Analysis of AuthLib Survey Data

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Loading and cleaning the data

Loading the .sav file

```
authlib_data <- read_sav("Authlib survey data_18.09.2024.sav")
```

Replacing all values of 99 with NA for the entire dataset

```
authlib_data <- authlib_data %>%
  mutate(across(where(is.numeric), ~ na_if(., 99)))
```

P2_71 = How important do you think it is for democracy in general that individuals who advocate for a ban on abortion are allowed to protest in front of the parliament?

Check the number of non-missing responses for the variable P2_71

```
sum(!is.na(authlib_data$P2_71))
```

```
## [1] 3429
```

There are 3429 missing variables for this variable, which is roughly half of the sample

P2_72 = How important do you think it is for democracy in general that individuals who advocate for an abortion even at a late stage of pregnancy are allowed to protest in front of the parliament?

Check the number of non-missing responses for the variable P2_72

```
sum(!is.na(authlib_data$P2_72))
```

```
## [1] 3326
```

There are 3326 which is just under 1/2 of the whole sample

P4_05 = To what extent do you agree or disagree with each of them? Women should be free to decide on matters of abortion 1 = strongly agree 5 = strongly disagree

```
sum(!is.na(authlib_data$P4_05))
```

```
## [1] 7003
```

7003 non-missings, so practically the whole sample responded to this item!

Let's check how many of those who agree or strongly agree that women have the right to decide on matters of abortion are in condition 'democratic rights for banning abortion'

Create a table showing the count of respondents for each category of P4_05 who also responded to P2_71

```
table(authlib_data$P4_05[!is.na(authlib_data$P2_71)])
```

```
##
##    1    2    3    4    5
## 1997  799  379  118  106
```

From individuals included in the P2_71 part of the sample 224 individuals disagree or strongly disagree and 2796 people agree or strongly agree women should be free to decide

Create a contingency table for P4_05 and P2_71

```
cross_tab_P4_05_P2_71 <- table(authlib_data$P4_05, authlib_data$P2_71)

print(cross_tab_P4_05_P2_71)
```

```
##
##       0   1   2   3   4   5   6   7   8   9  10
##   1 277  69  86  92  89 282 148 183 162 129 480
##   2  58  10  17  48  54 155  84 120 114  54  85
##   3  29   3   7  16  29  69  51  39  43  20  73
##   4   8   5   7   5   6  13  14  12  13  14  21
##   5  24   3   1   1   1  12   6   5   8   5  40
```

Create a table showing the count of respondents for each category of P4_05 who also responded to P2_72

```
table(authlib_data$P4_05[!is.na(authlib_data$P2_72)])
```

```
##
##    1    2    3    4    5
## 1759  907  378  146  115
```

From the individuals included in the P2_72 part of the sample, 261 disagree or strongly disagree and 2666 people agree or strongly agree women should be free to decide on matters of abortion.

Creating a contingency table for P4_05 and P2_72

```
cross_tab_P4_05_P2_72 <- table(authlib_data$P4_05, authlib_data$P2_72)

print(cross_tab_P4_05_P2_72)
```

```
##
##       0   1   2   3   4   5   6   7   8   9  10
##   1 127  26  35  47  60 205 134 205 211 152 557
##   2  69  19  42  45  55 168 108 142 122  47  90
##   3  52  13  23  27  25  87  35  39  38   7  32
##   4  30   5   8  15  11  14  18  14  12   7  12
##   5  41   5   5   7   3  11   9   2  11   5  16
```

Creating a plot with the democracy variables distributions

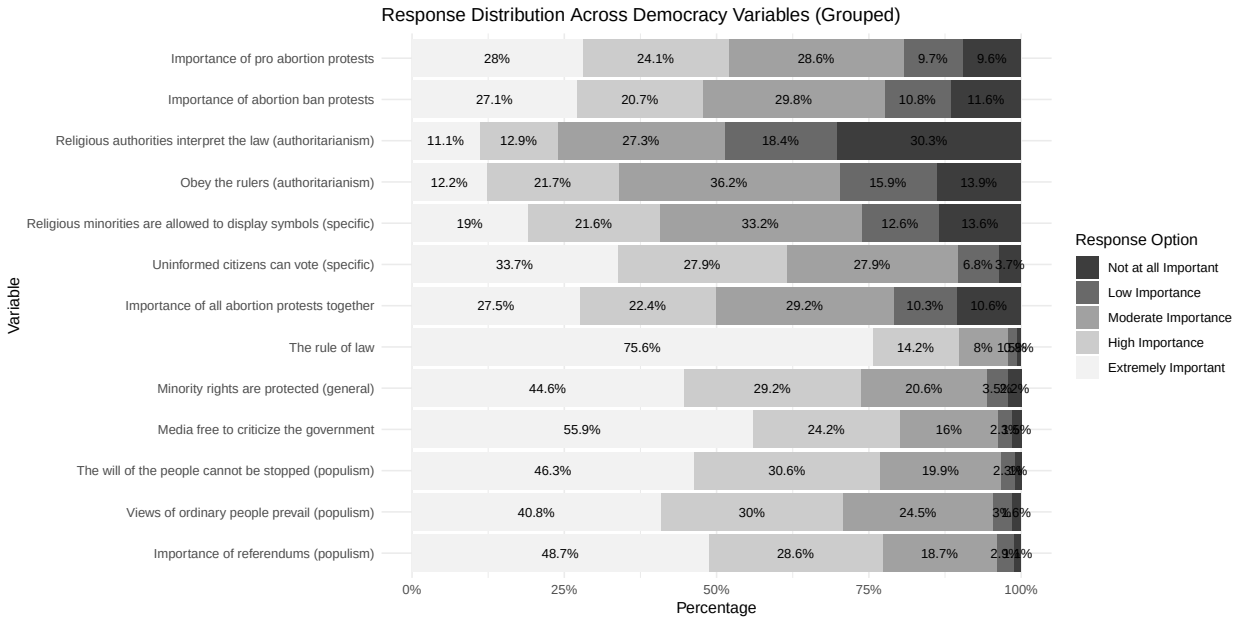
```r
# Load necessary libraries
library(ggplot2)
library(dplyr)
library(tidyr)
```

```
##
## Attaching package: 'tidyr'
```

```
## The following object is masked from 'package:reshape2':
##
##     smiths
```

```r
library(purrr)  # Use map() for better handling of missing values

# Create a named vector for descriptions
variable_descriptions <- c(
  P2_01 = "Importance of referendums (populism)",
  P2_02 = "Views of ordinary people prevail (populism)",
  P2_03 = "The will of the people cannot be stopped (populism)",
  P2_04 = "Media free to criticize the government",
  P2_05 = "Minority rights are protected (general)",
  P2_06 = "The rule of law",
  P2_07 = "Importance of all abortion protests together",
  P2_71 = "Importance of abortion ban protests",
  P2_72 = "Importance of pro abortion protests",
  P2_08 = "Uninformed citizens can vote (specific)",
  P2_09 = "Religious minorities are allowed to display symbols (specific)",
  P2_10 = "Obey the rulers (authoritarianism)",
  P2_11 = "Religious authorities interpret the law (authoritarianism)"
)

# List of democracy variables
democracy_variables <- c("P2_01", "P2_02", "P2_03", "P2_04",
                         "P2_05", "P2_06", "P2_07", "P2_71",
                         "P2_72", "P2_08", "P2_09", "P2_10", "P2_11")

# Long data transformation
long_data <- authlib_data %>%
  select(all_of(democracy_variables)) %>%
  pivot_longer(cols = everything(), names_to = "variable", values_to = "response")

# Function to categorize responses into 5 broader groups
categorize_response <- function(response) {
  if (is.na(response)) {
    return(NA)  # Handle missing values
  } else if (response == 0) {
    return("Not at all Important")
  } else if (response >= 1 && response <= 3) {
    return("Low Importance")
  } else if (response >= 4 && response <= 6) {
    return("Moderate Importance")
```

```
  } else if (response >= 7 && response <= 8) {
    return("High Importance")
  } else if (response >= 9 && response <= 10) {
    return("Extremely Important")
  }
}

# Apply categorization, filter out NA, and summarize
label_data <- long_data %>%
  mutate(grouped_response = map_chr(response, categorize_response)) %>%
  filter(!is.na(grouped_response)) %>%  # Filter out NA values
  mutate(grouped_response = factor(grouped_response, levels = c(
    "Not at all Important", "Low Importance", "Moderate Importance",
    "High Importance", "Extremely Important" ))) %>%
  group_by(variable, grouped_response) %>%
  summarise(count = n(), .groups = 'drop') %>%
  left_join(
    long_data %>%
      group_by(variable) %>%
      summarise(total_count = sum(!is.na(response)), .groups = 'drop'),  # Exclude NA from total_count
    by = "variable"
  ) %>%
  mutate(percentage = count / total_count * 100)  # Calculate the percentage for each grouped category

# Create shades of gray for the grouped categories
gray_shades <- c("gray24", "gray41", "gray63", "gray80", "gray95")  # Five shades


# Create the grouped bar chart with percentages for the collapsed groups
ggplot(label_data, aes(x = factor(variable), y = percentage, fill = grouped_response)) +
  geom_bar(stat = "identity", position = "stack") +
  geom_text(aes(label = paste0(round(percentage, 1), "%")),  # Add percentage labels for the collapsed
            position = position_stack(vjust = 0.5),          # Position labels at the center of each st
            size = 3,                                        # Adjust text size
            color = "black") +                               # Text color
  scale_y_continuous(labels = scales::percent_format(scale = 1)) +  # Display Y axis as percentage
  scale_fill_manual(values = gray_shades,  # Custom fill colors for grouped responses
                    labels = c("Not at all Important", "Low Importance",
                               "Moderate Importance", "High Importance",
                               "Extremely Important")) +  # Custom labels for the groups
  scale_x_discrete(labels = setNames(variable_descriptions[democracy_variables], democracy_variables)) +
  labs(title = "Response Distribution Across Democracy Variables (Grouped)",
       x = "Variable",
       y = "Percentage",
       fill = "Response Option") +
  theme_minimal() +
  coord_flip()  # Flip the chart horizontally
```



From the distributions, we can clearly see that an overwhelming majority of 75% believe the rule of law is extremely important for democracy. In terms of importance, next in line are items that media are free to criticize the government (55.9%) and that people get to make decisions directly in referenda (48.7%). As expected, authoritarian items gather the least support. But we also see that more specific democracy items are less popular than the abstract items. Only 33% of respondents believe it is extremely important for democracy that uninformed citizens are allowed to vote, while just 19% consider it most important for democracy that religious minorities can display symbols in public.

```
install.packages("gridExtra")
```

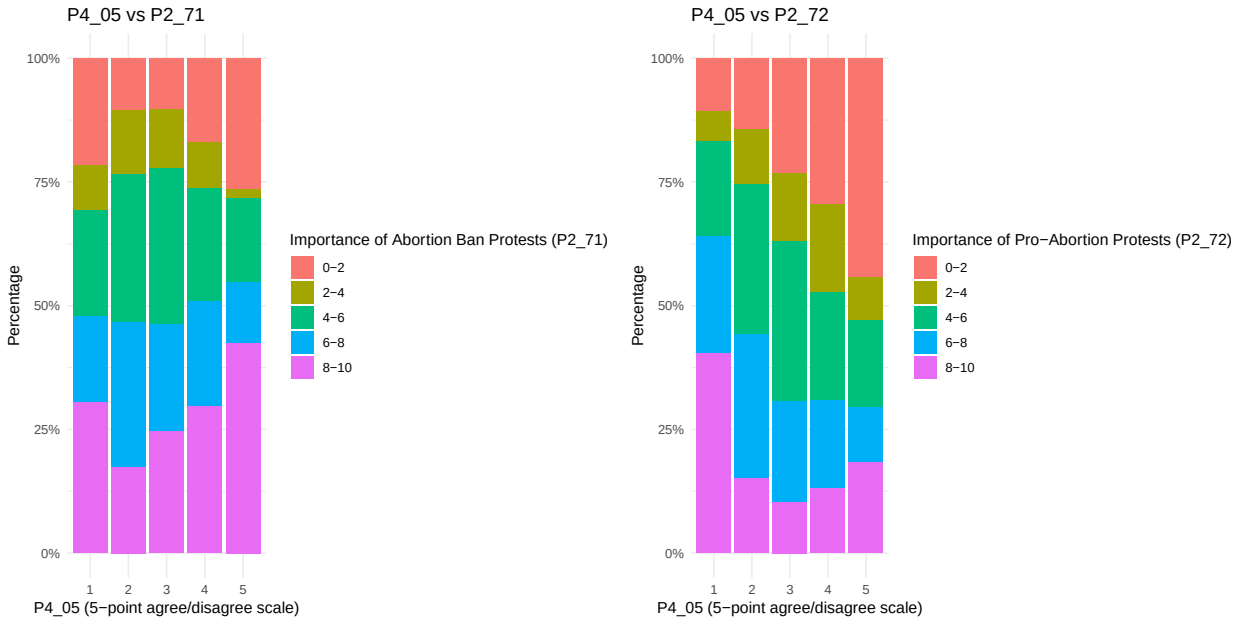
```
##
## The downloaded binary packages are in
##  /var/folders/4c/svyzmxsn0m10fgjt_441y8tw0000gp/T//RtmpeIU3Xj/downloaded_packages
```

```
# Load necessary libraries
library(ggplot2)
library(dplyr)
library(gridExtra)
```

```
##
## Attaching package: 'gridExtra'

## The following object is masked from 'package:dplyr':
##
##     combine
```

```
# Filter out values of '99' and calculate percentages for the first plot (P4_05 vs P2_71)
filtered_data_71 <- authlib_data %>%
  filter(P4_05 != 99, P2_71 != 99) %>%
  mutate(P2_71_category = cut(P2_71,
                              breaks = c(-Inf, 2, 4, 6, 8, Inf),
                              labels = c("0-2", "2-4", "4-6", "6-8", "8-10")))
```

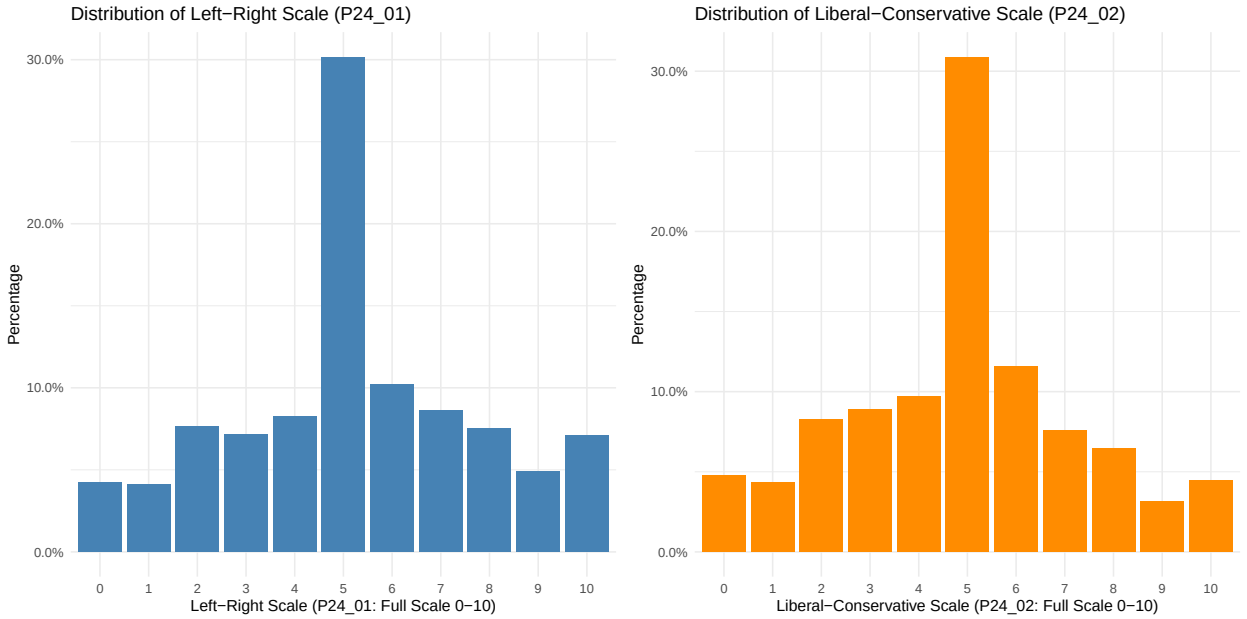
```r
# Create the first stacked bar plot
plot1 <- ggplot(filtered_data_71, aes(x = as.factor(P4_05), fill = P2_71_category)) +
  geom_bar(position = "fill") +  # Use position = "fill" for relative percentages
  scale_y_continuous(labels = scales::percent) +  # Convert y-axis to percentage
  labs(
    x = "P4_05 (5-point agree/disagree scale)",
    y = "Percentage",
    fill = "Importance of Abortion Ban Protests (P2_71)",
    title = "P4_05 vs P2_71"
  ) +
  theme_minimal()

# Filter out values of '99' and calculate percentages for the second plot (P4_05 vs P2_72)
filtered_data_72 <- authlib_data %>%
  filter(P4_05 != 99, P2_72 != 99) %>%
  mutate(P2_72_category = cut(P2_72,
                              breaks = c(-Inf, 2, 4, 6, 8, Inf),
                              labels = c("0-2", "2-4", "4-6", "6-8", "8-10")))

# Create the second stacked bar plot
plot2 <- ggplot(filtered_data_72, aes(x = as.factor(P4_05), fill = P2_72_category)) +
  geom_bar(position = "fill") +  # Use position = "fill" for relative percentages
  scale_y_continuous(labels = scales::percent) +  # Convert y-axis to percentage
  labs(
    x = "P4_05 (5-point agree/disagree scale)",
    y = "Percentage",
    fill = "Importance of Pro-Abortion Protests (P2_72)",
    title = "P4_05 vs P2_72"
  ) +
  theme_minimal()

# Arrange the two plots side by side
grid.arrange(plot1, plot2, ncol = 2)
```



Distribution of the left-right scale and the conservative-liberal scale

```r
# Load the necessary library
library(gridExtra)

# Calculate the percentage distribution for P24_01, excluding NAs
p24_01_percent_full <- authlib_data %>%
  filter(!is.na(P24_01)) %>%  # Exclude NAs
  group_by(P24_01) %>%
  summarise(count = n()) %>%
  mutate(percentage = count / sum(count) * 100)  # Calculate percentage and multiply by 100 for whole n

# Calculate the percentage distribution for P24_02, excluding NAs
p24_02_percent_full <- authlib_data %>%
  filter(!is.na(P24_02)) %>%  # Exclude NAs
  group_by(P24_02) %>%
  summarise(count = n()) %>%
  mutate(percentage = count / sum(count) * 100)  # Calculate percentage and multiply by 100 for whole n

# Create the P24_01 plot
p24_01_plot <- ggplot(p24_01_percent_full, aes(x = factor(P24_01), y = percentage)) +
  geom_bar(stat = "identity", fill = "steelblue") +
  scale_y_continuous(labels = scales::percent_format(scale = 1, accuracy = 0.1)) +  # Format y-axis lab
  labs(
    x = "Left-Right Scale (P24_01: Full Scale 0-10)",
    y = "Percentage",
    title = "Distribution of Left-Right Scale (P24_01)"
  ) +
  theme_minimal()

# Create the P24_02 plot
p24_02_plot <- ggplot(p24_02_percent_full, aes(x = factor(P24_02), y = percentage)) +
  geom_bar(stat = "identity", fill = "darkorange") +
  scale_y_continuous(labels = scales::percent_format(scale = 1, accuracy = 0.1)) +  # Format y-axis lab
```

```
  labs(
    x = "Liberal-Conservative Scale (P24_02: Full Scale 0-10)",
    y = "Percentage",
    title = "Distribution of Liberal-Conservative Scale (P24_02)"
  ) +
  theme_minimal()

# Arrange the plots side by side
grid.arrange(p24_01_plot, p24_02_plot, ncol = 2)
```

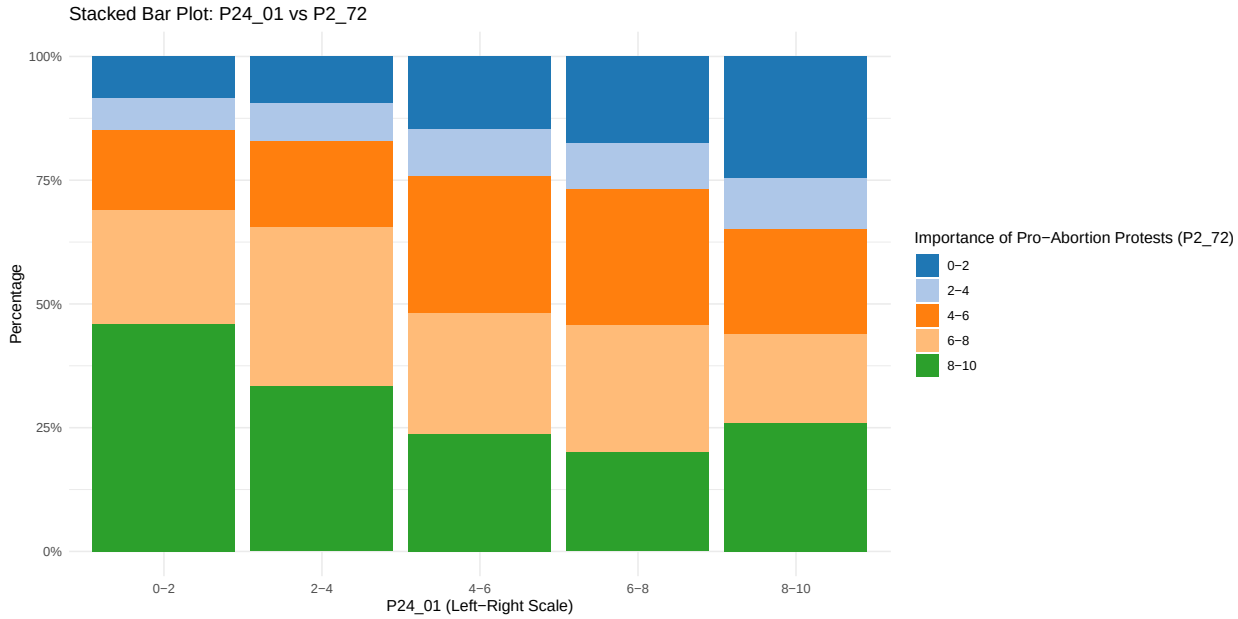


The distributions of the two variables show very similar patterns, with center (response option 5) being the most popular category, with around 30% of individuals choosing this option.

Now, let's examine the cross-tabulation of the left-right scale and support for pro-abortion protests.

```
# Load necessary libraries
library(ggplot2)
library(dplyr)

# Filter out values of '99' and calculate percentages for P24_01 and P2_72
filtered_data_p2_72 <- authlib_data %>%
  filter(P24_01 != 99, P2_72 != 99)

# Create a new variable to categorize P2_72 into five ranges
filtered_data_p2_72 <- filtered_data_p2_72 %>%
  mutate(P2_72_category = cut(P2_72,
                              breaks = c(-Inf, 2, 4, 6, 8, Inf),  # Adjust breaks for 5 categories
                              labels = c("0-2", "2-4", "4-6", "6-8", "8-10")),
         P24_01_category = cut(P24_01,
                               breaks = c(-Inf, 2, 4, 6, 8, Inf),  # Adjust breaks for 5 categories
                               labels = c("0-2", "2-4", "4-6", "6-8", "8-10")))

# Create the stacked bar plot for P24_01 and P2_72 with custom colors
ggplot(filtered_data_p2_72, aes(x = P24_01_category, fill = P2_72_category)) +
```

```
  geom_bar(position = "fill") +  # Use position = "fill" for relative percentages
  scale_y_continuous(labels = scales::percent) +  # Convert y-axis to percentage
  labs(
    x = "P24_01 (Left-Right Scale)",
    y = "Percentage",
    fill = "Importance of Pro-Abortion Protests (P2_72)",
    title = "Stacked Bar Plot: P24_01 vs P2_72"
  ) +
  scale_fill_manual(values = c("0-2" = "#1f77b4", "2-4" = "#aec7e8",
                               "4-6" = "#ff7f0e", "6-8" = "#ffbb78",
                               "8-10" = "#2ca02c")) +  # Custom colors
  theme_minimal()
```

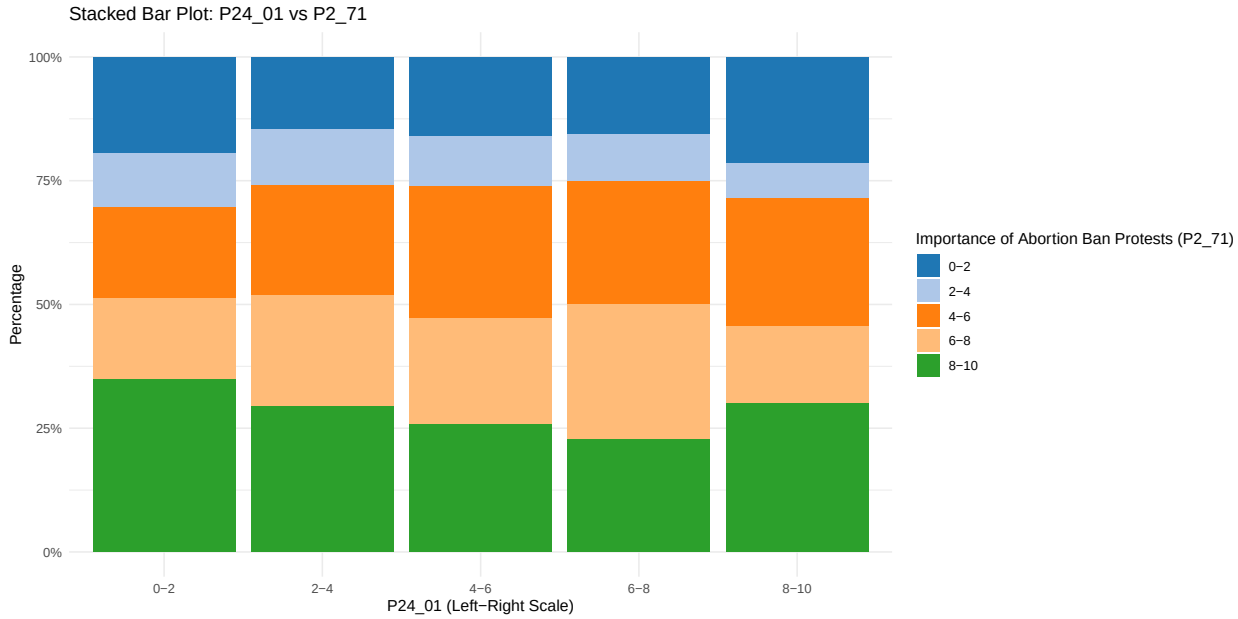


Left wing individuals more often believe pro abortion protests are most important for democracy, compared to their centrist and right-wing counterparts. Conversely, almost 1/4 of those who are far right think that allowing pro abortion protests is not at all important for democracy.

Next, let's check the cross-tabs distribution between the left-right scale and support for anti abortion protests.

```
# Filter out values of '99' and calculate percentages for P24_01 and P2_71
filtered_data_p2_71 <- authlib_data %>%
  filter(P24_01 != 99, P2_71 != 99)

# Create a new variable to categorize P2_71 into five ranges
filtered_data_p2_71 <- filtered_data_p2_71 %>%
  mutate(P2_71_category = cut(P2_71,
                              breaks = c(-Inf, 2, 4, 6, 8, Inf),  # Adjust breaks for 5 categories
                              labels = c("0-2", "2-4", "4-6", "6-8", "8-10")),
         P24_01_category = cut(P24_01,
                               breaks = c(-Inf, 2, 4, 6, 8, Inf),  # Adjust breaks for 5 categories
                               labels = c("0-2", "2-4", "4-6", "6-8", "8-10")))

# Create the stacked bar plot for P24_01 and P2_71 with custom colors
ggplot(filtered_data_p2_71, aes(x = P24_01_category, fill = P2_71_category)) +
```

```
  geom_bar(position = "fill") +  # Use position = "fill" for relative percentages
  scale_y_continuous(labels = scales::percent) +  # Convert y-axis to percentage
  labs(
    x = "P24_01 (Left-Right Scale)",
    y = "Percentage",
    fill = "Importance of Abortion Ban Protests (P2_71)",
    title = "Stacked Bar Plot: P24_01 vs P2_71"
  ) +
  scale_fill_manual(values = c("0-2" = "#1f77b4", "2-4" = "#aec7e8",
                               "4-6" = "#ff7f0e", "6-8" = "#ffbb78",
                               "8-10" = "#2ca02c")) +  # Custom colors
  theme_minimal()
```



Although fewer left-wing individuals tend to assign most importance to allowing anti-abortion protests compared to pro-abortion protests, they still consider these protests more important for democracy than their right-wing counterparts

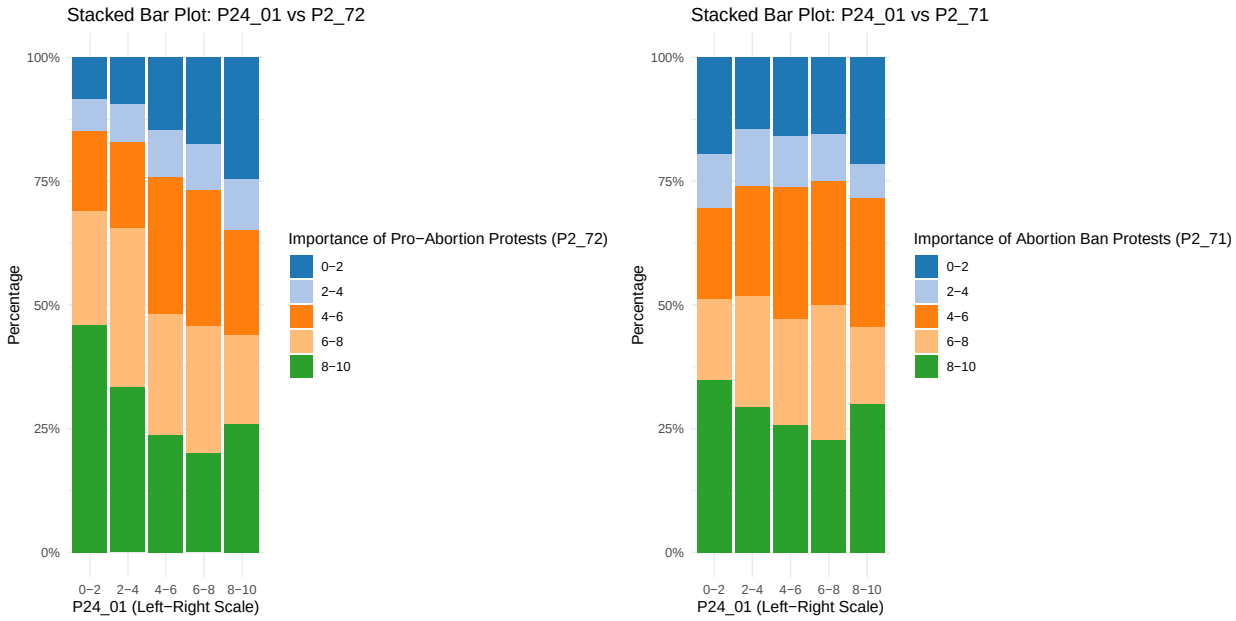
Let's see plots side by side for easier comparison: cross-tabulation of left-right positioning and support for pro/anti abortion protests.

```
install.packages("gridExtra")
```

```
##
## The downloaded binary packages are in
##  /var/folders/4c/svyzmxsn0m10fgjt_441y8tw0000gp/T//RtmpeIU3Xj/downloaded_packages
```

```
# Load the necessary libraries
library(ggplot2)
library(dplyr)
library(gridExtra)

# Create the first stacked bar plot for P24_01 and P2_72
plot1 <- ggplot(filtered_data_p2_72, aes(x = P24_01_category, fill = P2_72_category)) +
```

```r
  geom_bar(position = "fill") +
  scale_y_continuous(labels = scales::percent) +
  labs(
    x = "P24_01 (Left-Right Scale)",
    y = "Percentage",
    fill = "Importance of Pro-Abortion Protests (P2_72)",
    title = "Stacked Bar Plot: P24_01 vs P2_72"
  ) +
  scale_fill_manual(values = c("0-2" = "#1f77b4", "2-4" = "#aec7e8",
                               "4-6" = "#ff7f0e", "6-8" = "#ffbb78",
                               "8-10" = "#2ca02c")) +
  theme_minimal()

# Create the second stacked bar plot for P24_01 and P2_71
plot2 <- ggplot(filtered_data_p2_71, aes(x = P24_01_category, fill = P2_71_category)) +
  geom_bar(position = "fill") +
  scale_y_continuous(labels = scales::percent) +
  labs(
    x = "P24_01 (Left-Right Scale)",
    y = "Percentage",
    fill = "Importance of Abortion Ban Protests (P2_71)",
    title = "Stacked Bar Plot: P24_01 vs P2_71"
  ) +
  scale_fill_manual(values = c("0-2" = "#1f77b4", "2-4" = "#aec7e8",
                               "4-6" = "#ff7f0e", "6-8" = "#ffbb78",
                               "8-10" = "#2ca02c")) +
  theme_minimal()

# Arrange the plots side by side
grid.arrange(plot1, plot2, ncol = 2)
```

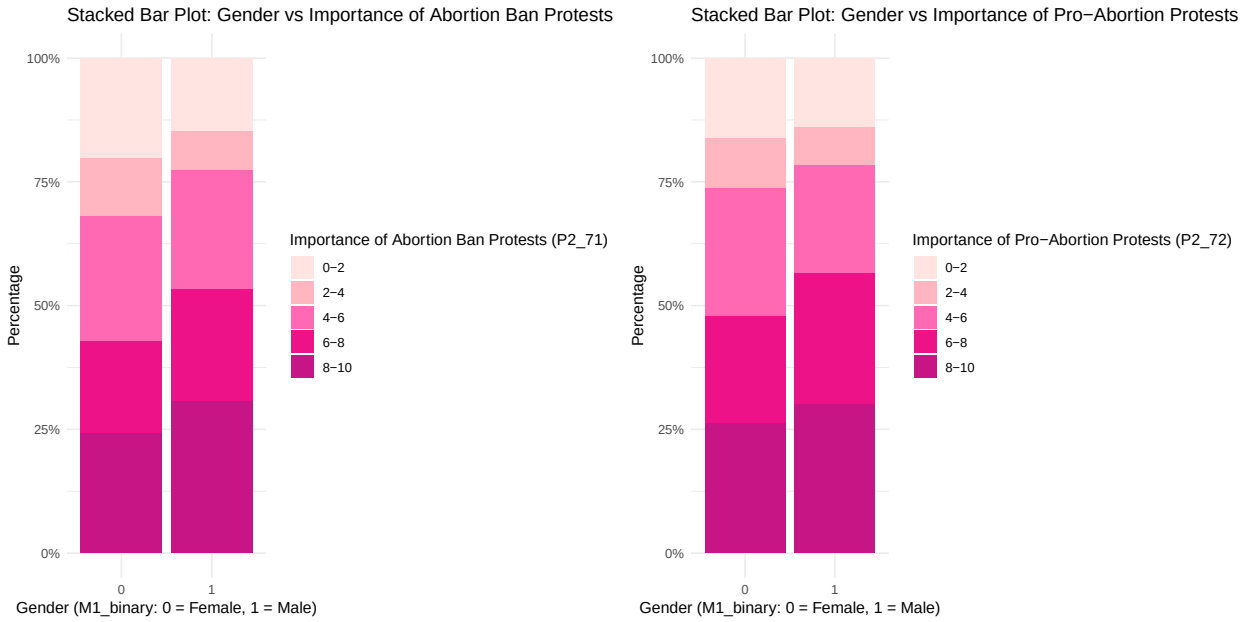


Distribution of gender and abortion items

Let's now look at gender distribution across abortion items.

```r
# Load the necessary library
library(gridExtra)

# Recode M1 to a binary variable (0 = female, 1 = male), excluding other/prefer not to say
authlib_data <- authlib_data %>%
  mutate(M1_binary = ifelse(M1 == 1, 0,
                     ifelse(M1 == 2, 1, NA)))

# Filter out missing values (NA) in M1_binary and P2_71
filtered_data_gender_p2_71 <- authlib_data %>%
  filter(!is.na(M1_binary), !is.na(P2_71))  # Exclude NAs

# Categorize P2_71 into five ranges
filtered_data_gender_p2_71 <- filtered_data_gender_p2_71 %>%
  mutate(P2_71_category = cut(P2_71,
                              breaks = c(-Inf, 2, 4, 6, 8, Inf),  # 5 categories for P2_71
                              labels = c("0-2", "2-4", "4-6", "6-8", "8-10")))

# Create the stacked bar plot with M1_binary and P2_71 (support for anti-abortion protests)
p2_71_plot <- ggplot(filtered_data_gender_p2_71, aes(x = factor(M1_binary), fill = P2_71_category)) +
  geom_bar(position = "fill") +  # Relative percentages (stacked bar)
  scale_y_continuous(labels = scales::percent) +  # Convert y-axis to percentage
  labs(
    x = "Gender (M1_binary: 0 = Female, 1 = Male)",  # Gender categories on the x-axis
    y = "Percentage",
    fill = "Importance of Abortion Ban Protests (P2_71)",  # Legend label
    title = "Stacked Bar Plot: Gender vs Importance of Abortion Ban Protests"
  ) +
  scale_fill_manual(values = c("mistyrose", "lightpink", "hotpink", "deeppink2", "mediumvioletred")) +
  theme_minimal()

# Filter out missing values (NA) and ensure valid entries for P2_72 and M1_binary
filtered_data_gender_p2_72 <- authlib_data %>%
  filter(!is.na(M1_binary), !is.na(P2_72))  # Exclude NAs from M1_binary and P2_72

# Categorize P2_72 into five ranges
filtered_data_gender_p2_72 <- filtered_data_gender_p2_72 %>%
  mutate(P2_72_category = cut(P2_72,
                              breaks = c(-Inf, 2, 4, 6, 8, Inf),  # 5 categories for P2_72
                              labels = c("0-2", "2-4", "4-6", "6-8", "8-10")))

# Create the stacked bar plot with M1_binary and P2_72 (support for pro-abortion protests)
p2_72_plot <- ggplot(filtered_data_gender_p2_72, aes(x = factor(M1_binary), fill = P2_72_category)) +
  geom_bar(position = "fill") +  # Relative percentages (stacked bar)
  scale_y_continuous(labels = scales::percent) +  # Convert y-axis to percentage
  labs(
    x = "Gender (M1_binary: 0 = Female, 1 = Male)",  # Gender categories on the x-axis
    y = "Percentage",
    fill = "Importance of Pro-Abortion Protests (P2_72)",  # Legend label
    title = "Stacked Bar Plot: Gender vs Importance of Pro-Abortion Protests"
```

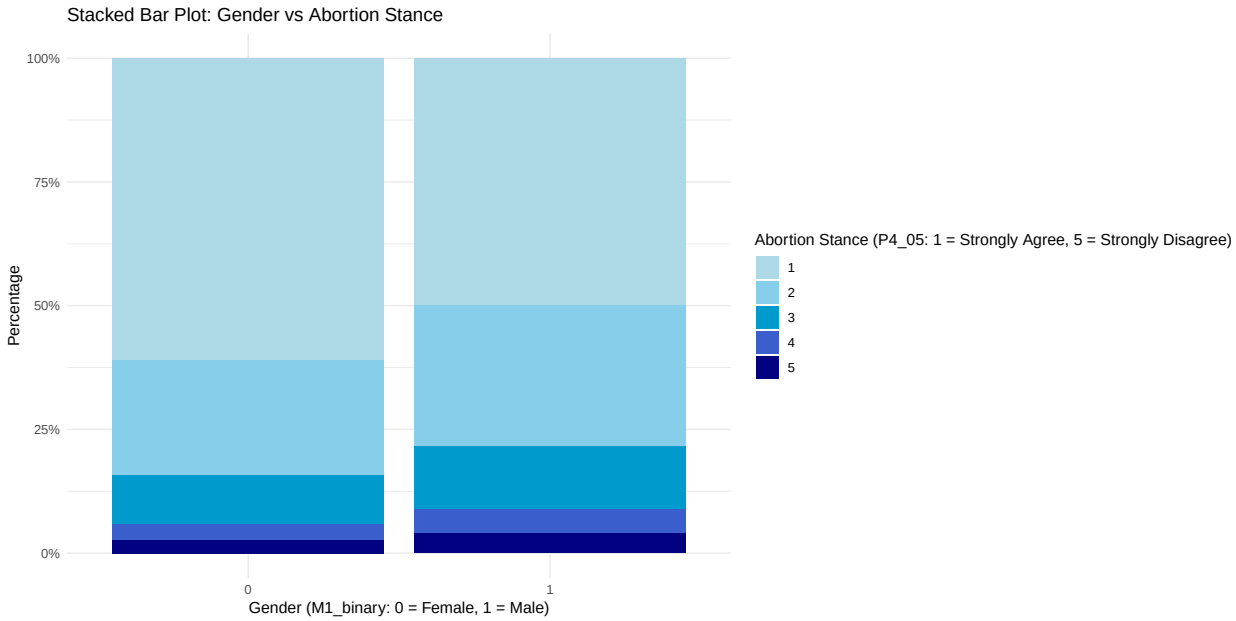
```
  ) +
  scale_fill_manual(values = c("0-2" = "mistyrose", "2-4" = "lightpink",
                               "4-6" = "hotpink", "6-8" = "deeppink2",
                               "8-10" = "mediumvioletred")) +  # Shades of pink
  theme_minimal()

# Arrange the plots side by side
grid.arrange(p2_71_plot, p2_72_plot, ncol = 2)
```



The plots show that men seem to be slightly more likely to believe allowing (both pro and anti) abortion protests is very important for democracy compared to women. Women show similar patterns in responses across both items, and so do men.

Now let's create a stacked bar plot for gender and abortion stance.

```
# Filter out missing values (NA) and ensure valid entries for P4_05 and M1_binary
filtered_data_gender_p4_05 <- authlib_data %>%
  filter(!is.na(M1_binary), !is.na(P4_05))  # Exclude NAs from M1_binary and P4_05

# Create the stacked bar plot with M1_binary and P4_05
ggplot(filtered_data_gender_p4_05, aes(x = factor(M1_binary), fill = factor(P4_05))) +
  geom_bar(position = "fill") +  # Relative percentages (stacked bar)
  scale_y_continuous(labels = scales::percent) +  # Convert y-axis to percentage
  labs(
    x = "Gender (M1_binary: 0 = Female, 1 = Male)",  # Gender categories on the x-axis
    y = "Percentage",
    fill = "Abortion Stance (P4_05: 1 = Strongly Agree, 5 = Strongly Disagree)",  # Legend label
    title = "Stacked Bar Plot: Gender vs Abortion Stance"
  ) +
  scale_fill_manual(values = c("1" = "lightblue", "2" = "skyblue",
                               "3" = "deepskyblue3", "4" = "royalblue3",
                               "5" = "navyblue")) +
  theme_minimal()
```



Women are more likely to strongly agree that women should be free to decide on matters of abortion compared to men and they are also less likely to disagree and strongly disagree.

Regressions

We will first do regressions that include basic control variables, and then expand the model with additional variables to check how stable the results are across different models.

In the first models, let's use:

- Weights (weight)
- Country fixed effects (country)
- Gender (M1); 1 = Female; 2 = Male
- Age (M2_quota)
- Education (M4)
- Religion (M9)
- Political interest (P1) - 1 = very interested; 4 = not at all interested
- Cons/lib scale (P24_02)
- Abortion stance (P4_05) – as the main independent variable
- Importance of allowing anti-abortion protests for democracy (P2_71) – as the dependent variable
- Importance of allowing pro-abortion protests for democracy (P2_72) – as the dependent variable

First, let's set '5' (strongly disagree) as the reference category for P4_05 (abortion stance). The driving premise is that those who agree with abortion ban are more likely to support abortion ban protests than those who are against the abortion ban.

```r
authlib_data <- authlib_data %>%
  mutate(P4_05 = relevel(as.factor(P4_05), ref = "5"))


importance_of_abortion_ban_protest_model <- lm(P2_71 ~ M2_quota + M1_binary + M4 + M9 + P24_02 + P1 + as

summary(importance_of_abortion_ban_protest_model)
```

```
##
## Call:
## lm(formula = P2_71 ~ M2_quota + M1_binary + M4 + M9 + P24_02 +
##     P1 + as.factor(P4_05) + as.factor(country), data = authlib_data,
##     weights = weight)
##
## Weighted Residuals:
##      Min       1Q   Median       3Q      Max
## -13.7451  -1.8084   0.2474   2.2259  12.7239
##
## Coefficients:
##                      Estimate Std. Error t value Pr(>|t|)
## (Intercept)           6.63201    0.53115  12.486  < 2e-16 ***
## M2_quota              0.01999    0.03591   0.557 0.577811
## M1_binary             0.48748    0.11873   4.106 4.14e-05 ***
## M4                    0.14716    0.03322   4.429 9.79e-06 ***
## M9                   -0.16427    0.04469  -3.676 0.000241 ***
## P24_02               -0.02615    0.02511  -1.042 0.297690
## P1                   -0.51178    0.06990  -7.322 3.13e-13 ***
## as.factor(P4_05)1     0.91268    0.33752   2.704 0.006889 **
## as.factor(P4_05)2     0.69706    0.34455   2.023 0.043152 *
## as.factor(P4_05)3     1.02423    0.36184   2.831 0.004677 **
## as.factor(P4_05)4     1.10597    0.43940   2.517 0.011887 *
## as.factor(country)2 -0.60608    0.22787  -2.660 0.007862 **
## as.factor(country)3  0.09328    0.22127   0.422 0.673356
## as.factor(country)4 -1.41677    0.22521  -6.291 3.62e-10 ***
## as.factor(country)5 -0.15517    0.22316  -0.695 0.486917
## as.factor(country)6 -0.10088    0.21951  -0.460 0.645837
## as.factor(country)7  0.06219    0.22307   0.279 0.780416
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 3.124 on 2977 degrees of freedom
##   (4088 observations deleted due to missingness)
## Multiple R-squared:  0.07665,    Adjusted R-squared:  0.07169
## F-statistic: 15.45 on 16 and 2977 DF,  p-value: < 2.2e-16
```

The results indicate that abortion stance is a significant predictor for support for anti-abortion protests, but in a surprising way. It seems that those who are pro abortion are more likely than anti-abortion individuals to believe it important for democracy that anti-abortion protests are allowed.

Results further show that those who are more interested in politics are more likely to believe it important for democracy that anti-abortion protests are allowed. Religiosity and political ideology are negatively correlated with support for anti-abortion protests, meaning that those who are more religious and more left-wing are less likely to believe it important for democracy that anti-abortion protests are allowed. Interestingly, men

are more likely than women to believe it important for democracy that anti-abortion protests are allowed. There can be several reasons for this, one could be that more of them are simply against abortion, and it could be that the issue is not that personal to them so when they disagree they are still more likely to allow them. This should be tested in one of the next models by interaction gender and abortion stance.

Let's run the same model but for pro-abortion protests (P2_72).

```
authlib_data <- authlib_data %>%
  mutate(P4_05 = relevel(as.factor(P4_05), ref = "5"))


importance_of_pro_abortion_protest_model <- lm(P2_72 ~ M2_quota + M1_binary + M4 + M9 + P24_02 + P1 + as

summary(importance_of_pro_abortion_protest_model)
```

```
##
## Call:
## lm(formula = P2_72 ~ M2_quota + M1_binary + M4 + M9 + P24_02 +
##     P1 + as.factor(P4_05) + as.factor(country), data = authlib_data,
##     weights = weight)
##
## Weighted Residuals:
##      Min       1Q   Median       3Q      Max
## -14.4082  -1.5680   0.3746   1.9461   9.5813
##
## Coefficients:
##                      Estimate Std. Error t value Pr(>|t|)
## (Intercept)          5.63915    0.49046  11.498  < 2e-16 ***
## M2_quota            -0.01248    0.03311  -0.377 0.706258
## M1_binary            0.39701    0.11244   3.531 0.000421 ***
## M4                   0.04408    0.03164   1.393 0.163717
## M9                   0.01549    0.04048   0.383 0.702012
## P24_02              -0.16554    0.02457  -6.738 1.93e-11 ***
## P1                  -0.46856    0.06549  -7.154 1.06e-12 ***
## as.factor(P4_05)1    2.82889    0.30942   9.142  < 2e-16 ***
## as.factor(P4_05)2    1.76103    0.31522   5.587 2.53e-08 ***
## as.factor(P4_05)3    0.83713    0.33540   2.496 0.012619 *
## as.factor(P4_05)4    0.28421    0.39157   0.726 0.468020
## as.factor(country)2 -0.32600    0.21439  -1.521 0.128467
## as.factor(country)3  0.05644    0.20698   0.273 0.785133
## as.factor(country)4 -0.03154    0.20985  -0.150 0.880547
## as.factor(country)5 -0.29856    0.20746  -1.439 0.150221
## as.factor(country)6 -0.32010    0.20701  -1.546 0.122139
## as.factor(country)7  0.37390    0.21198   1.764 0.077859 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 2.926 on 2879 degrees of freedom
##   (4186 observations deleted due to missingness)
## Multiple R-squared:  0.144,  Adjusted R-squared:  0.1392
## F-statistic: 30.26 on 16 and 2879 DF,  p-value: < 2.2e-16
```

As expected, individuals who are against abortion are less likely than those who are pro-abortion to believe that allowing pro-abortion protests is important for democracy. Higher political interest, a more liberal orientation, and being male (compared to female) are also positively correlated with the outcome.

Testing whether ideological extremity has an effect on belief that pro and anti abortion protests are allowed

Let's test to see whether IDEOLOGICAL EXTREMITY matters in predicting belief that anti/pro protests are important for democracy.

Using the left-right (L-R) scale, I recode the values so that those ranging from 8 to 10 indicate an extreme right orientation, while values from 0 to 2 will indicate an extreme left orientation. Two new variables are created: one where "not extreme left" is coded as 0 and "extreme left" as 1, and another where "not extreme right" is coded as 0 and "extreme right" as 1.

```
library(dplyr)

# Create new variables in the authlib_data dataset
authlib_data <- authlib_data %>%
  mutate(
    extreme_right = ifelse(P24_01 >= 8 & P24_01 <= 10, 1, 0),
    extreme_left = ifelse(P24_01 >= 0 & P24_01 <= 2, 1, 0)
  )

authlib_data$country <- relevel(as.factor(authlib_data$country), ref = "4") ## making FR a reference ca

extremity_importance_of_pro_abortion_protest_model <- lm(P2_72 ~ M2_quota + as.factor(M1) + M4 + M9 + a

# Display the summary of the regression model
summary(extremity_importance_of_pro_abortion_protest_model)
```

```
##
## Call:
## lm(formula = P2_72 ~ M2_quota + as.factor(M1) + M4 + M9 + as.factor(P4_05) *
##     extreme_left + P1 + as.factor(country), data = authlib_data,
##     weights = weight)
##
## Weighted Residuals:
##      Min       1Q   Median       3Q      Max
## -14.7448  -1.5028   0.3923   1.9667   9.5214
##
## Coefficients:
##                                Estimate Std. Error t value Pr(>|t|)
## (Intercept)                     4.59598    0.47872   9.601  < 2e-16 ***
## M2_quota                       -0.03905    0.03266  -1.196  0.23194
## as.factor(M1)2                  0.36092    0.11158   3.235  0.00123 **
## as.factor(M1)3                  1.13902    0.76550   1.488  0.13688
## as.factor(M1)4                  1.44203    1.98134   0.728  0.46679
## M4                              0.05121    0.03145   1.629  0.10350
## M9                              0.05240    0.03992   1.313  0.18935
## as.factor(P4_05)1               2.67699    0.31400   8.525  < 2e-16 ***
## as.factor(P4_05)2               1.74136    0.32022   5.438 5.83e-08 ***
## as.factor(P4_05)3               0.73654    0.34195   2.154  0.03133 *
## as.factor(P4_05)4               0.01098    0.40300   0.027  0.97826
## extreme_left                    0.01695    1.24397   0.014  0.98913
## P1                             -0.43462    0.06552  -6.633 3.89e-11 ***
## as.factor(country)1            -0.01751    0.20699  -0.085  0.93258
## as.factor(country)2            -0.36011    0.20509  -1.756  0.07922 .
```

```
## as.factor(country)3             0.09730    0.20127   0.483  0.62884
## as.factor(country)5            -0.25416    0.20176  -1.260  0.20787
## as.factor(country)6            -0.34065    0.20011  -1.702  0.08880 .
## as.factor(country)7             0.56746    0.20693   2.742  0.00614 **
## as.factor(P4_05)1:extreme_left  0.99935    1.25732   0.795  0.42678
## as.factor(P4_05)2:extreme_left -0.19856    1.28595  -0.154  0.87730
## as.factor(P4_05)3:extreme_left  0.17500    1.34380   0.130  0.89640
## as.factor(P4_05)4:extreme_left  1.96138    1.53734   1.276  0.20212
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 2.936 on 2953 degrees of freedom
##   (4106 observations deleted due to missingness)
## Multiple R-squared:  0.1378, Adjusted R-squared:  0.1313
## F-statistic: 21.45 on 22 and 2953 DF,  p-value: < 2.2e-16
```

```r
## extremity and abortion ban protests

extremity_importance_of_abortion_ban_protest_model <- lm(P2_71 ~ M2_quota + as.factor(M1) + M4 + M9 + as

# Display the summary of the regression model
summary(extremity_importance_of_abortion_ban_protest_model)
```

```
##
## Call:
## lm(formula = P2_71 ~ M2_quota + as.factor(M1) + M4 + M9 + as.factor(P4_05) *
##     extreme_right + P24_02 + P1 + P2_04 + P2_06 + as.factor(country),
##     data = authlib_data, weights = weight)
##
## Weighted Residuals:
##      Min       1Q   Median       3Q      Max
## -12.9541  -1.7591   0.3542   2.1467  13.0530
##
## Coefficients:
##                                 Estimate Std. Error t value Pr(>|t|)
## (Intercept)                     2.567154   0.681568   3.767 0.000169 ***
## M2_quota                       -0.036314   0.036357  -0.999 0.317962
## as.factor(M1)2                  0.401363   0.119112   3.370 0.000763 ***
## as.factor(M1)3                 -0.130431   0.680827  -0.192 0.848086
## M4                              0.112062   0.033147   3.381 0.000732 ***
## M9                             -0.221266   0.044884  -4.930 8.70e-07 ***
## as.factor(P4_05)1               1.112130   0.419629   2.650 0.008087 **
## as.factor(P4_05)2               1.078690   0.430367   2.506 0.012250 *
## as.factor(P4_05)3               1.390403   0.452299   3.074 0.002131 **
## as.factor(P4_05)4               1.367008   0.555473   2.461 0.013914 *
## extreme_right                   0.392280   0.654206   0.600 0.548802
## P24_02                         -0.004226   0.027317  -0.155 0.877070
## P1                             -0.379145   0.071517  -5.301 1.24e-07 ***
## P2_04                           0.243782   0.031689   7.693 1.96e-14 ***
## P2_06                           0.101929   0.037464   2.721 0.006552 **
## as.factor(country)1             1.204040   0.225461   5.340 1.00e-07 ***
## as.factor(country)2             0.578695   0.223643   2.588 0.009713 **
## as.factor(country)3             1.240328   0.218999   5.664 1.63e-08 ***
## as.factor(country)5             1.171390   0.218208   5.368 8.58e-08 ***
```

```
## as.factor(country)6              1.231460   0.214918   5.730 1.11e-08 ***
## as.factor(country)7              1.149605   0.229291   5.014 5.66e-07 ***
## as.factor(P4_05)1:extreme_right -0.634385   0.680957  -0.932 0.351616
## as.factor(P4_05)2:extreme_right -0.511783   0.707146  -0.724 0.469290
## as.factor(P4_05)3:extreme_right -0.494107   0.748786  -0.660 0.509385
## as.factor(P4_05)4:extreme_right -0.335587   0.912188  -0.368 0.712981
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 3.066 on 2897 degrees of freedom
##   (4160 observations deleted due to missingness)
## Multiple R-squared:  0.108,  Adjusted R-squared:  0.1006
## F-statistic: 14.61 on 24 and 2897 DF,  p-value: < 2.2e-16
```

As we can see, extreme right individuals are not necessarily more likely to believe allowing anti abortion protests is important for democracy than others, as the results aren't significant, and a similar pattern can be observed with extreme left individuals: they are not not more likely to believe allowing pro abortion protests is important for democracy than others. One explanation for the lack of results can be that the abortion issue is not particularly salient as a point of division between the left and right, as the majority supports abortion.

Differences between Eastern and Western Europe?

```r
# Load necessary package
library(dplyr)

# Subset the data for countries 2, 6, and 7
eastern_europe <- authlib_data %>%
  filter(country %in% c(2, 6, 7))

# Display the first few rows of the new dataset to confirm
head(eastern_europe)
```

```
## # A tibble: 6 x 307
##      ID start_interview     stop_interview      interview_duration
##   <dbl> <dttm>              <dttm>              <time>
## 1    13 2024-07-09 11:08:45 2024-07-09 12:01:23 52'38"
## 2    15 2024-07-09 11:08:48 2024-07-09 11:27:40 18'52"
## 3    16 2024-07-09 11:08:49 2024-07-09 11:25:48 16'59"
## 4    17 2024-07-09 11:10:15 2024-07-09 11:28:09 17'54"
## 5    19 2024-07-09 11:10:46 2024-07-09 12:08:56 58'10"
## 6    21 2024-07-09 11:10:57 2024-07-09 11:24:44 13'47"
## # i 303 more variables: interview_duration_s <dbl>, pollsters_sex <dbl+lbl>,
## #   device <dbl+lbl>, technique <dbl+lbl>, country <fct>, M1 <dbl+lbl>,
## #   M2_1 <dbl>, M2_2 <dbl+lbl>, M2_quota <dbl+lbl>, M3PL <dbl+lbl>,
## #   M3GB <dbl+lbl>, M3CZ <dbl+lbl>, M3HU <dbl+lbl>, M3FR <dbl+lbl>,
## #   M3FR_Nuts3 <dbl+lbl>, M3AT <dbl+lbl>, M3IT <dbl+lbl>, M3e <dbl+lbl>,
## #   M3e_quota <dbl+lbl>, M3f <dbl+lbl>, M3f_AT <dbl+lbl>, M4 <dbl+lbl>,
## #   M4_PL <dbl+lbl>, M4_GB <dbl+lbl>, M4_CZ <dbl+lbl>, M4_FR <dbl+lbl>, ...
```

```r
### Let us first check support for pro choice protests

# Assuming P4_05 is a factor variable
eastern_europe <- eastern_europe %>%
  mutate(P4_05 = relevel(as.factor(P4_05), ref = "1"))

eastern_importance_of_pro_abortion_protest_model <- lm(P2_72 ~ M2_quota + M1 + M4 + M9 + P1 + as.factor

# Display the summary of the regression model
summary(eastern_importance_of_pro_abortion_protest_model)
```

```
##
## Call:
## lm(formula = P2_72 ~ M2_quota + M1 + M4 + M9 + P1 + as.factor(P4_05) +
##     P24_02, data = eastern_europe, weights = weight)
##
## Weighted Residuals:
##      Min       1Q   Median       3Q      Max
## -10.7354  -1.7865   0.3928   2.1262   7.7558
##
## Coefficients:
##                   Estimate Std. Error t value Pr(>|t|)
## (Intercept)        9.05775    0.67365  13.446  < 2e-16 ***
## M2_quota          -0.01066    0.05266  -0.202 0.839674
## M1                 0.24198    0.16946   1.428 0.153563
## M4                 0.06030    0.04756   1.268 0.205095
## M9                -0.12963    0.06259  -2.071 0.038541 *
## P1                -0.39535    0.10173  -3.886 0.000107 ***
## as.factor(P4_05)5 -2.78448    0.48050  -5.795 8.67e-09 ***
## as.factor(P4_05)2 -1.29613    0.19863  -6.525 9.90e-11 ***
## as.factor(P4_05)3 -2.23760    0.27292  -8.199 6.04e-16 ***
## as.factor(P4_05)4 -2.07534    0.39161  -5.299 1.38e-07 ***
## P24_02            -0.20522    0.03740  -5.487 4.95e-08 ***
## ---
## Signif. codes:  0 ’***’ 0.001 ’**’ 0.01 ’*’ 0.05 ’.’ 0.1 ’ ’ 1
##
## Residual standard error: 2.996 on 1232 degrees of freedom
##   (1802 observations deleted due to missingness)
## Multiple R-squared:  0.1422, Adjusted R-squared:  0.1352
## F-statistic: 20.42 on 10 and 1232 DF,  p-value: < 2.2e-16
```

```r
## now let's check support for abortion ban protests

eastern_europe <- eastern_europe %>%
  mutate(P4_05 = relevel(as.factor(P4_05), ref = "1"))

# Now, fit the OLS regression model
eastern_importance_of_abortion_ban_protest_model <- lm(P2_71 ~ M2_quota + M1 + M4 + M9 + as.factor(P4_0

# Display the summary of the regression model
summary(eastern_importance_of_abortion_ban_protest_model)
```

```
##
```

```
## Call:
## lm(formula = P2_71 ~ M2_quota + M1 + M4 + M9 + as.factor(P4_05),
##     data = eastern_europe)
##
## Residuals:
##    Min     1Q Median     3Q    Max
## -7.505 -1.932  0.105  2.914  5.079
##
## Coefficients:
##                    Estimate Std. Error t value Pr(>|t|)
## (Intercept)         5.21348    0.57558   9.058  < 2e-16 ***
## M2_quota            0.08862    0.05361   1.653 0.098520 .
## M1                  0.61923    0.16926   3.659 0.000263 ***
## M4                  0.14991    0.04751   3.155 0.001638 **
## M9                 -0.20669    0.06399  -3.230 0.001265 **
## as.factor(P4_05)5 -0.29462    0.47254  -0.623 0.533063
## as.factor(P4_05)2 -0.09160    0.21101  -0.434 0.664281
## as.factor(P4_05)3 -0.05844    0.26214  -0.223 0.823611
## as.factor(P4_05)4 -0.11369    0.43937  -0.259 0.795853
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 3.257 on 1450 degrees of freedom
##   (1586 observations deleted due to missingness)
## Multiple R-squared:  0.02563,    Adjusted R-squared:  0.02026
## F-statistic: 4.768 on 8 and 1450 DF,  p-value: 8.451e-06
```

Now let's check the differences between East and West using a different method, by creating a new variable from the country variable and naming it 'region'.

```
# Creating a new variable for Eastern vs Western countries

authlib_data$region <- ifelse(authlib_data$country %in% c(1, 3, 4, 5), 1, 0)

# 1 for Western, 0 for Eastern

# Now let's run the regression, first with support for abortion ban protests as DV

region_importance_of_abortion_ban_protest_model <- lm(P2_71 ~ M2_quota + M1_binary + M4 + M9 + P24_02 +

summary(region_importance_of_abortion_ban_protest_model)
```

```
##
## Call:
## lm(formula = P2_71 ~ M2_quota + M1_binary + M4 + M9 + P24_02 +
##     P1 + as.factor(P4_05) + region, data = authlib_data, weights = weight)
##
## Weighted Residuals:
##      Min       1Q   Median       3Q      Max
## -13.6725  -1.8358   0.2549   2.2907  11.7609
##
## Coefficients:
##                    Estimate Std. Error t value Pr(>|t|)
```

```
## (Intercept)        7.06485    0.52118  13.555  < 2e-16 ***
## M2_quota           0.02936    0.03623   0.811   0.4177
## M1_binary          0.47986    0.11991   4.002 6.44e-05 ***
## M4                 0.13420    0.03318   4.045 5.36e-05 ***
## M9                -0.21095    0.04273  -4.937 8.38e-07 ***
## P24_02            -0.05420    0.02501  -2.167   0.0303 *
## P1                -0.55262    0.06979  -7.918 3.38e-15 ***
## as.factor(P4_05)1  0.78581    0.33756   2.328   0.0200 *
## as.factor(P4_05)2  0.59423    0.34481   1.723   0.0849 .
## as.factor(P4_05)3  0.90913    0.36394   2.498   0.0125 *
## as.factor(P4_05)4  1.03524    0.44360   2.334   0.0197 *
## region            -0.16416    0.12001  -1.368   0.1714
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 3.158 on 2982 degrees of freedom
##   (4088 observations deleted due to missingness)
## Multiple R-squared:  0.05496,    Adjusted R-squared:  0.05147
## F-statistic: 15.77 on 11 and 2982 DF,  p-value: < 2.2e-16
```

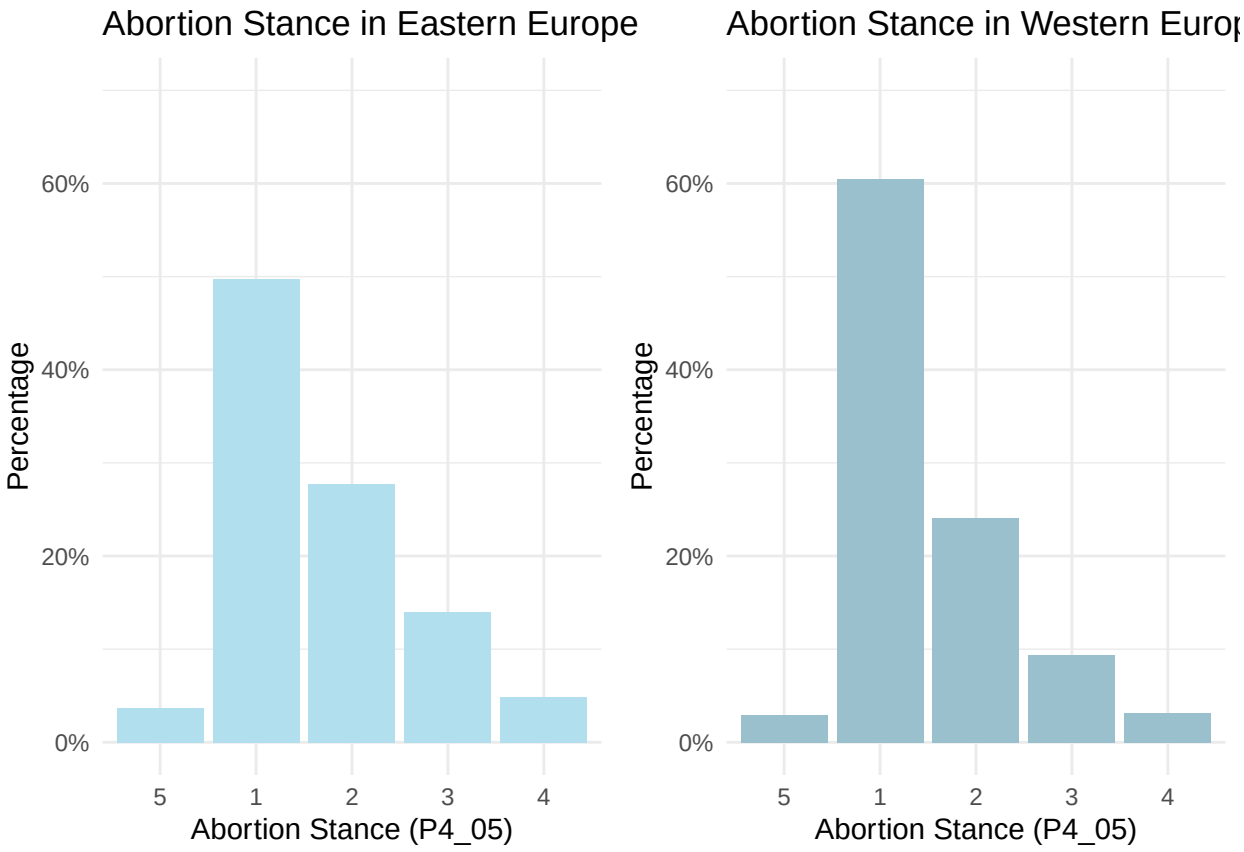
```r
## And now with support for pro abortion protests as DV

region_importance_of_pro_abortion_protest_model <- lm(P2_72 ~ M2_quota + M1_binary + M4 + M9 + P24_02 +

summary(region_importance_of_pro_abortion_protest_model)
```

```
##
## Call:
## lm(formula = P2_72 ~ M2_quota + M1_binary + M4 + M9 + P24_02 +
##     P1 + as.factor(P4_05) + region, data = authlib_data, weights = weight)
##
## Weighted Residuals:
##      Min       1Q   Median       3Q      Max
## -15.0294  -1.5806   0.3848   1.9661   9.2694
##
## Coefficients:
##                   Estimate Std. Error t value Pr(>|t|)
## (Intercept)        5.84949    0.48526  12.054  < 2e-16 ***
## M2_quota          -0.01125    0.03310  -0.340 0.733961
## M1_binary          0.40802    0.11242   3.629 0.000289 ***
## M4                 0.04236    0.03128   1.354 0.175736
## M9                -0.02479    0.03890  -0.637 0.524059
## P24_02            -0.17981    0.02422  -7.423 1.50e-13 ***
## P1                -0.47520    0.06524  -7.283 4.18e-13 ***
## as.factor(P4_05)1  2.82822    0.30910   9.150  < 2e-16 ***
## as.factor(P4_05)2  1.76396    0.31474   5.605 2.28e-08 ***
## as.factor(P4_05)3  0.84397    0.33567   2.514 0.011981 *
## as.factor(P4_05)4  0.37358    0.39152   0.954 0.340071
## region             0.02453    0.11212   0.219 0.826814
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 2.932 on 2884 degrees of freedom
##   (4186 observations deleted due to missingness)
```

```
## Multiple R-squared:  0.1387, Adjusted R-squared:  0.1355
## F-statistic: 42.24 on 11 and 2884 DF,  p-value: < 2.2e-16
```

Testing for regional differences produces non-significant results.

```r
# Load the necessary libraries
library(ggplot2)
library(gridExtra)

# Subset the data for countries 2, 6, and 7
eastern_europe <- authlib_data %>%
  filter(country %in% c(2, 6, 7))

western_europe <- authlib_data %>%
  filter(country %in% c(1, 3, 4, 5))

# Calculate the percentage distribution for P4_05 in Eastern Europe, removing NAs
eastern_europe_percent <- eastern_europe %>%
  filter(!is.na(P4_05)) %>%  # Remove NAs
  group_by(P4_05) %>%
  summarise(count = n()) %>%
  mutate(percentage = count / sum(count))

# Create the histogram for Eastern Europe
eastern_histogram <- ggplot(eastern_europe_percent, aes(x = factor(P4_05, levels = sort(unique(P4_05)))
  geom_bar(stat = "identity", fill = "lightblue2") +  # Rust color for Eastern Europe
  scale_y_continuous(labels = scales::percent_format(accuracy = 1), limits = c(0, 0.7)) +  # Set y-axis
  labs(
    x = "Abortion Stance (P4_05)",
    y = "Percentage",
    title = "Abortion Stance in Eastern Europe"
  ) +
  theme_minimal()

# Calculate the percentage distribution for P4_05 in Western Europe, removing NAs
western_europe_percent <- western_europe %>%
  filter(!is.na(P4_05)) %>%  # Remove NAs
  group_by(P4_05) %>%
  summarise(count = n()) %>%
  mutate(percentage = count / sum(count))

# Create the histogram for Western Europe
western_histogram <- ggplot(western_europe_percent, aes(x = factor(P4_05, levels = sort(unique(P4_05)))
  geom_bar(stat = "identity", fill = "lightblue3") +  # Different nuance of rust color for Western Euro
  scale_y_continuous(labels = scales::percent_format(accuracy = 1), limits = c(0, 0.7)) +  # Set y-axis
  labs(
    x = "Abortion Stance (P4_05)",
    y = "Percentage",
    title = "Abortion Stance in Western Europe"
  ) +
  theme_minimal()

# Arrange the histograms side by side
grid.arrange(eastern_histogram, western_histogram, ncol = 2)
```



We observe notable differences in responses between Eastern and Western Europe. In Western Europe, approximately 60% strongly agree that women should have the freedom to make decisions regarding abortion, whereas in Eastern Europe, this figure is around 50%. Additionally, slightly more individuals in Eastern Europe either somewhat disagree or remain ambivalent compared to their counterparts in Western Europe.