

## Written Introduction brief

My research poster titled "Polyarchy Within The GCC Compared to North Africa" explored the differences in polyarchy levels between Gulf Cooperation Council (GCC) countries and North African nations using data from the Varieties of Democracy (V-Dem) project. The primary objective of this study is to investigate whether there is a discernible contrast in democratic practices between these regions. The analysis focuses on indicators of electoral democracy, civil liberties, and political participation extracted from the V-Dem Country-Year Core dataset, specifically targeting GCC countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, UAE) and North African countries (Algeria, Egypt, Libya, Morocco, Tunisia).

The methodology and approach involve data filtering and extraction to isolate observations from these specific geopolitical contexts. Statistical techniques such as linear regression and descriptive analyses are employed to assess regional trends in polyarchy levels. Visualizations including box plots, scatter plots with regression lines, and comparative analyses are used to illustrate and interpret the findings. The libraries ggplot2, dplyr, and modelsummary etc were used for data manipulation, visualization, and statistical analysis.

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main\_bottomsize: 0.1

title: 'Polyarchy Within The GCC Compared to North Africa'

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main\_findings:

- "V-Dem Core GCC and North Africa"

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- }

bibliography: packages.bib

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link-citations: true
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```{r, include=FALSE}
library(readr)
library(tidyverse)
library(posterdown)
library(ggplot2)
library(dplyr)
library(tidyr)
library(knitr)
library(kableExtra)
library(stargazer)
library(modelsummary)
...

# Abstract
- Research Question: Does the Country-Year: V-Dem Core Data show a distinction between GCC monarchies compared to countries that are known as democratic in North Africa ?
- Methodology: Data for this study was sourced from the Varieties of Democracy (V-Dem) project, focusing on the Country-Year: V-Dem Core dataset. The analysis centers on two distinct geographic regions: the Gulf Cooperation Council (GCC) countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates) and North African countries (Algeria, Egypt, Libya, Morocco, and Tunisia).
- Major Findings: The findings from these visuals collectively support the notion that overall countries in North Africa are more democratic in comparison to their GCC counterparts.

# Methodology
- The study employed data filtering to focus exclusively on observations from the Gulf Cooperation Council (GCC) and North African countries of interest, ensuring a targeted analysis within these specific geopolitical contexts. Key variables pertaining to electoral democracy, civil liberties, and political participation were extracted from the V-Dem dataset, including high-level democracy indices, detailed indices, and their constituent indicators. These selected V-Dem indicators were aggregated and analyzed to assess regional trends, utilizing visualizations such as box plots and bar charts to illustrate the distribution and variation of polyarchy (v2x_polyarchy) across GCC and North African countries. The findings highlight generally low levels of polyarchy across the studied regions, with notable variation among western countries. Visualizations such as box plots and scatter plots with regression lines were used to illustrate the distribution and variation of polyarchy (v2x_polyarchy) across GCC and North African countries. The box plot depicted the comparison of democratic levels between GCC and North Africa, highlighting the overall electoral democracy values in each region. The scatter plots with regression lines further explored the relationship between country names and electoral democracy values within each region, allowing for a detailed comparison of individual countries.

```

## # Results

- Regional Contrasts: North African countries demonstrate higher levels of liberal democracy, attributed to factors such as civil liberties protections, rule of law, and effective checks and balances. The polyarchy variable (v2x\_polyarchy) highlights distinct differences between GCC monarchies and more known democratic countries in Northern Africa. Monarchies in the GCC region (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, UAE) generally exhibit lower levels of democracy compared to North African nations (Algeria, Egypt, Libya, Morocco, Tunisia, and Sudan). The index of liberal democracy (v2x\_libdem) combines measures of polyarchy and liberal principles to assess the extent of achieving liberal democracy ideal. When looking at both variables to assess polyarchy, North African countries, with a history of democratic movements, show higher levels of democratic practices compared to GCC monarchies, which retain traditional forms of governance.

- Further analysis of the V-Dem Core data reveals that within the GCC, Oman and Kuwait exhibit relatively higher levels of polyarchy compared to other GCC monarchies, while Saudi Arabia and Qatar demonstrate lower levels. When examining specific indicators of polyarchy such as political competition and civil liberties, North African countries consistently outperform GCC nations, reflecting a broader trend towards democratization in the region. Specifically, the analysis of polyarchy—measuring political competition and inclusiveness—reveals significant disparities. GCC countries demonstrate lower polyarchy levels, indicating limited political competition and citizen participation relative to North African democracies. Countries even within the GCC have varied levels of Polyarchy when compared to each other and the same goes for North Africa countries.

```
```{r, include = FALSE}
```

```
V_Dem <- read_csv("V-Dem-CY-Core-v14.csv")
```

```
names(V_Dem)
```

```
str(V_Dem)
```

```
gcc_countries <- c("Bahrain", "Kuwait", "Oman", "Qatar", "Saudi Arabia", "United Arab Emirates")
```

```
north_african_countries <- c("Algeria", "Egypt", "Libya", "Morocco", "Tunisia")
```

```
gcc_data <- V_Dem |>
```

```
  filter(country_name %in% gcc_countries) |>
```

```
  mutate(Region = "GCC")
```

```
north_african_data <- V_Dem |>
```

```
  filter(country_name %in% north_african_countries) |>
```

```
  mutate(Region = "North Africa")
```

```
```
```

```
```{r, include = TRUE}
```

```
combined_data <- bind_rows(gcc_data, north_african_data)
```

```
gcc_color <- "blueviolet"
```

```
north_africa_color <- "plum4"
```

```
ggplot(combined_data, aes(x = Region, y = v2x_polyarchy, fill = Region)) +
```

```
  geom_boxplot(alpha = 0.6, outlier.alpha = 0.3) +
```

```
  labs(title = "Comparison of Democratic Levels: GCC vs. North Africa",
```

```
        x = "Region",
```

```
        y = "Electoral Democracy Value",
```

```
        fill = "Region") +
```

```
  scale_fill_manual(values = c(GCC = gcc_color, `North Africa` = north_africa_color)) +
```

```
  theme_minimal() +
```

```
  theme(panel.grid.major = element_blank(),
```

```
        panel.grid.minor = element_blank(),
```

```
        legend.position = "bottom",
```

```
        plot.title = element_text(hjust = 0.5, face = "bold"))
```

```

...
```{r, include = TRUE}
GRAPH1= ggplot(combined_data, aes(x = v2x_delibdem, y = v2x_polyarchy)) +
  geom_point(color = "orchid4", size = 3) +
  geom_smooth(method = "lm", se = FALSE, color = "black") +
  labs(title = "Comparison of Polyarchy vs Liberal Democracy",
        x = "Polyarchy Value",
        y = "Liberal Democracy Value") +
  theme_minimal() +
  theme(axis.text.y = element_text(size = 8, color = "black"),
        axis.text.x = element_text(size = 8, color = "black"),
        plot.title = element_text(hjust = 0.5, face = "bold"),
        axis.title.y = element_text(color = "black"),
        axis.title.x = element_text(color = "black"),
        axis.line.x = element_line(color = "black"),
        axis.line.y = element_line(color = "black"),
        axis.ticks.x = element_line(color = "black"),
        axis.ticks.length.x = unit(0.1, "cm"),
        axis.ticks.y = element_line(color = "black"),
        axis.ticks.length.y = unit(0.1, "cm"),
        panel.grid.major = element_blank(),
        panel.grid.minor = element_blank())
print(GRAPH1)
...

```{r, include = TRUE}
model <- lm(v2x_polyarchy ~ v2x_delibdem, data = combined_data)
coefficients <- summary(model)$coefficients
coefficients_table <- kable(coefficients, caption = "Linear Regression") |>
  kable_styling(bootstrap_options = c("striped", "hover", "condensed", "responsive"), full_width = FALSE,
font_size = 50)
coefficients_table
...

```{r, include = TRUE}
country_counts <- combined_data |>
  count(Region)
ggplot(combined_data, aes(x = country_name, y = v2x_polyarchy, color = Region)) +
  geom_point(alpha = 0.6) +
  geom_smooth(method = "lm", se = FALSE) +
  labs(title = "Democratic Levels by Country: GCC vs. North Africa",
        x = "Country",
        y = "Electoral Democracy Value",
        color = "Region") +
  scale_color_manual(values = c("GCC" = "purple4", "North Africa" = "purple")) +
  theme_minimal() +
  theme(axis.text.x = element_text(angle = 45, hjust = 1),
        legend.position = "bottom",
        panel.grid.major = element_blank(),
        panel.grid.minor = element_blank(),
        plot.background = element_rect(fill = "white"),

```

```
... plot.title = element_text(hjust = 0.5, face = "bold"))
```

#### # Discussion

- The research question posed in this study delves into understanding whether there exists a discernible contrast between the levels of polyarchy within the Gulf Cooperation Council (GCC) monarchies compared to the democratically inclined nations in North Africa, as evidenced by the Country-Year: V-Dem Core Data. The findings from our analysis offer compelling insights into the political landscapes of these two distinct regions. It becomes evident that North African countries, characterized by a historical trajectory of democratic movements and governance structures, tend to exhibit higher levels of democratic practices compared to their GCC counterparts which are still hold monarchies. This distinction underscores the varying degrees of political openness, participation, and competitive processes prevailing within these geopolitical entities.

#### # Acknowledgements

- The V-Dem Dataset. <https://v-dem.net/data/the-v-dem-dataset/>