First Pass

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January 25, 2020

This is the first pass I took at putting together some of the analyses which we talked about last week. The first step I took was to create a new variable called tv_prefer which was just the difference between the respondents MSNBC preference and FOX preference. In doing so, this allowed me to determine whether the preferred MSNBC (number > 0) or FOX (number < 0) rather quickly.

After this, I subset the data to include those who preferred MSNBC or FOX and were in the control, choice, and assigned conditions. This created the seperate subgroups from which our comparisons could be drawn. To determine the levels of immigration support each group had, I took the mean of our three immigration questions (immig_increased, taxes_pos, jobs_pos) and scaled them from 0 to 1 with higher numbers indicating higher support for immigration based on these 3 questions.

NEW STUFF!

I added in the neither category to the three groups (control, assigned, choice) and calcuated the mean and CIs. Additionally, there are now two ggplot graphs below which show the control vs free choice and control vs assigned - I did not spend too much time on the formatting, so that can always be cleaned up. I did seperate each group into its own x coordinate because when the 3 difference preferences were shown toegether, they were very difficult to read. Maybe there is another way to seperate them that we could discuss?

Talk to you all soon!

load packages -

```
library(here)
library(readr)
library(tidyverse)
library(ggplot2)
library(expss)
library(broom)
library(purrr)
```

set wd and load data -

```
setwd("C:/Users/Owner/Desktop/UW-Milwaukee Graduate Year 2/Lab Meeting/Data")

dat <- read.csv("immigration_20191219_clean.csv")

## View(dat)
```

preference variable -

```
tv_prefer <- dat$tv_msnbc - dat$tv_fox
dat["tv_prefer"] <- tv_prefer

## View(dat)
```

H3 - effects of corrective information condition on preferred media choice

Here, I subset the data to include those individuals who were part of the control group and preferred either FOX or MSNBC and calculated their mean immigration levels based on the 3 immigration questions asked after they would have read the story (if they were not in control). I also calculated their CIs in the table belo.

Added those in the neither category!

control -

```
preferMSNBC_Control <- subset(dat, tv_prefer > 0 & condition == "control")
## View(preferMSNBC_Control)

preferFOX_Control <- subset(dat, tv_prefer < 0 & condition == "control")
## View(preferFOX_Control)

preferneither_control <- subset(dat, tv_prefer == 0 & condition == "control")
## View(preferneither_control)

mean_MSNBC_Control_ImmigrationLevel <- mean(preferMSNBC_Control$immig_increased) + mean(preferMSNBC_Con
mean_MSNBC_Control_ImmigrationLevel <- mean_MSNBC_Control_ImmigrationLevel / 3

mean_FOX_Control_ImmigrationLevel <- mean(preferFOX_Control$immig_increased) + mean(preferFOX_Control$ta
mean_FOX_Control_ImmigrationLevel <- mean_FOX_Control_ImmigrationLevel / 3

mean_prefer_neither_ImmigrationLevel <- mean(preferneither_control$immig_increased) + mean(preferneithe

mean_prefer_neither_ImmigrationLevel <- mean_prefer_neither_ImmigrationLevel / 3

## Confidence Interval -

MSNBC_Control_ImmigrationLevel <- ((preferMSNBC_Control$immig_increased) + (preferMSNBC_Control$taxes_p

t1 <- t.test(MSNBC_Control_ImmigrationLevel)

FOX_Control_ImmigrationLevel <- ((preferFOX_Control$immig_increased) + (preferFOX_Control$taxes_pos) +

t2 <- t.test(FOX_Control_ImmigrationLevel)

prefer_neither_immigrationlevel <- ((preferneither_control$immig_increased) + (preferneither_control$ta

ta <- t.test(prefer_neither_immigrationlevel)

table1 <- map_df(list(t1, ta, t2), broom::tidy)
table1[c("estimate", "statistic", "p.value", "conf.low", "conf.high")]
```

```
## # A tibble: 3 x 5
##   estimate statistic  p.value conf.low conf.high
##      <dbl>     <dbl>    <dbl>    <dbl>     <dbl>
## 1    0.612      23.6 3.19e-34    0.560     0.664
## 2    0.506      16.9 5.56e-26    0.446     0.566
## 3    0.415      12.0 1.09e-16    0.345     0.484
```

Here I subset the data for those who chose their news source. This was subset for those who (1) preferred MSNBC and chose MSNBC, (2)preferred MSNBC and chose FOX, (3) preferred FOX and chose FOX, and those who (4) preferred FOX and chose MSNBC. I calculated their mean immigration support levels (higher = more liberal) based on the 3 immigration questions asked after they read the story. I also calculated their CIs in the table below.

Added those in the neither category!

free choice -

```
# Prefer MSNBC & Chose MSNBC

preferMSNBC_Choice_Same <- subset(dat, tv_prefer > 0 & condition == "choice" & source == "MSNBC")
## View(preferMSNBC_Choice_Same)

mean_MSNBC_Choice_Same_ImmigrationLevel <- mean(preferMSNBC_Choice_Same$immig_increased) + mean(preferMS
mean_MSNBC_Choice_Same_ImmigrationLevel <- mean_MSNBC_Choice_Same_ImmigrationLevel / 3
mean_MSNBC_Choice_Same_ImmigrationLevel
```

```
## [1] 0.7202128
```

```
## Confidence Interval

MSNBC_Choice_Same_ImmigrationLevel <- ((preferMSNBC_Choice_Same$immig_increased) + (preferMSNBC_Choice_S

t3 <- t.test(MSNBC_Choice_Same_ImmigrationLevel)

# Prefer MSNBC & Chose Fox

preferMSNBC_Choice_Diff <- subset(dat, tv_prefer > 0 & condition == "choice" & source == "Fox News")
## View(preferMSNBC_Choice_Diff)

mean_MSNBC_Choice_Diff_ImmigrationLevel <- mean(preferMSNBC_Choice_Diff$immig_increased) + mean(preferMS
mean_MSNBC_Choice_Diff_ImmigrationLevel <- mean_MSNBC_Choice_Diff_ImmigrationLevel / 3
mean_MSNBC_Choice_Diff_ImmigrationLevel
```

```
## [1] 0.7407407
```

```
## Confidence Interval

MSNBC_Choice_Diff_ImmigrationLevel <- ((preferMSNBC_Choice_Diff$immig_increased) + (preferMSNBC_Choice_D

t4 <- t.test(MSNBC_Choice_Diff_ImmigrationLevel)

 # Prefer Fox & Chose Fox

preferFOX_Choice_Same <- subset(dat, tv_prefer < 0 & condition == "choice" & source == "Fox News")
## View(preferFOX_Choice_Same)

mean_FOX_Choice_Same_ImmigrationLevel <- mean(preferFOX_Choice_Same$immig_increased) + mean(preferFOX_CH
mean_FOX_Choice_Same_ImmigrationLevel <- mean_FOX_Choice_Same_ImmigrationLevel / 3
mean_FOX_Choice_Same_ImmigrationLevel
```

```
## [1] 0.420679
```

```r
## Confidence Interval

FOX_Choice_Same_ImmigrationLevel <- ((preferFOX_Choice_Same$immig_increased) + (preferFOX_Choice_Same$ta

t5 <- t.test(FOX_Choice_Same_ImmigrationLevel)

# Prefer Fox and Chose MSNBC

preferFOX_Choice_Diff <- subset(dat, tv_prefer < 0 & condition == "choice" & source == "MSNBC")
## View(preferFOX_Choice_Diff)

mean_FOX_Choice_Diff_ImmigrationLevel <- mean(preferFOX_Choice_Diff$immig_increased) + mean(preferFOX_Ch
mean_FOX_Choice_Diff_ImmigrationLevel <- mean_FOX_Choice_Diff_ImmigrationLevel / 3
mean_FOX_Choice_Diff_ImmigrationLevel
```

```
## [1] 0.562963
```

```r
## Confidence Interval

FOX_Choice_Diff_ImmigrationLevel <- ((preferFOX_Choice_Diff$immig_increased) + (preferFOX_Choice_Diff$ta

t6 <- t.test(FOX_Choice_Diff_ImmigrationLevel)

## Prefer Neither, Chose MSNBC

preferneither_Choose_MSNBC <- subset(dat, tv_prefer == 0 & condition == "choice" & source == "MSNBC")
## View(preferneither_Choose_MSNBC)

mean_preferneither_ChoseMSNBC_ImmigrationLevel <- mean(preferneither_Choose_MSNBC$immig_increased) + mea
mean_preferneither_ChoseMSNBC_ImmigrationLevel <- mean_preferneither_ChoseMSNBC_ImmigrationLevel / 3
mean_preferneither_ChoseMSNBC_ImmigrationLevel
```

```
## [1] 0.6511905
```

```r
## Confidence Interval -

preferneither_Choose_MSNBC_immigrationlevel <- ((preferneither_Choose_MSNBC$immig_increased) + (preferne

tb <- t.test(preferneither_Choose_MSNBC_immigrationlevel)

## Prefer Neither, Chose FOX

preferneither_Choose_FOX <- subset(dat, tv_prefer == 0 & condition == "choice" & source == "Fox News")
## View(preferneither_Choose_FOX)

mean_preferneither_ChoseFOX_ImmigrationLevel <- mean(preferneither_Choose_FOX$immig_increased) + mean(pr
mean_preferneither_ChoseFOX_ImmigrationLevel <- mean_preferneither_ChoseFOX_ImmigrationLevel / 3
mean_preferneither_ChoseFOX_ImmigrationLevel
```

```
## [1] 0.4877451
```

```r
## Confidence Interval -

preferneither_Choose_FOX_immigrationlevel <- ((preferneither_Choose_FOX$immig_increased) + (preferneith

tc <- t.test(preferneither_Choose_FOX_immigrationlevel)
```

```
table2 <- map_df(list(t3, t4, t5, t6, tb, tc), broom::tidy)
table2[c("estimate", "statistic", "p.value", "conf.low", "conf.high")]
```

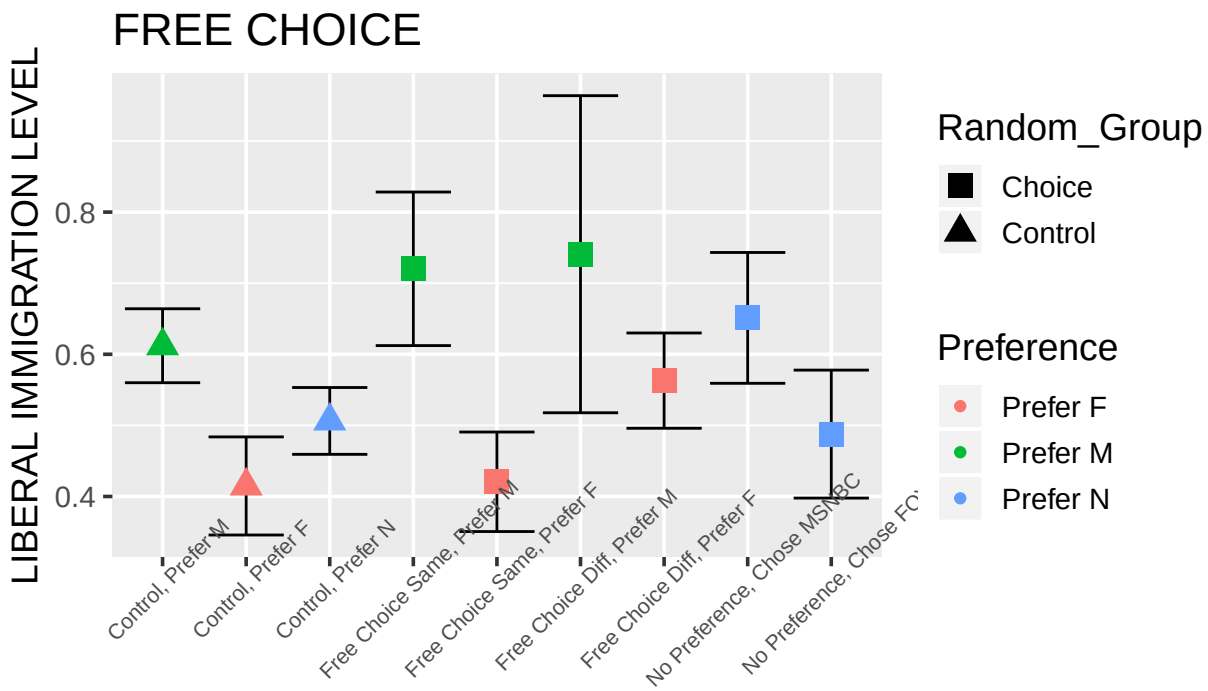
```
## # A tibble: 6 x 5
##   estimate statistic  p.value conf.low conf.high
##      <dbl>     <dbl>    <dbl>    <dbl>     <dbl>
## 1    0.720     30.8  2.40e-32    0.673     0.767
## 2    0.741     15.8  2.51e- 7    0.633     0.849
## 3    0.421     12.0  8.58e-17    0.351     0.491
## 4    0.563      5.82 3.96e- 4    0.340     0.786
## 5    0.651     22.2  1.73e-24    0.592     0.710
## 6    0.488     11.0  1.31e-12    0.398     0.578
```

plot control vs. free choice

Control vs Free Choice - I intially plotted them together on the same line (3 controls in one column; 4 choice in another and 2 no preference), but it was impossible to read. Maybe there is a different way to do that, but this should give us a decent first look!

```
data <- data.frame(x = c("Control, Prefer M", "Control, Prefer F", "Control, Prefer N", "Free Choice Sa
                   y    = c(mean_MSNBC_Control_ImmigrationLevel, mean_FOX_Control_ImmigrationLevel, mea
                   CHI       = c(0.052, 0.069, 0.047, 0.108, 0.07, 0.223, 0.067, 0.092, 0.09),
                   CLO = c(0.052, 0.069, 0.047, 0.108, 0.07, 0.223, 0.067, 0.092, 0.09),
                   Preference = c("Prefer M", "Prefer F", "Prefer N", "Prefer M", "Prefer F", "Prefer M
                   Random_Group = c("Control", "Control", "Control", "Choice", "Choice", "Choice", "Cho

Choice <- ggplot(data, aes(x, y, group = Preference)) +
  geom_point() +
  geom_errorbar(aes(ymin = y + CHI, ymax = y - CLO)) +
  labs(x = "",
       y = "LIBERAL IMMIGRATION LEVEL",
       title = "FREE CHOICE") +
  theme_classic() +
  geom_point(aes(color=Preference, shape=Random_Group, size = Random_Group)) +
  scale_shape_manual(values=c(15, 17, 16)) +
  scale_size_manual(values=c(4,4,4)) +
  theme_gray(base_size = 14) +
  theme(axis.text.x = element_text(angle = 45, size = 8)) + scale_x_discrete(limits = data$x)
Choice
```



assigned -

Here I subset the data for those who were assigned their news source. This was subset for those who (1) preferred MSNBC and were assigned MSNBC, (2)preferred MSNBC and were assigned FOX, (3) preferred FOX and were assigned FOX, and those who (4) preferred FOX and were assigned MSNBC. I calculated their mean immigration support levels (higher = more liberal) based on the 3 immigration questions asked after they read the story. I also calculated their CIs in the table below.

Added those in the neither category!

```
## Prefer MSNBC, Assinged MSNBC

preferMSNBC_assignedMSNBC <- subset(dat, tv_prefer > 0 & condition == "assigned" & source == "MSNBC")
## View(preferMSNBC_assignedMSNBC)

mean_preferMSNBC_assignedMSNBC_ImmigrationLevel <- mean(preferMSNBC_assignedMSNBC$immig_increased) + mea
mean_preferMSNBC_assignedMSNBC_ImmigrationLevel <- mean_preferMSNBC_assignedMSNBC_ImmigrationLevel / 3
mean_preferMSNBC_assignedMSNBC_ImmigrationLevel
```

```
## [1] 0.6720721
```

```
## Confidence interval -

preferMSNBC_assignedMSNBC_ImmigrationLevel <- ((preferMSNBC_assignedMSNBC$immig_increased) + (preferMSN

t7 <- t.test(preferMSNBC_assignedMSNBC_ImmigrationLevel)
```

```r
## Prefer MSNBC, Assigned FOX

preferMSNBC_assignedFOX <- subset(dat, tv_prefer > 0 & condition == "assigned" & source == "Fox News")
## View(preferMSNBC_assignedFOX)

mean_preferMSNBC_assignedFOX_ImmigrationLevel <- mean(preferMSNBC_assignedFOX$immig_increased) + mean(pr
mean_preferMSNBC_assignedFOX_ImmigrationLevel <- mean_preferMSNBC_assignedFOX_ImmigrationLevel / 3
mean_preferMSNBC_assignedFOX_ImmigrationLevel
```

```
## [1] 0.6703704
```

```r
## Confidence Intervals -

preferMSNBC_assignedFOX_ImmigrationLevel <- ((preferMSNBC_assignedFOX$immig_increased) + (preferMSNBC_as

t8 <- t.test(preferMSNBC_assignedFOX_ImmigrationLevel)

## Prefer Fox, Assigned FOX

preferFOX_assignedFOX <- subset(dat, tv_prefer < 0 & condition == "assigned" & source == "Fox News")
## View(preferFOX_assignedFOX)

mean_preferFOX_assignedFOX_ImmigrationLevel <- mean(preferFOX_assignedFOX$immig_increased) + mean(prefe
mean_preferFOX_assignedFOX_ImmigrationLevel <- mean_preferFOX_assignedFOX_ImmigrationLevel / 3
mean_preferFOX_assignedFOX_ImmigrationLevel
```

```
## [1] 0.5220238
```

```r
## Confidence Intervals -

preferFOX_assignedFOX_ImmigrationLevel <- ((preferFOX_assignedFOX$immig_increased) + (preferFOX_assigned

t9 <- t.test(preferFOX_assignedFOX_ImmigrationLevel)

## Prefer FOX, Assigned MSNBC

preferFOX_assignedMSNBC <- subset(dat, tv_prefer < 0 & condition == "assigned" & source == "MSNBC")
## View(preferFOX_assignedMSNBC)

mean_preferFOX_assignedMSNBC_ImmigrationLevel <- mean(preferFOX_assignedMSNBC$immig_increased) + mean(pr
mean_preferFOX_assignedMSNBC_ImmigrationLevel <- mean_preferFOX_assignedMSNBC_ImmigrationLevel / 3
mean_preferFOX_assignedMSNBC_ImmigrationLevel
```

```
## [1] 0.4787037
```

```r
## Confidence Intervals -

preferFOX_assignedMSNBC_ImmigrationLevel <- ((preferFOX_assignedMSNBC$immig_increased) + (preferFOX_assi

t10 <- t.test(preferFOX_assignedMSNBC_ImmigrationLevel)

## Prefer neither, Assigned MSNBC

preferneither_assignedMSNBC <- subset(dat, tv_prefer == 0 & condition == "assigned" & source == "MSNBC"
## View(preferFOX_assignedMSNBC)
```

```
mean_preferneither_assignedMSNBC_ImmigrationLevel <- mean(preferneither_assignedMSNBC$immig_increased) +
mean_preferneither_assignedMSNBC_ImmigrationLevel <- mean_preferneither_assignedMSNBC_ImmigrationLevel /
mean_preferneither_assignedMSNBC_ImmigrationLevel
```

```
## [1] 0.5818627
```

```
## Confidence Intervals -

preferneither_assignedMSNBC_ImmigrationLevel <- ((preferneither_assignedMSNBC$immig_increased) + (prefe

td <- t.test(preferneither_assignedMSNBC_ImmigrationLevel)

## Prefer neither, Assigned MSNBC

preferneither_assignedFOX <- subset(dat, tv_prefer == 0 & condition == "assigned" & source == "Fox News
## View(preferFOX_assignedFOX)

mean_preferneither_assignedFOX_ImmigrationLevel <- mean(preferneither_assignedFOX$immig_increased) + mea
mean_preferneither_assignedFOX_ImmigrationLevel <- mean_preferneither_assignedFOX_ImmigrationLevel / 3
mean_preferneither_assignedFOX_ImmigrationLevel
```

```
## [1] 0.6387255
```

```
## Confidence Intervals -

preferneither_assignedFOX_ImmigrationLevel <- ((preferneither_assignedFOX$immig_increased) + (preferneit

te <- t.test(preferneither_assignedFOX_ImmigrationLevel)

table3 <- map_df(list(t1, t2, t6, t7, t8, t9, td, te), broom::tidy)
table3[c("estimate", "statistic", "p.value", "conf.low", "conf.high")]
```

```
## # A tibble: 8 x 5
##   estimate statistic  p.value conf.low conf.high
##      <dbl>     <dbl>    <dbl>    <dbl>     <dbl>
## 1    0.612     23.6  3.19e-34    0.560     0.664
## 2    0.415     12.0  1.09e-16    0.345     0.484
## 3    0.563      5.82 3.96e- 4    0.340     0.786
## 4    0.672     20.2  3.01e-21    0.605     0.739
## 5    0.670     15.0  2.50e-14    0.579     0.762
## 6    0.522     12.7  6.50e-13    0.438     0.606
## 7    0.582     14.0  1.93e-15    0.497     0.666
## 8    0.639     19.7  7.92e-20    0.573     0.705
```

combine and plot -

Control vs Assigned - I intially plotted them together on the same line (3 controls in one column; 4 assigned in another and 2 no preference), but it was impossible to read. Maybe there is a different way to do that, but this should give us a decent first look!

```
data2 <- data.frame(x2 = c("Control, Prefer M", "Control, Prefer F", "Control, Prefer N", "Assigned Sam
                    y2    = c(mean_MSNBC_Control_ImmigrationLevel, mean_FOX_Control_ImmigrationLevel, m
                    CHI_2      = c(0.052, 0.069, 0.047, 0.067, 0.084, 0.092, 0.114, 0.085, 0.066),
                    CLO_2 = c(0.052, 0.069, 0.047, 0.067, 0.084, 0.092, 0.114, 0.085, 0.066),
                    Preference2 = c("Prefer M", "Prefer F", "Prefer N", "Prefer M", "Prefer F", "Prefer
```

```
                    Random_Group_2 = c("Control", "Control", "Control", "Assigned", "Assigned", "Assigne

Assigned <- ggplot(data2, aes(x2, y2, group = Preference2)) +
  geom_point() +
  geom_errorbar(aes(ymin = y2 + CHI_2, ymax = y2 - CLO_2)) +
  labs(x = "",
       y = "LIBERAL IMMIGRATION LEVEL",
       title = "ASSIGNED") +
  theme_classic() +
  geom_point(aes(color=Preference2, shape=Random_Group_2, size = Random_Group_2)) +
  scale_shape_manual(values=c(15, 17, 16)) +
  scale_size_manual(values=c(4,4,4)) +
  theme_gray(base_size = 14) +
  theme(axis.text.x = element_text(angle = 45, size = 8)) +
  scale_x_discrete(limits = data2$x2)
Assigned
```