# Unveiling Echo Chambers on YouTube: Analyzing Political Discourse and Social Dynamics Through Advanced Quantitative Methods

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# 1 Unveiling Echo Chambers on YouTube: Analyzing Political Discourse and Social Dynamics Through Advanced Quantitative Methods

## Executive Summary

(150 words) – 0.3 POINTS Summarize the report. Write this as the very last thing.

What is the main topic you are addressing?

what are your research questions and hypotheses?

what are your results and the main conclusion?

## 2 Introduction

Research on social media platforms, such as Twitter and Facebook, extensively explores echo chambers - environments where individuals connect with like-minded peers, reinforcing selective exposure to information aligning with their beliefs (Cinelli, De Francisci Morales, Galeazzi, Quattrociocchi, & Starnini, 2021). These principles, observed on social media platforms marked by informational homogeneity, apply to broader political discourse and policy debates (Jasny, Waggle, & Fisher, 2015). This suggests that the mechanisms of selective exposure observed in social media echo chambers may extend to diverse communication networks (Colleoni, Rozza, & Arvidsson, 2014). In the political domain, these tendencies contribute to polarization and extreme political positions (Colleoni et al., 2014). This harms social cohesion and trust, challenging finding common ground between political parties (McCoy & Somer, 2019) and shaping public discourse across diverse communication networks (Levy & Razin, 2019). Despite extensive research on platforms such as Twitter, the impact of echo chambers on YouTube, the second-largest social platform, remains understudied. YouTube's unique structure and user interaction patterns, distinct from platforms like Twitter, may pose challenges in recognizing and understanding echo chambers on this platform.

# 3 Methodology

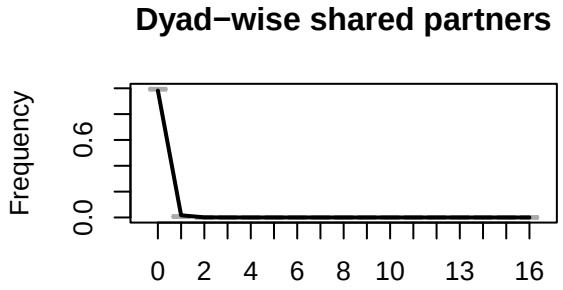
## 3.1 Dataset

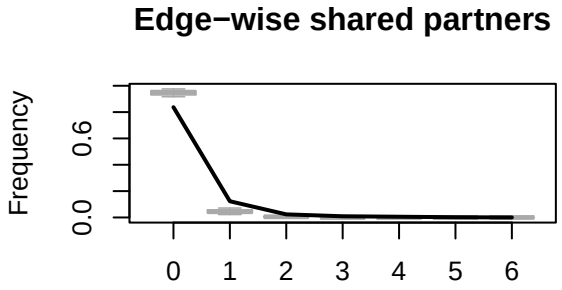
## 3.2 Research Rationale

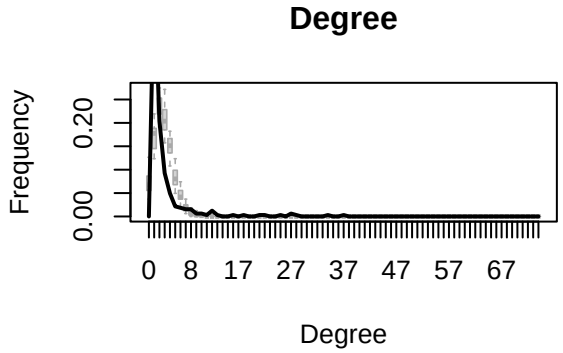
# 4 Results and Discussion

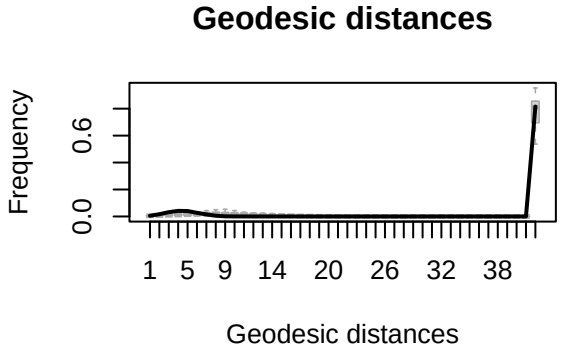
**Study 1:**

**Study 2:**



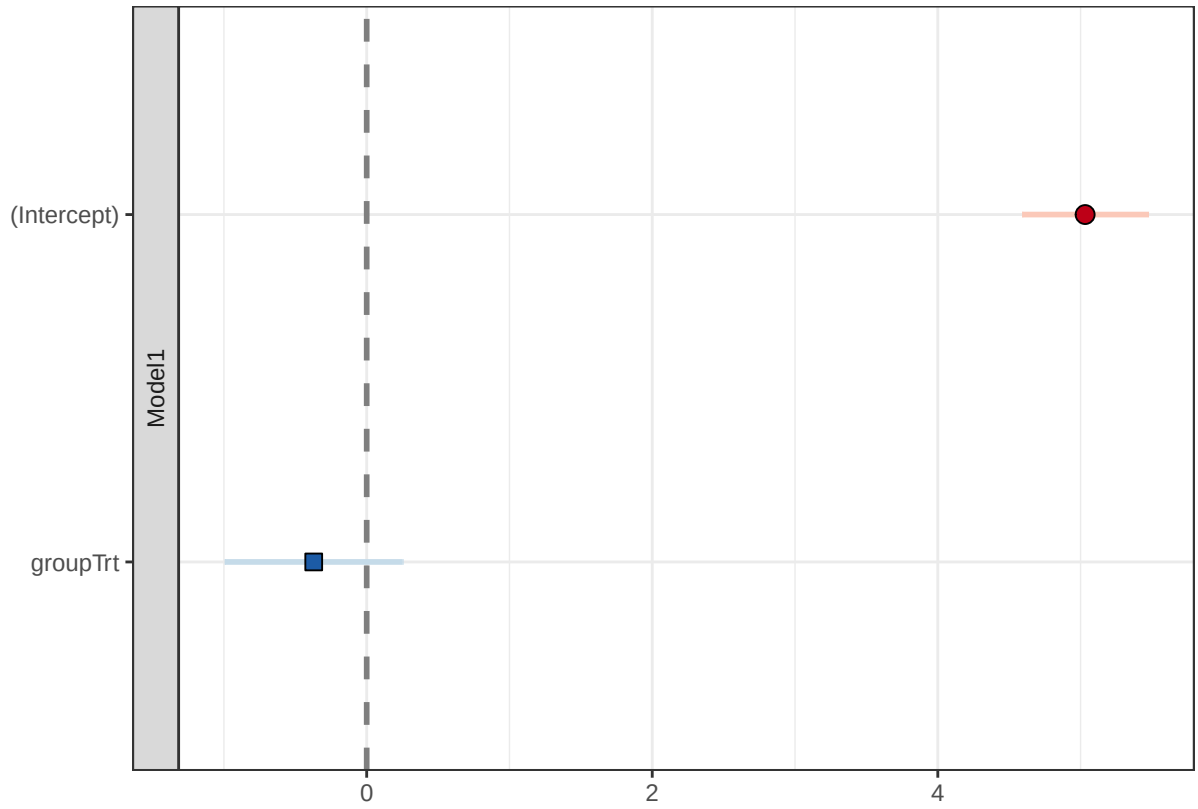



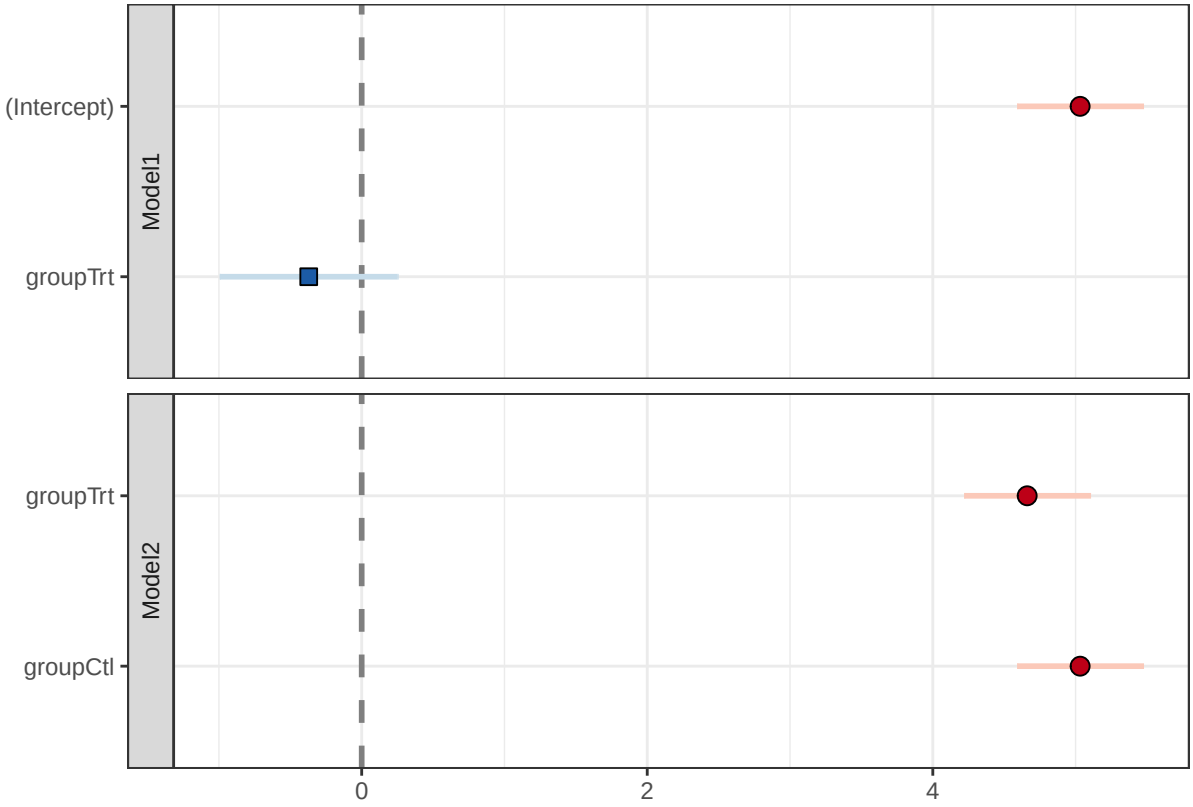

| age | gender | eyes_col |
|---|---|---|
| 7 | M | BLUE |
| 8 | F | BROWN |
| 8 | M | GREEN |
| 7 | F | PINK |

| | Model 1 |
|---|---|
| (Intercept) | 5.03 *** |
| | (0.22) |
| groupTrt | -0.37 |
| | (0.31) |
| R^2 | 0.07 |
| Adj. R^2 | 0.02 |
| Num. obs. | 20 |

| | Model 1 | Model 2 |
|---|---|---|
| (Intercept) | 5.03 *** | |
| | (0.22) | |
| groupTrt | -0.37 | 4.66 *** |
| | (0.31) | (0.22) |
| groupCtl | | 5.03 *** |
| | | (0.22) |
| R^2 | 0.07 | 0.98 |
| Adj. R^2 | 0.02 | 0.98 |
| Num. obs. | 20 | 20 |




Bars denote SEs (95%). Circle points denote significance.




Bars denote SEs (95%). Circle points denote significance.

## 5 References

Cinelli, M., De Francisci Morales, G., Galeazzi, A., Quattrociocchi, W., & Starnini, M. (2021). The echo chamber effect on social media. *Proceedings of the National Academy of Sciences*, *118*(9), e2023301118.

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