



The Association between Perception of Global Warming Threat and Opposition for Drilling in the Arctic National Wildlife Refuge (ANWR)



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Introduction

- **The Arctic National Wildlife Refuge (ANWR)** is 19 million acres in the northeast corner of Alaska. The ecosystem hosts a wide range of wildlife and it is an important cultural site for the Iñupiat and Gwich'in indigenous people (Cornwall, 2017; Turner et al., n.d; Zentner, et al., 2019).
- There has been a longstanding debate about oil and gas drilling in the ANWR, specifically in the "Coastal Plain," which is a 1.5 million acre section that could sit upon billions of barrels of oil (Zentner, et al., 2019).
- There are many factors involved in opposition to oil drilling, including gender, education level, political party, and environmental concern (Mukherjee & Rahman, 2016).
- Pew Research found that Republican support for hydraulic fracturing 'fracking' increased significantly from 2020-2024 (Tyson & Kennedy, 2024). In 2026, 62% of Republicans say the federal government should encourage oil and gas drilling (Kennedy & Kikuchi, 2026).

Research Questions

- Is there an association between perception of global warming and opposition to drill for oil policy in the Arctic National Wildlife Refuge (ANWR) on the county level?
- Does living in Alaska impact this relationship?
- Does the relationship between perception of personal harm and opposition for drilling vary based on a county's political leanings?

Methods

Sample

- Data were drawn from a 2024 national survey from Climate Change in the American Mind
- The data comes from a national survey dataset with 35,309 respondents aged 18 years or older, which was aggregated to the county-level
- At the county-level, the sample has 3,222 observations

Measures

- Personal harm of global warming was measured with the question "How much do you think global warming will harm you personally?" Responses were recorded in percent of people within the counties who answered a great deal or a moderate amount.
- Public opinion on drilling for oil in the ANWR was measured with the question "How much do you support or oppose the following policies? Drill for oil in the Arctic National Wildlife Refuge." Responses were recorded in percent of people within the counties who oppose.

Results

Bivariate

- Simple Linear Regression revealed when perception of personal harm increases by 1 percentage point, opposition for drilling in the ANWR will increase by 0.685 percentage points on average ($p < 2e-16$) (Figure 1).

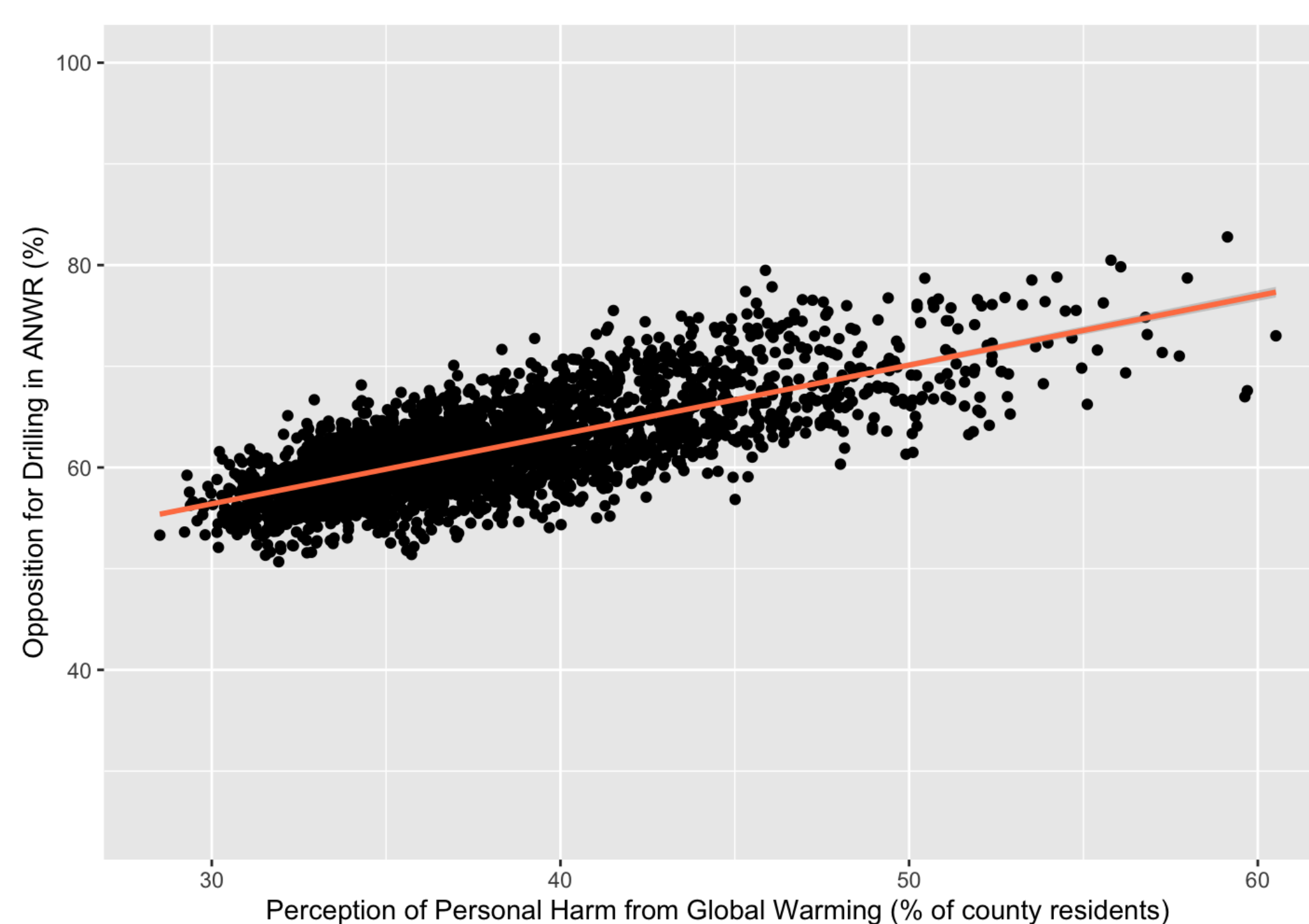


Figure 1: Relationship between Perception of Personal Harm from Global Warming and Opposition for Drilling in the ANWR

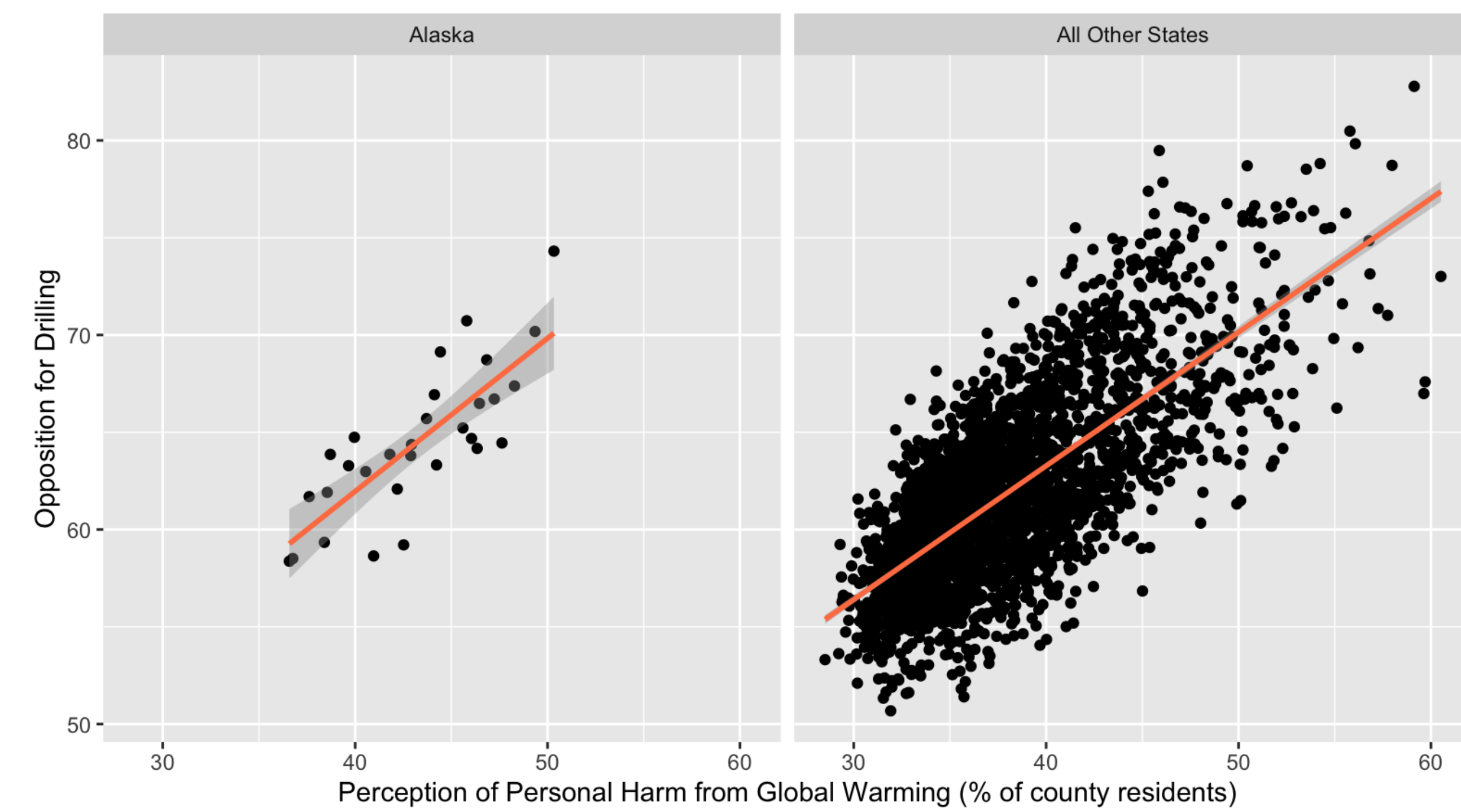


Figure 2: Relationship Between Perception of Personal Harm from Global Warming and Opposition for Drilling in Alaska vs. All Other States

Multivariate

- The relationship between the explanatory and response variables is similar across Alaska vs. other states (Figure 2). The slope of the "All Other States" lines is 0.68705, while the slope of the "Alaska County" line is 0.7870, although this is not a statistically significant difference.
- Multiple linear regression analysis revealed that political party is a moderating variable in the relationship between perception of personal harm from global warming and opposition to drilling for oil in the ANWR ($\beta = -0.00219$ democratic party, p -value = 0.00019) (Figure 3). As the share of votes within a county is more democratic, the slope of the line decreases.

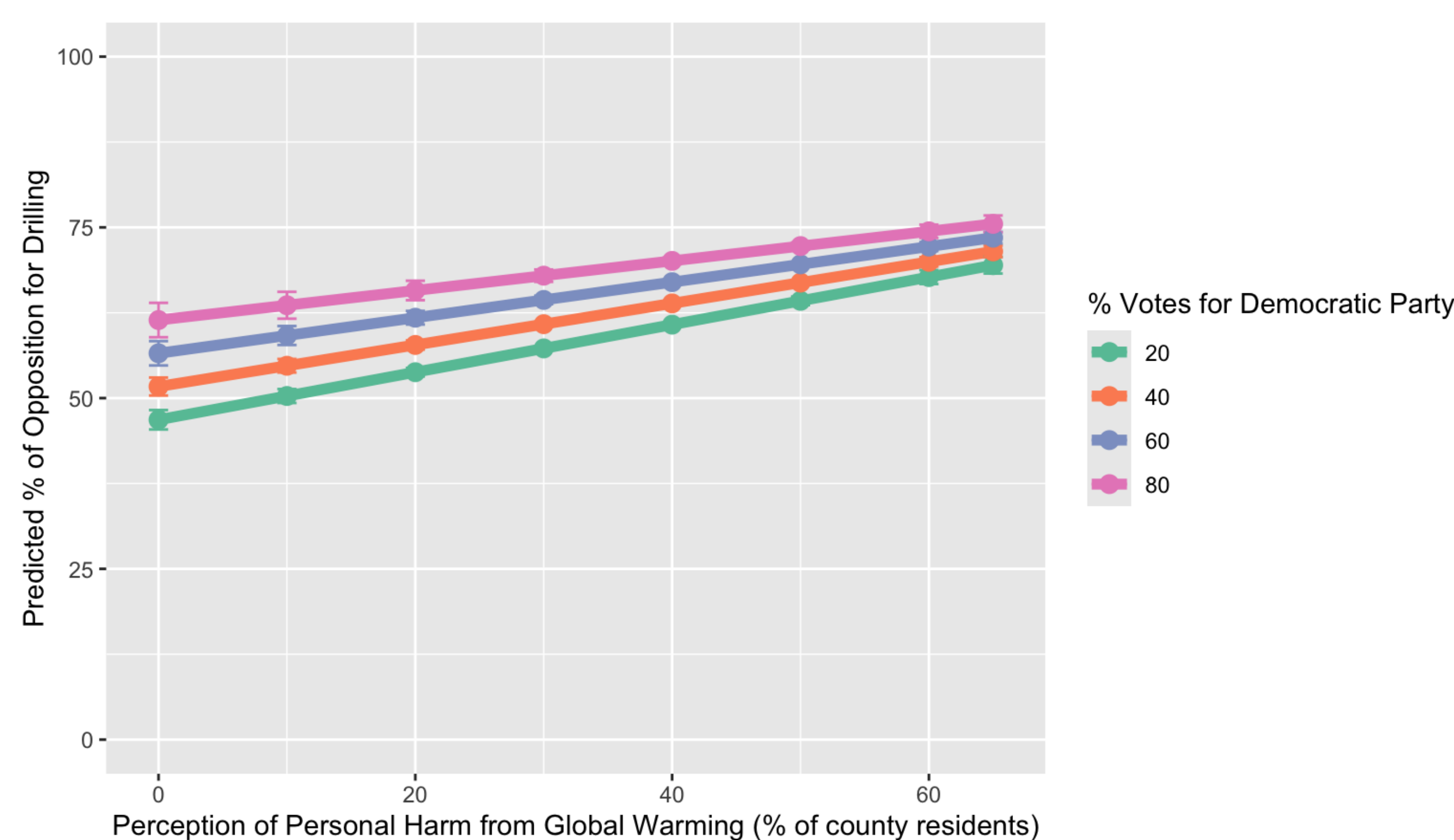


Figure 3: Relationship Between Perceived Personal Harm from Global Warming & Predicted Opposition for Drilling by Percent of Democratic Voters in 2024 Election

Discussion

- The influence of political party on support/opposition for oil drilling aligns with previous U.S. public opinion research.
- Future research is necessary to find county-level political data in Alaska and include this variable in analyses. It would also be interesting to include demographic factors such as gender or age.
- Replicating this study using individual level data, rather than county-level data might give more informative results.
- Studying opinions about oil drilling and energy policy is crucial as it can have important implications on climate related policy.

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