

# Canadian Elections 2021

AUTHOR

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Github Link: <https://github.com/JanelGilani/sta302-tutorials>

```
#### Preamble ####
# Purpose: Read in data from the 2021 Canadian Election and make
# a graph of the number of seats each party won.
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# Prerequisites: Know where to get Canadian elections data.
```

```
#### Workspace setup ####
#install.packages("tidyverse")
#install.packages("janitor")
```

```
library(tidyverse)
```

```
— Attaching core tidyverse packages — tidyverse 2.0.0 —
✓ dplyr      1.1.4      ✓ readr      2.1.4
✓ forcats    1.0.0      ✓ stringr    1.5.1
✓ ggplot2    3.4.4      ✓ tibble     3.2.1
✓ lubridate  1.9.3      ✓ tidyr      1.3.0
✓ purrr      1.0.2

— 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 to become errors
```

```
library(janitor)
```

Attaching package: 'janitor'

The following objects are masked from 'package:stats':

chisq.test, fisher.test

```
simulated_data <-
  tibble(
    "Division" = 1:338,
    "Party" = sample(
      x = c("Liberal", "Conservative", "Bloc Québécois", "New Democratic", "Green", "Othe
```

```

    size = 338,
    replace = TRUE
  )
)

simulated_data

```

```
# A tibble: 338 × 2
```

```

  Division Party
  <int> <chr>
1      1 Other
2      2 Other
3      3 New Democratic
4      4 Conservative
5      5 Bloc Québécois
6      6 Liberal
7      7 New Democratic
8      8 Other
9      9 New Democratic
10     10 New Democratic
# i 328 more rows

```

```

#### Basic cleaning ####
raw_elections_data <-
  read_csv(
    file = "table_tableau11.csv",
    show_col_types = FALSE
  )

```

```

# Make the names easier to type
cleaned_elections_data <-
  clean_names(raw_elections_data)

# Have a look at the first six rows
head(cleaned_elections_data)

```

```
# A tibble: 6 × 13
```

```

  province      electoral_district_n...1 electoral_district_n...2 population
  <chr>          <chr>                                <dbl>      <dbl>
1 Newfoundland and Lab... Avalon                                10001      86494
2 Newfoundland and Lab... Bonavista--Burin--Tri... 10002      74116
3 Newfoundland and Lab... Coast of Bays--Centra... 10003      77680
4 Newfoundland and Lab... Labrador                        10004      27197
5 Newfoundland and Lab... Long Range Mountains     10005      86553
6 Newfoundland and Lab... St. John's East/St. J... 10006      85697
# i abbreviated names: 1electoral_district_name_nom_de_circonscription,
# 2electoral_district_number_numero_de_circonscription
# i 9 more variables: electors_electeurs <dbl>,

```

```
# polling_stations_bureaux_de_scrutin <dbl>,
# valid_ballots_bulletins_valides <dbl>,
# percentage_of_valid_ballots_pourcentage_des_bulletins_valides <dbl>,
# rejected_ballots_bulletins_rejetes <dbl>, ...
```

```
cleaned_elections_data <-
  cleaned_elections_data |>
  select(
    electoral_district_name_nom_de_circonscription,
    elected_candidate_candidat_elu
  )

head(cleaned_elections_data)
```

```
# A tibble: 6 × 2
  electoral_district_name_nom_de_circonscription elected_candidate_candidat_elu
  <chr>                                           <chr>
1 Avalon                                         McDonald, Ken Liberal/Libéral
2 Bonavista--Burin--Trinity                    Rogers, Churence Liberal/Libér...
3 Coast of Bays--Central--Notre Dame          Small, Clifford Conservative/C...
4 Labrador                                       Jones, Yvonne Liberal/Libéral
5 Long Range Mountains                         Hutchings, Gudie Liberal/Libér...
6 St. John's East/St. John's-Est               Thompson, Joanne Liberal/Libér...
```

```
cleaned_elections_data <-
  cleaned_elections_data |>
  rename(
    district = electoral_district_name_nom_de_circonscription,
    elected_candidate = elected_candidate_candidat_elu
  )

head(cleaned_elections_data)
```

```
# A tibble: 6 × 2
  district                                           elected_candidate
  <chr>                                           <chr>
1 Avalon                                         McDonald, Ken Liberal/Libéral
2 Bonavista--Burin--Trinity                    Rogers, Churence Liberal/Libéral
3 Coast of Bays--Central--Notre Dame          Small, Clifford Conservative/Conservateur
4 Labrador                                       Jones, Yvonne Liberal/Libéral
5 Long Range Mountains                         Hutchings, Gudie Liberal/Libéral
6 St. John's East/St. John's-Est               Thompson, Joanne Liberal/Libéral
```

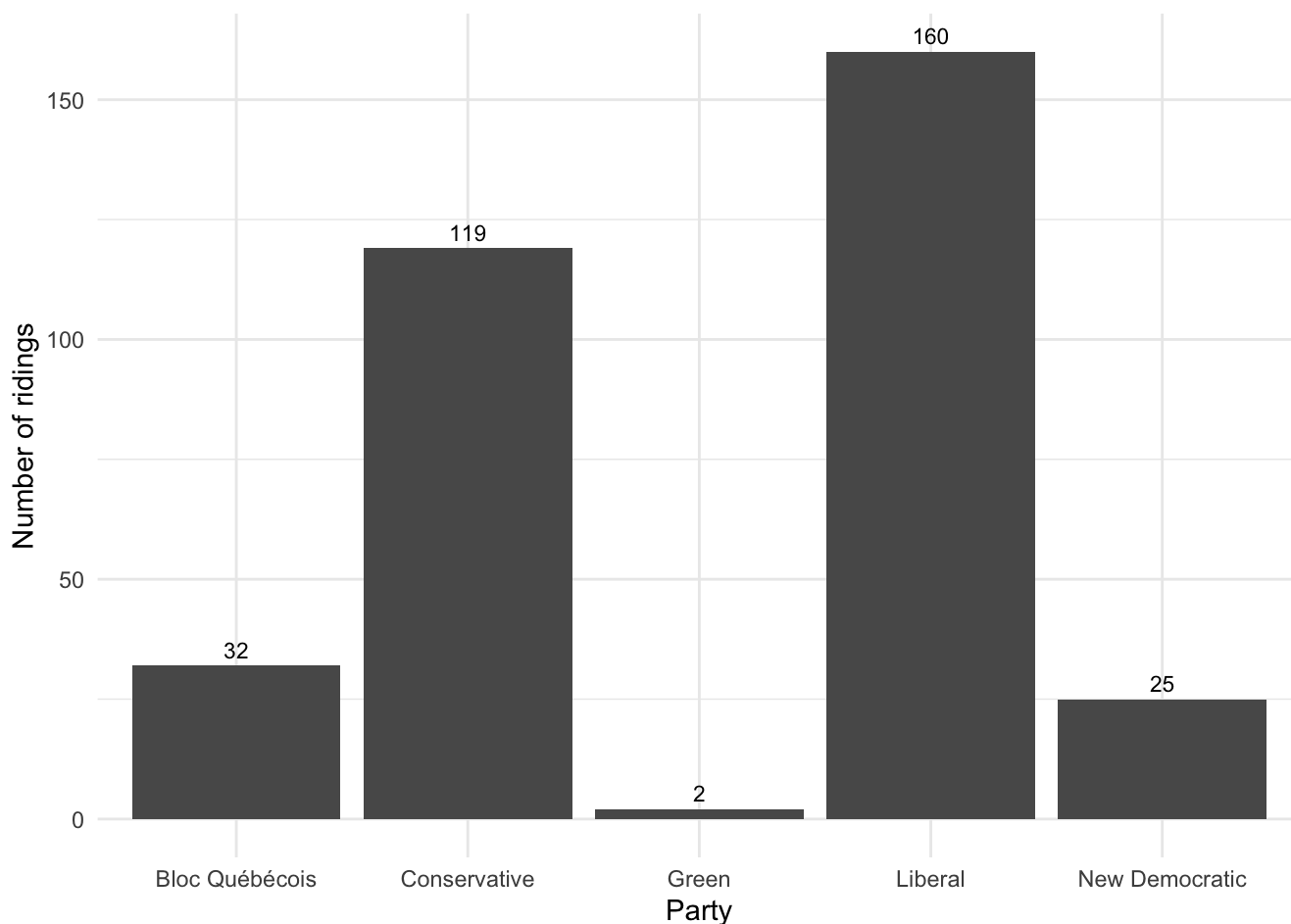
```
cleaned_elections_data <-
  cleaned_elections_data |>
  separate(
    col = elected_candidate,
    into = c("Other", "party"),
    sep = "/"
```

```
) |>
select(-Other)
```

```
cleaned_elections_data <- cleaned_elections_data |>
  mutate(
    party = recode(
      party,
      "Libéral" = "Liberal",
      "Conservateur" = "Conservative",
      "Bloc Québécois" = "Bloc Québécois",
      "NPD-Nouveau Parti démocratique" = "New Democratic",
      "Parti Vert" = "Green",
      "Autre" = "Other"
    )
  )
head(cleaned_elections_data)
```

```
# A tibble: 6 × 2
  district                party
  <chr>                  <chr>
1 Avalon                Liberal
2 Bonavista--Burin--Trinity Liberal
3 Coast of Bays--Central--Notre Dame Conservative
4 Labrador              Liberal
5 Long Range Mountains  Liberal
6 St. John's East/St. John's-Est Liberal
```

```
cleaned_elections_data |>
  ggplot(aes(x = party)) +
  geom_bar() +
  geom_text(stat='count', aes(label=after_stat(count)), vjust=-0.5, size=3) + # Add text
  theme_minimal() +
  labs(x = "Party", y = "Number of ridings")
```



#### Analysis:

Canada operates under a parliamentary democracy with 338 seats in the House of Commons, serving as the lower house and pivotal for government formation. In the 2021 Federal Election, the political landscape featured two dominant parties—"Liberal" and "Conservative"—alongside three minor parties—"Bloc Québécois," "New Democratic," and "Green"—in addition to numerous smaller parties and independent candidates.

A graphical representation showcasing the seat distribution among the various political entities reveals a distinct pattern (Figure above). The Liberal Party secured a notable victory with 160 seats, positioning itself as the leading party. Following closely, the Conservative Party claimed 119 seats, cementing its substantial presence in the House of Commons. The minor parties obtained the following number of seats: Bloc Québécois acquired 32 seats, New Democratic gained 25 seats, while the Green Party secured 2 seats. Notably, other smaller parties didn't secure any seats in this election.

The allocation of seats underscores a clear dominance by the two major parties, potentially indicative of established voter preferences or possibly influenced by existing advantages, such as national recognition or financial support. Understanding the underlying reasons for this distribution warrants further investigation in subsequent studies.

It's worth acknowledging that while the dataset encompasses the majority of voters, Canada exhibits systemic exclusions from voting, presenting varying degrees of difficulty for different demographics to participate in the electoral process.

