# Lecture 7 Notes

2024-02-06

```
require(tidyverse)
```

```
## Loading required package: tidyverse
```

```
## Warning: package 'tidyverse' was built under R version 4.3.2
```

```
## ── Attaching core tidyverse packages ──────────────────────── tidyverse 2.0.0 ──
## ✓ dplyr     1.1.2     ✓ readr     2.1.4
## ✓ forcats   1.0.0     ✓ stringr   1.5.0
## ✓ ggplot2   3.4.4     ✓ tibble    3.2.1
## ✓ lubridate 1.9.2     ✓ tidyr     1.3.0
## ✓ purrr     1.0.1
```

```
## ── Conflicts ────────────────────────────────────────── tidyverse_conflicts() ──
## ✖ dplyr::filter() masks stats::filter()
## ✖ dplyr::lag()    masks stats::lag()
## ℹ Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts t
o become errors
```

```
mi_ep <- read_rds('https://github.com/jbisbee1/DS1000_S2024/raw/main/data/MI2020_ExitPol
l_small.rds')
```

# Look

```
view(mi_ep)
```

# Wrangle

```
mi_ep_clean <- mi_ep %>%
  filter(preschoice == 'Donald Trump, the Republican' | preschoice == 'Joe Biden, the De
mocrat') %>%
  mutate(TrumpVoter = ifelse(preschoice == 'Donald Trump, the Republican',1,0)) %>%
  mutate(BIdenVoter = ifelse(TrumpVoter == 1,0,1)) %>%
  mutate(AGE10 = ifelse(AGE10 == 99,NA,AGE10))
```

# Evaluate

- Theory: women should support Trump less than men

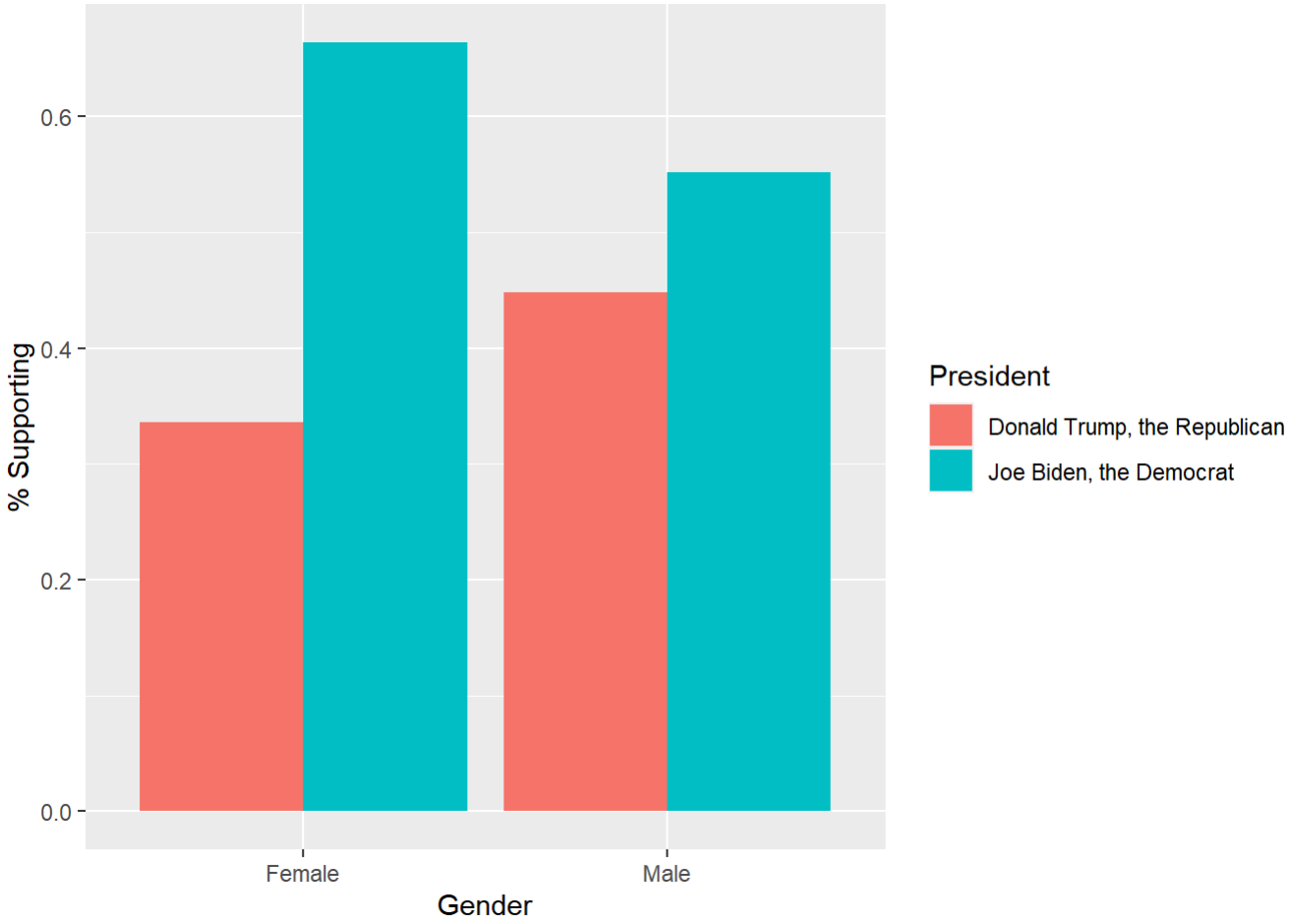
```
# Dumb bad way of conditional support
mi_ep_clean %>%
  count(preschoice,SEX) %>%
  mutate(PctSupport = n/sum(n))
```

```
## # A tibble: 4 × 4
##   preschoice                      SEX     n PctSupport
##   <chr>                         <dbl> <int>      <dbl>
## 1 Donald Trump, the Republican     1   247      0.209
## 2 Donald Trump, the Republican     2   212      0.179
## 3 Joe Biden, the Democrat          1   304      0.257
## 4 Joe Biden, the Democrat          2   419      0.354
```

```
# Cool good way of conditional support
toplot <- mi_ep_clean %>%
  count(preschoice,SEX) %>%
  group_by(SEX) %>%
  mutate(totGender = sum(n)) %>%
  mutate(pctSupport = n/totGender)
```

# Visualize conditional relationships

```
toplot %>%
  mutate(SEX = ifelse(SEX == 1,'Male','Female')) %>%
  ggplot(aes(x = SEX,y = pctSupport,fill = preschoice)) +
  geom_bar(stat = 'identity',position = 'dodge') +
  labs(x = 'Gender',
       y = '% Supporting',
       fill = 'President')
```

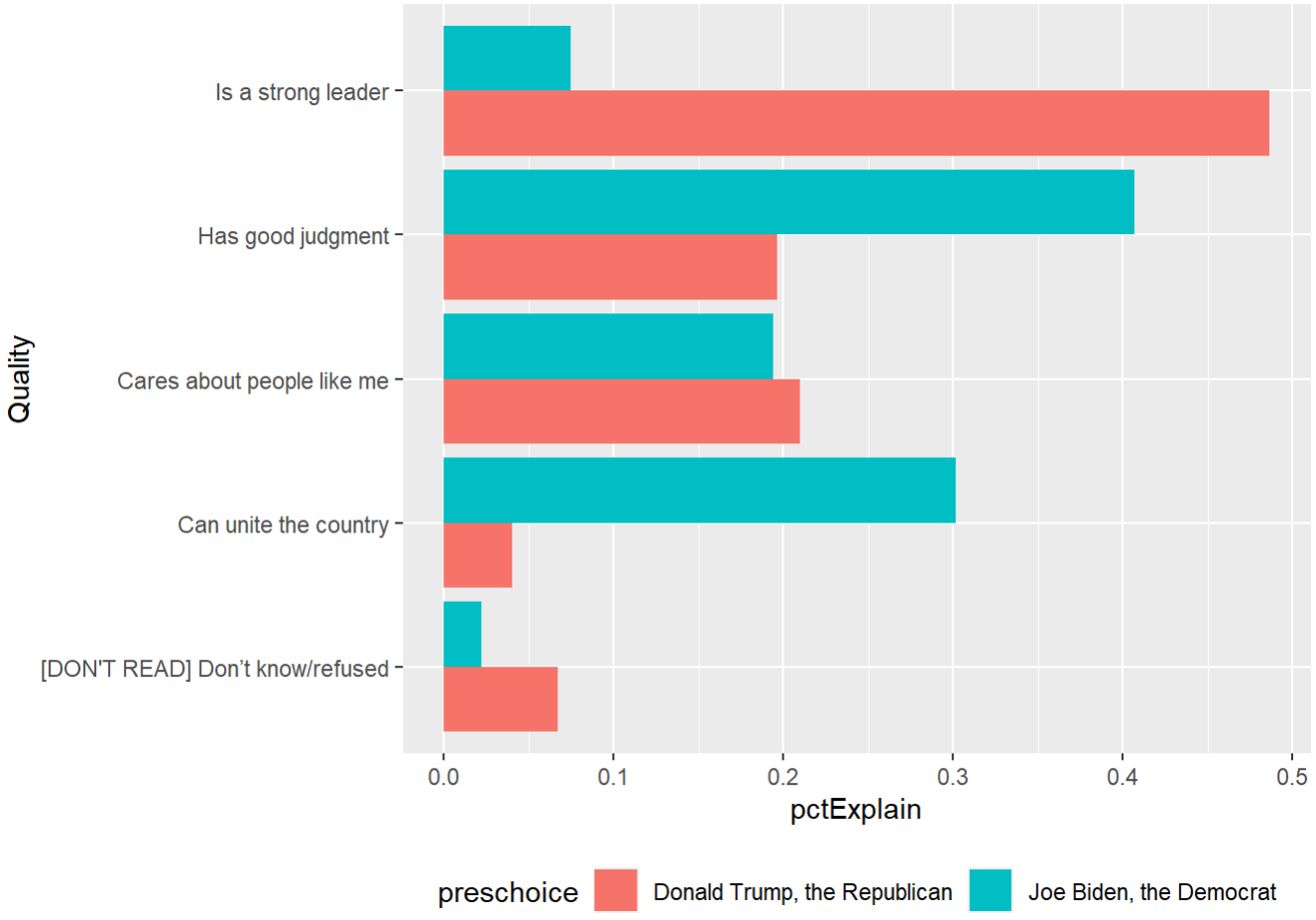



# Understand voter's own explanations

```
toplot2 <- mi_ep_clean %>%
  filter(!is.na(Quality)) %>%
  count(preschoice,Quality) %>%
  group_by(preschoice) %>%
  mutate(totN = sum(n), # This is the total # of trump and biden voters
         pctExplain = n / sum(n)) # THis is the proportion
```

# Visualize the data

```
toplot2 %>%
  ggplot(aes(y = Quality,x = pctExplain,
             fill = preschoice)) +
  geom_bar(stat = 'identity',position = 'dodge') +
  theme(legend.position = 'bottom')
```


Quality
Is a strong leader
Has good judgment
Cares about people like me
Can unite the country
[DON'T READ] Don't know/refused
0.0
0.1
0.2
0.3
0.4
0.5
pctExplain
preschoice
Donald Trump, the Republican
Joe Biden, the Democrat