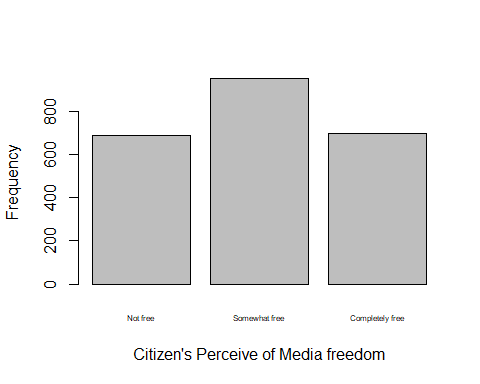
## cleanData$Q102   
## Frequency Percent  
## 1 1022 43.141  
## 260 1039 43.858  
## 261 91 3.841  
## 262 24 1.013  
## 263 112 4.728  
## 264 67 2.828  
## 9995 14 0.591  
## Total 2369 100.000

hist(cleanData$LENGTH, main="Histogram of interview length", xlab="interview length (minutes)", ylab="Frequency", col="#ff00ff")



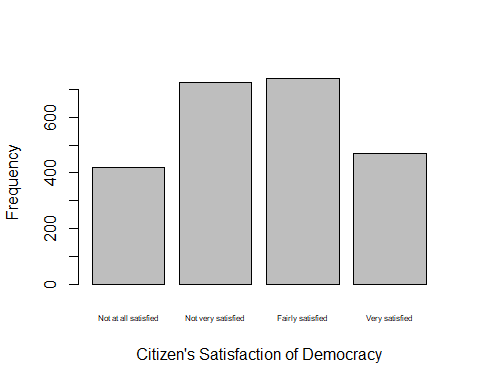
# Section 3 -

# I'm Creating secondary variables for media and democracy  
# I choose to combine Not at all free", "Not very free", as one,"Somewhat free", "Completely free"  
cleanData$Q33H[cleanData$Q33H == "0"] <- "1"  
  
# I choose to combine Not at all free", "Not very free", as one,"Somewhat free", "Completely free"  
cleanData$Q31[cleanData$Q31 == "0"] <- "1"  
  
  
# Second Research:  
# Primary Language used for the research  
cleanData$Q102 <- as.character(cleanData$Q102)  
cleanData$Q102[cleanData$Q102 == "261"] <- "9995"  
cleanData$Q102[cleanData$Q102 == "262"] <- "9995"  
cleanData$Q102[cleanData$Q102 == "263"] <- "9995"  
cleanData$Q102[cleanData$Q102 == "264"] <- "9995"  
  
  
# Changing to understanable variables  
 cleanData$Q33H <- factor(cleanData$Q33H,  
 levels = c("1", "2", "3"),  
 labels = c("Not free", "Somewhat free", "Completely free")  
 )  
  
 cleanData$Q31 <- factor(cleanData$Q31,  
 levels = c("1", "2", "3", "4"),  
 labels = c("Not at all satisfied",   
 "Not very satisfied", "Fairly satisfied",   
 "Very satisfied"))  
   
cleanData$Q102 <- factor(cleanData$Q102,  
 levels = c("1", "260", "9995"),  
 labels = c("English", "Twi", "Others"))  
  
freq(cleanData$Q33H, cex.names=0.5, ylab = "Frequency", xlab = "Citizen's Perceive of Media freedom")



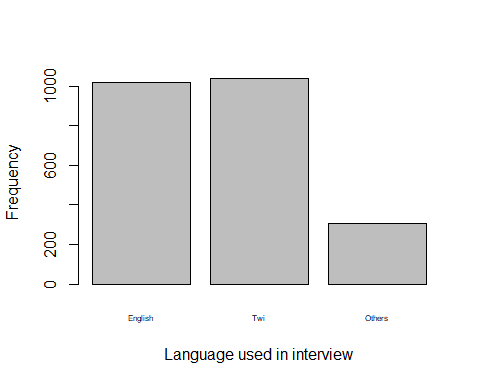
## cleanData$Q33H   
## Frequency Percent Valid Percent  
## Not free 690 29.126 29.53  
## Somewhat free 951 40.144 40.69  
## Completely free 696 29.379 29.78  
## NA's 32 1.351   
## Total 2369 100.000 100.00

freq(cleanData$Q31, cex.names=0.5, ylab = "Frequency", xlab = "Citizen's Satisfaction of Democracy")



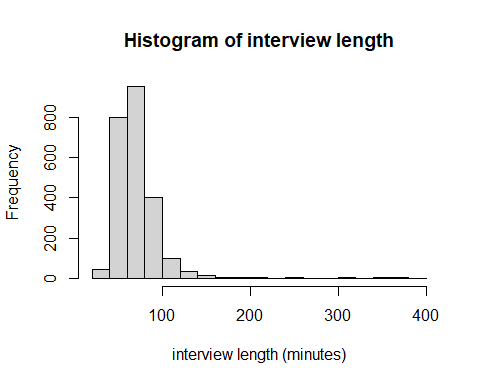
## cleanData$Q31   
## Frequency Percent Valid Percent  
## Not at all satisfied 420 17.7290 17.84  
## Not very satisfied 725 30.6036 30.80  
## Fairly satisfied 739 31.1946 31.39  
## Very satisfied 470 19.8396 19.97  
## NA's 15 0.6332   
## Total 2369 100.0000 100.00

freq(cleanData$Q102, cex.names=0.5, ylab = "Frequency", xlab = "Language used in interview")



## cleanData$Q102   
## Frequency Percent  
## English 1022 43.14  
## Twi 1039 43.86  
## Others 308 13.00  
## Total 2369 100.00

hist(cleanData$LENGTH, main = "Histogram of interview length", xlab = "interview length (minutes)")



# Section 4

# First Research  
  
mediaTable <- table(cleanData$Q31, cleanData$Q33H)  
mediaTable\_colProp <-prop.table(mediaTable, 2)  
round(mediaTable\_colProp, 3)

##   
## Not free Somewhat free Completely free  
## Not at all satisfied 0.267 0.138 0.143  
## Not very satisfied 0.356 0.342 0.216  
## Fairly satisfied 0.249 0.363 0.308  
## Very satisfied 0.128 0.156 0.333

# Second research  
tapply(cleanData$LENGTH, cleanData$Q102, mean, na.rm = TRUE)

## English Twi Others   
## 71.19472 72.52069 68.81169

tapply(cleanData$LENGTH, cleanData$Q102, sd, na.rm = TRUE)

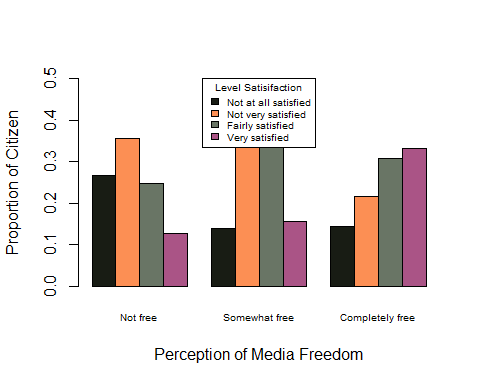
## English Twi Others   
## 25.61713 25.21517 43.81041

tapply(cleanData$LENGTH, cleanData$Q102, length)

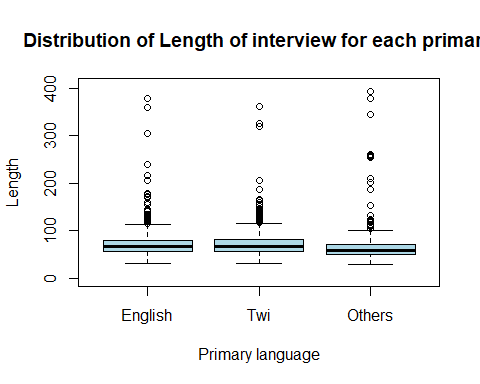
## English Twi Others   
## 1022 1039 308

# SECTION 4:

colors1 <- c("#AA5486", "#47663B", "#E8ECD7", "#EED3B1")  
colors2 <- c("#181C14", "#FC8F54", "#697565","#AA5486")  
  
barplot(  
 mediaTable\_colProp,   
 beside = TRUE,   
 cex.names = 0.6,  
 ylim = c(0, 0.5),  
 col = colors2,   
 xlab = "Perception of Media Freedom",   
 ylab = "Proportion of Citizen"  
)  
  
legend(  
 "top",   
 legend = rownames(mediaTable\_colProp),  
 fill = colors2,  
 title = "Level Satisifaction",  
 cex = 0.6  
)



# Box and whiaker plot  
boxplot(cleanData$LENGTH ~ factor(cleanData$Q102),  
 names = levels(factor(cleanData$Q102)),  
 main = "Distribution of Length of interview for each primary",  
 xlab = "Primary language",  
 ylab = "Length",  
 ylim = c(0, max(cleanData$LENGTH, na.rm = TRUE) + 10),  
 col = "lightblue"  
)



## Summary

Based on the summary and visualized data, there appears to be a significant relationship between the perception of media freedom and satisfaction with democracy in Ghana. Respondents who perceived the media as “Not free” demonstrated a higher proportion of dissatisfaction (e.g., around 36% reported “Not very satisfied”) and a much lower proportion of satisfaction (e.g., approximately 13% reported being “Very satisfied”).In contrast, as perceptions of media freedom increased (from “Somewhat free” to “Completely free”), satisfaction with democracy also increased. For instance, among those who viewed the media as “Completely free,” about 33% reported being “Very satisfied,” while dissatisfaction decreased to less than 13% for the “Not at all satisfied” category. With this trend I propose that as citizens perceive greater media freedom, their satisfaction with democracy tends to improve.

Based on the summary and visualized data, interview lengths varied slightly across primary languages, with Twi showing the highest average (72.52 minutes), followed by English (71.19 minutes) and Others (68.81 minutes). However, the “Others” category displayed significantly higher variability (SD = 43.81), compared to English (SD = 25.62) and Twi (SD = 25.22).While the majority of interviews were of similar duration, all categories exhibited outliers, particularly with longer interviews in the “Others” group. This variability may reflect differences in linguistic or contextual factors influencing interview length.