Problem Set #1

Erica Criollo

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Introduction

This report will be utilizing data from the Round 9 of the Afrobarometer survey in Uganda. This survey was conducted on June 19, 2022 and had 2400 respondents.

```r
# Creating a new data frame with variables including urban/rural, Ages,
#Gender, Language, Questions on China, Questions on US

PSData <- subset(df, select=c(RESPNO, URBRUR, Q1, Q100, Q2, Q78A, Q78B))
```

Descriptive Statistics

From the survey, 50% were men and 50% were women. Of all respondents, 43% ranged from 18-30 years old, 38% ranged from 30-50 years old, 16% ranged from 50-70 years old, and 3% were older than 70 years old. The majority of respondents lived in rural areas at 73% while the rest, 27%, lived in urban areas. When analyzing language, the three most popular languages spoken among respondents are Luganda (25%), Lusoga (12%), and Runyankore (10%).

```r
#Exploring new data frame and summarizing statistics

#str(PSData)
#summary(PSData)

#Finding Percent of Gender (1=Man 2 =Woman )
Gender <- table(PSData$Q100)
Gender <-prop.table(Gender)*100
#View (Gender)

#Change Age from numerical to categorical

#summary(PSData$Q1)
PSData$Q1 <- cut(PSData$Q1,
                breaks = c(18, 30, 50, 70, 85),
                labels = c("18-30", "30-50", "50-70", "More than 70"))

#Finding Percent of Ages

Age <- table(PSData$Q1)
Age <-prop.table(Age)*100
#View (Age)
```

```
# Finding Percent of Urban/Rural (1=Urban 2=Rural)

Urbrul <- table(PSData$URBRUR)
Urbrul <-prop.table(Urbrul)*100
#View (Urbrul)

#Finding Percent of Language

Language <- table(PSData$Q2)
Language <-prop.table(Language)*100
#View (Language)
```

Attitudes

This report uses the variables Q78A and Q78B which measures participants response to the question: "Do you think that the economic and political influence of [China or the U.S] on Uganda is mostly positive, mostly negative, or haven't you heard enough to say?", to find differences in opinion.

Economic and Political Influence of China

Most of the participants view on China's political and economic influence on Uganda is positive, with 46.8% expressing favorable opinions along Somewhat Positive (27%) and Very Positive (19.8%). Yet, 25.5% of respondents responded as being uncertain and negative perceptions are an overall 23.7%, with Somewhat Negative (12%) and Very Negative (11.7%) responses.

```
#Exploring Q78A Variable

#str(PSData$Q78A)
#summary(PSData$Q78A)


#Creating table of relative frequency

AttChina <- table(PSData$Q78A)/length(PSData$Q78A)*100
#str(AttChina)
AttChina <- as.data.frame(AttChina)
#View(AttChina)
#summary(AttChina)


#Changing Labels and Aesthetics

colnames(AttChina) <- c("Attitudes", "Percent")
AttChina <- AttChina %>%
  mutate(Attitudes = case_when(
    Attitudes == 1 ~ "Very Negative",
    Attitudes == 2 ~ "Somewhat Negative",
    Attitudes == 3 ~ "Neither Positive Nor Negative",
    Attitudes == 4 ~ "Somewhat Positive",
    Attitudes == 5 ~ "Very Positive",
    Attitudes == 8 ~ "Refused to Answer",
```

Table 1: Attitudes of Economic and Political Influence of China

Attitudes	Percent
Very Negative	11.7
Somewhat Negative	12.0
Neither Positive Nor Negative	4.0
Somewhat Positive	27.0
Very Positive	19.8
Refused to Answer	0.1
Don't know	25.5

```r
    Attitudes == 9 ~ "Don't know",
    TRUE ~ as.character(Attitudes)
  ))


AttChina %>%
  knitr::kable(
    caption = "Attitudes of Economic and Political Influence of China",
     digits = 1L,
     format = 'latex',
     booktabs = TRUE,
  ) %>%
  kable_styling(
    full_width = FALSE
  )
```

Economic and Political Influence of the United States of America

Most of the participants view on the United State's political and economic influence on Uganda is uncertain with 34% of all respondents answering "don't know". For positive attitudes, Somewhat Positive (27.8%) and Very Positive (17.1%) make 44.9% of total positive feelings. Negative perceptions are an overall 14.8%, with Somewhat Negative (9.7%) and Very Negative (5.1%) responses.

```r
#Exploring Q78B Variable

#str(PSData$Q78B)
#summary(PSData$Q78B)



#Creating table of relative frequency

AttUSA <- table(PSData$Q78B)/length(PSData$Q78B)*100
#str(AttUSA)
AttUSA <- as.data.frame(AttUSA)
#View(AttUSA)
#summary(AttUSA)



#Changing Labels and Aesthetics
```

Table 2: Attitudes of Economic and Political Influence of the United States of America

Attitudes	Percent
Very Negative	5.1
Somewhat Negative	9.7
Neither Positive Nor Negative	6.1
Somewhat Positive	27.8
Very Positive	17.1
Refused to Answer	0.1
Don't know	34.0

```r
colnames(AttUSA) <- c("Attitudes", "Percent")
AttUSA <- AttUSA %>%
  mutate(Attitudes = case_when(
    Attitudes == 1 ~ "Very Negative",
    Attitudes == 2 ~ "Somewhat Negative",
    Attitudes == 3 ~ "Neither Positive Nor Negative",
    Attitudes == 4 ~ "Somewhat Positive",
    Attitudes == 5 ~ "Very Positive",
    Attitudes == 8 ~ "Refused to Answer",
    Attitudes == 9 ~ "Don't know",
    TRUE ~ as.character(Attitudes)
  ))


AttUSA %>%
  knitr::kable(
    caption = "Attitudes of Economic and Political Influence of the United States of America",
    digits = 1L,
    format = 'latex',
    booktabs = TRUE,
  ) %>%
  kable_styling(
    full_width = FALSE
  )
```

T-Test

In order to find the difference of means between attitudes toward influence of China and the United States on Uganda, a t-test was calculated. Assuming 5% significance for a two-tailed t-test, the analysis rejects the null that there is no difference between attitudes being that the p-value (1.661e-07) is less than 0.05. With t = -5.258, the analysis concludes that there is a statistically significant difference between attitudes. The mean difference (-0.2029) indicates that on average, respondents felt more negative about China's influence than U.S influence on Uganda.

```r
PSData =
  PSData %>%
  mutate(
    across(
```

```
      Q78A:Q78B,
      ~ if_else(.x %in% 1:5, .x, NA)
    )
  )

t.test(PSData$Q78A, PSData$Q78B, paired = TRUE)
```

```
##
##  Paired t-test
##
## data:  PSData$Q78A and PSData$Q78B
## t = -5.258, df = 1537, p-value = 1.661e-07
## alternative hypothesis: true mean difference is not equal to 0
## 95 percent confidence interval:
##  -0.2785383 -0.1271834
## sample estimates:
## mean difference
##      -0.2028609
```