Survey Analysis

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Section 1: Interval, Ordinal, & Ratio Statistics

Displayed below are specific descriptive statistics for each variable specified.

```r
# Loop through each variable and calculate mean and standard deviation
for (var in variables) {
  # Check if the variable exists in the data.frame
  if (var %in% colnames(data)) {
    # Calculate mean and standard deviation
    mean_value <- mean(data[[var]], na.rm = TRUE)
    sd_value <- sd(data[[var]], na.rm = TRUE)
    range_value <- range(data[[var]], na.rm = TRUE)
    mode_value <- Mode(data[[var]], na.rm = TRUE)

    # Store the results in the list
    results[[var]] <- list(mean = mean_value, sd = sd_value,
                           range = range_value, Mode = mode_value)
  } else {
    # If the variable doesn't exist, print a warning message
    cat(paste("Warning: Variable", var, "not found in the data.\n"))
  }
}

# Print the results
for (var in variables) {
  if (!is.null(results[[var]])) {
    cat(paste(var, "- Mean:", paste(format(round(results[[var]]$mean, 4), nsmall = 4)),
              "| Standard Deviation:", paste(format(round(results[[var]]$sd, 4), nsmall = 4)),
              "| Range:", paste(results[[var]]$range, collapse = " to "),
              "| Mode:", paste(results[[var]]$Mode, collapse = " and ")), "\n", "\n")
  }
}
```

Are you registered to vote? - Mean: 1.7073 | Standard Deviation: 0.8730 | Range: 1 to 4 | Mode: 1

Does your major influence/effect your political participation? - Mean: 2.9756 | Standard Deviation: 1.5246 | Range: 1 to 5 | Mode: 1 and 5

How often do you view political news? - Mean: 3.0000 | Standard Deviation: 1.1180 | Range: 1 to 5 | Mode: 2 and 3

How likely are you to vote in the next election? - Mean: 3.5610 | Standard Deviation: 1.4841 | Range: 1 to 5 | Mode: 5

Section 2: Bivariate Correlation (Pearson's R)

Displayed below is the bivariate correlation test for Pearson's R:

```
cor.test(data$`How often do you view political news?`,
         data$`How likely are you to vote in the next election?`,
         alternative = "greater", method = c("pearson"))
```

```
##
##  Pearson's product-moment correlation
##
## data:  data$`How often do you view political news?` and data$`How likely are you to vote in the next
## t = 3.4369, df = 39, p-value = 0.000706
## alternative hypothesis: true correlation is greater than 0
## 95 percent confidence interval:
##   0.2533155 1.0000000
## sample estimates:
##      cor
## 0.482151
```

From these results, we can determine there is a moderate positive correlation that is statistically significant (p<0.05).