UNDERSTANDING CLIMATE CHANGE MITIGATION AND ADAPTATION POLICY SUPPORT IN THE UNITED STATES OF AMERICA

By

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To the Faculty of Washington State University:

The members of the Committee appointed to examine the dissertation of AZDREN COMA find it satisfactory and recommend that it be accepted.

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I also want to acknowledge the great environmental sociology scholars who came before me and inspired this work—including Dunlap, Coleman, Freudenburg, and Zerubavel—all of whom shaped the sociologist I have become.

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UNDERSTANDING CLIMATE CHANGE MITIGATION AND ADAPTATION POLICY SUPPORT IN THE UNITED STATES OF AMERICA

Abstract

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A discrepancy exists between public concern for climate change and support for policy solutions for climate change. Understanding why there is a discrepancy between concern and support is important to reduce that discrepancy. Much of this discrepancy has been attributed to sharp political divisions in support of climate policies. However, climate change policies are not one-dimensional. Only a few studies have examined differences in support in a way that distinguishes mitigation from adaptation policies, with a small number suggesting less political division over adaptation policies. This dissertation aims to fill this gap in the literature by exploring the latent structure of public support for climate change policies and understanding the nuanced variations in partisan support across different types of climate change policies.

This dissertation utilizes survey data from voting-age U.S. residents to expand understanding of the multiple dimensions of public support for climate change policies. It is organized in a three-study format, each constituting a distinct paper, with each paper being suitable for independent submission to academic journals. The first study uses exploratory and confirmatory factor analysis to uncover the underlying structural dimensions of climate change

policy support. The findings show that support for climate change policies is better understood as a multidimensional construct that distinguishes mitigation from adaptation policies. Researchers should avoid overly generalized discussions of climate change policies and should rather clearly specify whether they are referring to climate mitigation or adaptation policies in their research.

The second study analyzes how political identity shapes public support for climate mitigation and adaptation policies. A comprehensive investigation of support for mitigation and adaptation policies reveals nuanced differences among Republicans in their support for adaptation versus mitigation. While Democrats show similar levels of support for mitigation and adaptation policies, Republicans show higher levels of support for adaptation than mitigation policies. These findings offer critical insights for crafting more successful policy approaches, which take advantage of the knowledge that climate adaptation policies are less polarized.

The third study investigates a belief known as the inverted quarantine impulse, which maintains that individuals can personally shield themselves from climate harm. It examines how this impulse interacts with political identity to influence climate policy support preferences. The findings suggest that the inverted quarantine impulse may drive greater support for adaptation over mitigation policies. An interaction effect was found for Republicans who have higher levels of the inverted quarantine impulse, showing that they also have higher levels of support for climate mitigation policies.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Dedication

I believe that, in general, everyone, including Republicans, Democrats, and Independents, ultimately wants what they believe is best for themselves and their loved ones. Our differences lie in how we make sense of the world. I hope that society can come together and solve the collective challenges – especially those, such as climate change, that require cooperation and coordination – before it is too late.

CHAPTER ONE: CONTEXTUALIZING CLIMATE CHANGE POLICY SUPPORT: BACKGROUND, EMPIRICAL STUDIES, THEORY, AND DATA

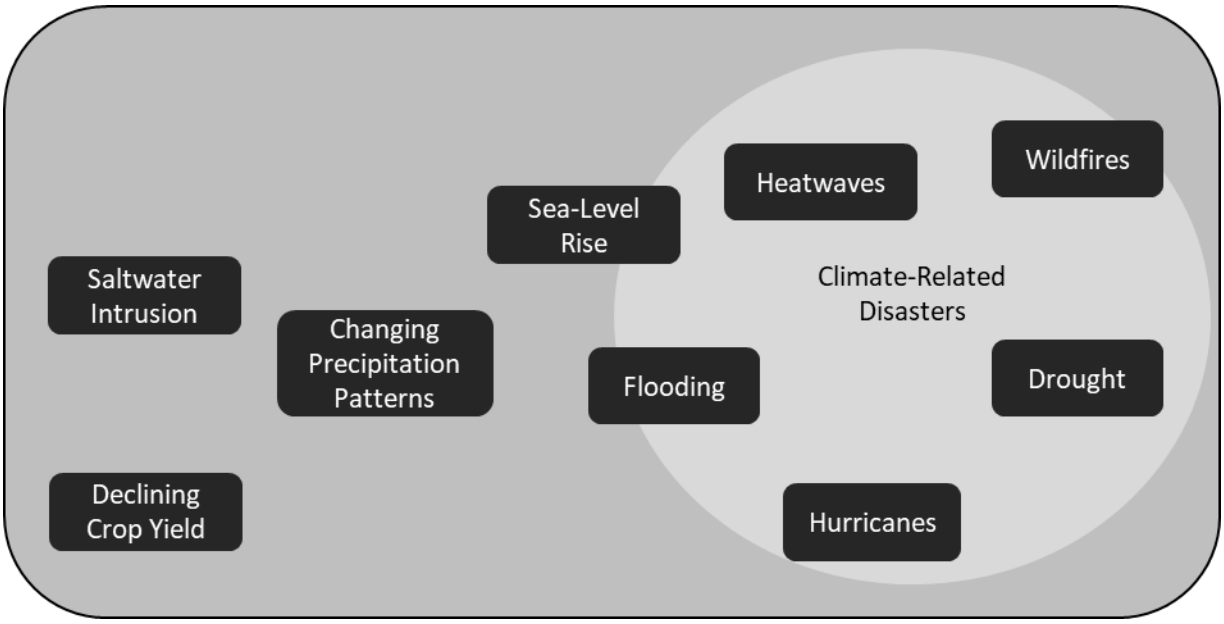
Background

The California wildfires of January 2025 were fueled by a combination of factors, including elevated temperatures, diminished precipitation, severe winds, low humidity, and sustained drought conditions – many of which are linked to rising global temperatures and broader climatic changes (Masson-Delmotte, 2021). The devastation impacted both affluent residential areas and diverse communities, underscoring the widespread vulnerability to such events. While wildfires will occur even without climate change, the evidence shows that climate change intensifies the conditions that make wildfires more severe, such as prolonged droughts, higher temperatures, stronger winds, and altered precipitation patterns. Without addressing climate change, such disasters are expected to become more frequent and intense. This raises critical questions about public support for government legislation aimed at mitigating climate change and managing its consequences. Understanding this support is essential for implementing effective policies to reduce the likelihood of similar disasters and enhance societal resilience.

As the California wildfires captured global attention, climate change continues to pose a critical global threat, impacting all populations and including rising temperatures, leading to more frequent heatwaves, prolonged droughts, and intensified wildfires. Climate change reduces crop yields by causing more frequent droughts, heatwaves, unpredictable rainfall, and the spread of pests and diseases, ultimately stressing plants and lowering agricultural productivity. Climate change also fuels stronger hurricanes by increasing sea surface temperatures, which provide

more energy and moisture, intensifying storm strength, rainfall, and storm surges. Climate change increases flooding by changing precipitation patterns and intensifying rainfall events in certain locations, raising sea levels and accelerating snowmelt, thereby overwhelming natural and built drainage systems. Rising sea levels also increase coastal flooding, which pushes seawater into freshwater aquifers and ecosystems, which leads to saltwater intrusion (Masson-Delmotte, 2021).

Figure 1.1 Impacts of Climate Change.



While impacts are widespread, their repercussions are not felt equally. Research, including that of Miranda and colleagues (2011), highlights the disparity in the distribution of these impacts, with the most severe consequences often borne by poor and marginalized communities. Women, Indigenous communities, and persons with disabilities are among the groups most affected by climate change (Dietz et al., 2020). Climate change is already exacerbating inequalities within the U.S. (Park, 2009) that will deepen if current climate change trends continue into the next century (Burke et al., 2015). While inequality resulting from climate change is not a focus of this project, this introduction serves to underscore the gravity

and urgency of the climate change issue, setting the stage for a deeper exploration of its multifaceted impacts and the imperative for immediate, comprehensive action.

Theory

The global scientific community now recognizes mitigation and adaptation as the primary approaches to addressing the escalating risks of climate change (Masson-Delmotte, 2021; Orlove, 2022), although it was not always this way. For a long time, the focus on understanding climate change policy support centered on climate mitigation (Fairbrother, 2022). Only more recently have researchers focused on distinctions between support for mitigation and adaptation (Lu & Schuldt, 2016; Falzon & Sen, 2024), although these concepts are frequently conflated. Part of the goal of this research is to explore the extent of differences between mitigation and adaptation support.

Climate mitigation focuses on addressing the causes of climate change, such as reducing greenhouse gas emissions, and has received higher levels of concern and funding from governments and the public (Klepp & Chavez-Rodriguez, 2018). On the other hand, climate adaptation seeks to minimize or adjust to the impacts of climate change (Boussalis et al., 2019; Orlove, 2022) by protecting lives, property, and ecosystems from the actual damages brought by climate change (Mendez, 2020).

Climate change, when recognized as a social problem, can be tackled by individuals, the government, the private sector, social movements, and third-sector organizations with a focus on climate (See Figure 1.2). An important consideration when thinking about responses to climate change is the role of climate change countermovement (CCCM). The size of the circles in the figure is meant to give a rough representation of the influence of each of these key players,

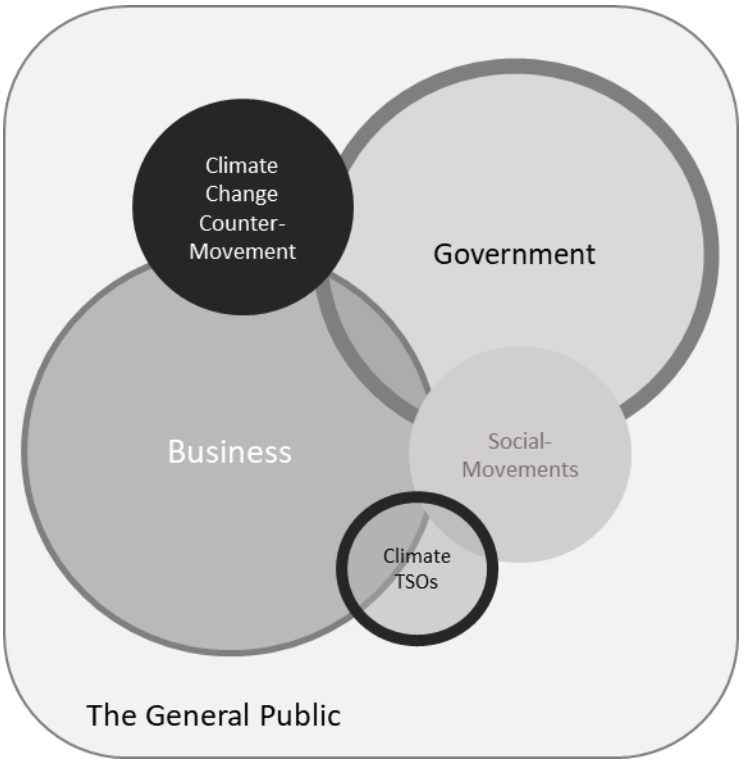
showing that the government and business/industry have a larger influence on climate change outcomes. For example, while ideally, social movements in support of pro-climate policies would have a greater influence on climate change in the United States, the successful efforts of the CCCM to counter those efforts have meant that climate change continues to remain a contentious issue.

The CCCM arose in the late twentieth century as a coordinated effort to obstruct climate policy and contest the scientific consensus on anthropogenic climate change. Initially driven by fossil fuel corporations, conservative think tanks, trade associations, and politically aligned foundations, the CCCM developed into a tightly networked system of influence (Brulle, 2021). These actors share material interests in maintaining a carbon-based economy and ideological commitments to deregulation and market fundamentalism. At the organizational level, the CCCM includes prominent institutions such as the Heartland Institute, the Competitive Enterprise Institute, and the American Enterprise Institute, among others. These organizations disseminate climate skepticism through white papers, media appearances, congressional testimony, and connections to sympathetic policymakers. Their efforts are bolstered by coordinated funding streams from major donors such as Koch-affiliated foundations and ExxonMobil (Brulle, 2021).

The CCCM's messaging has evolved. While early efforts were marked by overt denial of climate science, more recent strategies emphasize economic costs, policy ineffectiveness, and appeal to fairness or energy independence. Coan et al. (2021) show that CCCM communication has shifted from direct scientific denial to subtler claims that still function to delay action and maintain public confusion. Ideologically, the CCCM taps into right-leaning cultural and political worldviews, particularly aligning with beliefs in individualism, nationalism, and skepticism of

government intervention. Hornsey (2021) argues that these values act as filters through which climate information is processed, making CCCM narratives especially resonant with conservative audiences. This alignment enables the CCCM to sustain influence even as scientific consensus grows stronger and conservatives become more accepting of an anthropogenic explanation of climate change. The focus of this dissertation will be on understanding support for actions that the U.S. federal government can take to address climate change.

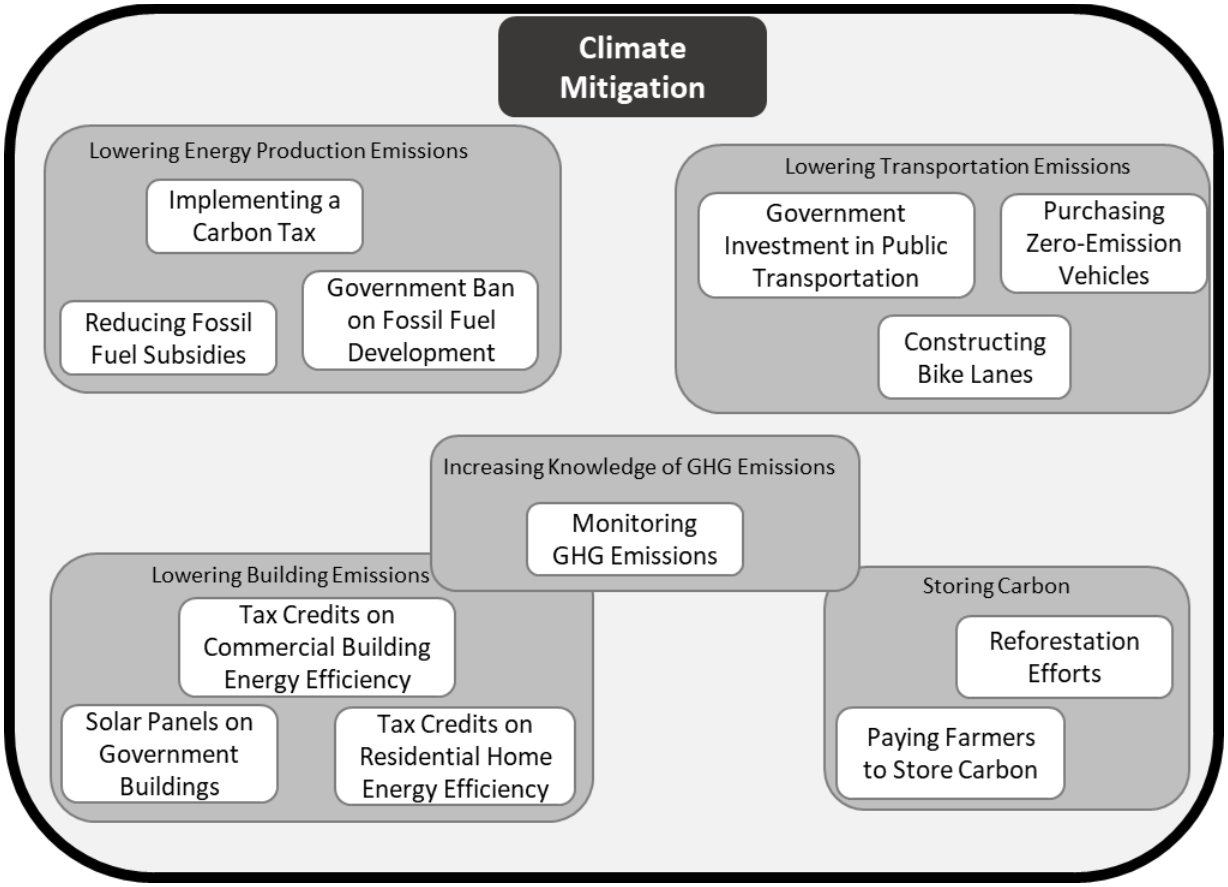
Figure 1.2 Key Players Responding to Climate Change.



Mitigation and adaptation efforts tend to differ in scale. To be most effective, mitigation efforts need to feed into ecologically networked global efforts to address the global climatic system through reducing greenhouse gas emissions (for example, efforts to slow down the melting of the ice caps). Examples of government efforts that could contribute to climate mitigation include implementing a carbon tax, investing in public transportation, alternative energy development, carbon sequestration, and tax credits for building energy-efficient

commercial buildings (see Figure 1.3). Other efforts not listed include the pursuit of alternative fuel sources.

Figure 1.3 Potential Government-Led Climate Change Mitigation Strategies.



In contrast, adaptation can be addressed on multiple scales (Orlove, 2022) and is often tackled at the community level (Mendez, 2020; Dolšak & Prakash, 2018). Many adaptation efforts can be simple, individual "stand-alone" solutions with little or no systemic impact, while other efforts may benefit the community or regional level. Dunlap and Brulle (2015) have categorized adaptation efforts as potentially fitting one of three types of efforts: 1) Institutional, such as changing building codes, requiring electrical utilities to be placed underground, and government purchasing of private high-risk land. 2) Structural, such as building sea walls, levees, stormwater basins, green roofs, weatherizing homes, and developing drought-tolerant

Crops. 3) Sociological, such as increasing social safety nets, financially assisting people to move away from disaster-prone areas, and subsidizing insurance in high-risk areas.

Focusing on scale is important, as will be discussed further because it is one of the arguments of the CCCM as to why people should be against supporting climate mitigation policy. Furthermore, the local-global difference may also be important in understanding diverging support by political identity and diverging motivations based on concepts of efficacy. This will be clarified further in the text.

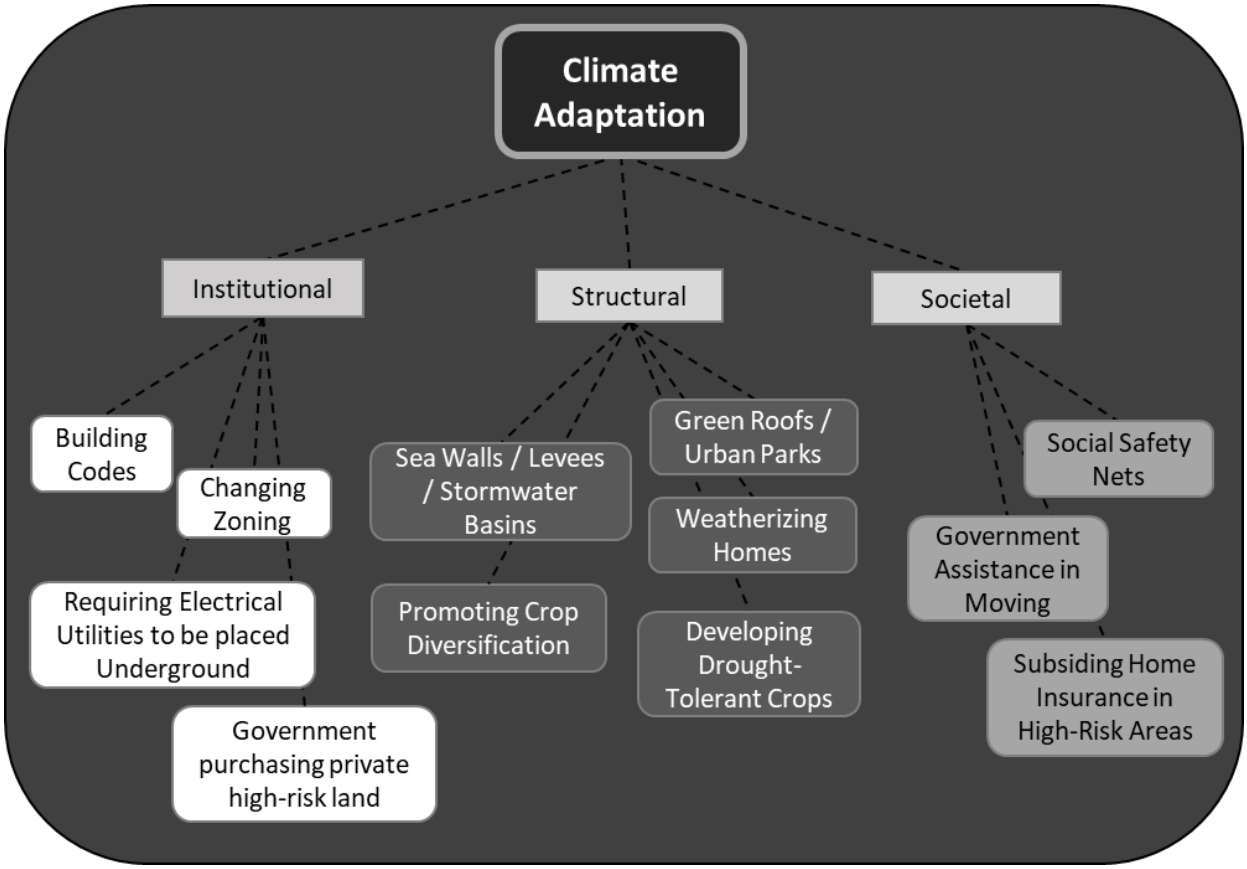
However, the viability of separating local from global policy spheres is increasingly called into question by the surge in new coal-fired power plants in countries such as China (Clark, Benoit, & Waters, 2023) and India (Cropper et al., 2021). These developments underscore a stark contradiction: while the global community acknowledges the urgency of mitigation, localized decision-making based on short-term self-interests can significantly undermine these efforts. The timely pursuit of climate solutions unfolds under profound uncertainty about whether diverse actors can work together at a global level toward common policy goals.

Historically, government policy responses to climate change have predominantly emphasized mitigation strategies. The Paris Climate Agreement is an example of a global effort to address climate mitigation primarily, although it does set out a goal for adaptation and requires countries to engage in planning processes. It is only more recently that global policies to address climate change have begun to emphasize both climate mitigation and adaptation policies (Orlove, 2022). Since 2010, the United Nations Framework Convention on Climate Change has stipulated that adaptation and mitigation must be considered equally important foci (UNFCCC, 2010).

Adaptation and Resilience

Adaptation is any action that counters the symptoms of climate change, focusing on reducing harm from the effects of climate change. It is often used in combination with the concept of resilience. While adaptation focuses on moderating potential damage and dealing with the consequences of climate change, resilience is understood as a broader concept to mean not only adapting to climate change but also the capacity of communities, systems, or societies to withstand and recover from a variety of challenges, including the hazardous events and disturbances caused by climate change. Effective adaptation should incorporate the ideals of resiliency, according to Fiack (2022). Examples of adaptation could involve individual efforts to install air-conditioning systems to protect against heatwaves, the installation of seawalls to prevent erosion from rising sea levels, or migration to cooler climates as some places become uninhabitable. Effective adaptation can contribute to resilience by enhancing a system's ability to withstand the impacts of climate change over time. Even migration in the face of climate change-fueled disasters is a household strategy of adaptation (Hunter et al., 2021). Figure 1.4 provides some examples of ways that governments can contribute to climate change adaptation.

Figure 1.4 Potential Government-Led Climate Adaptation Strategies.

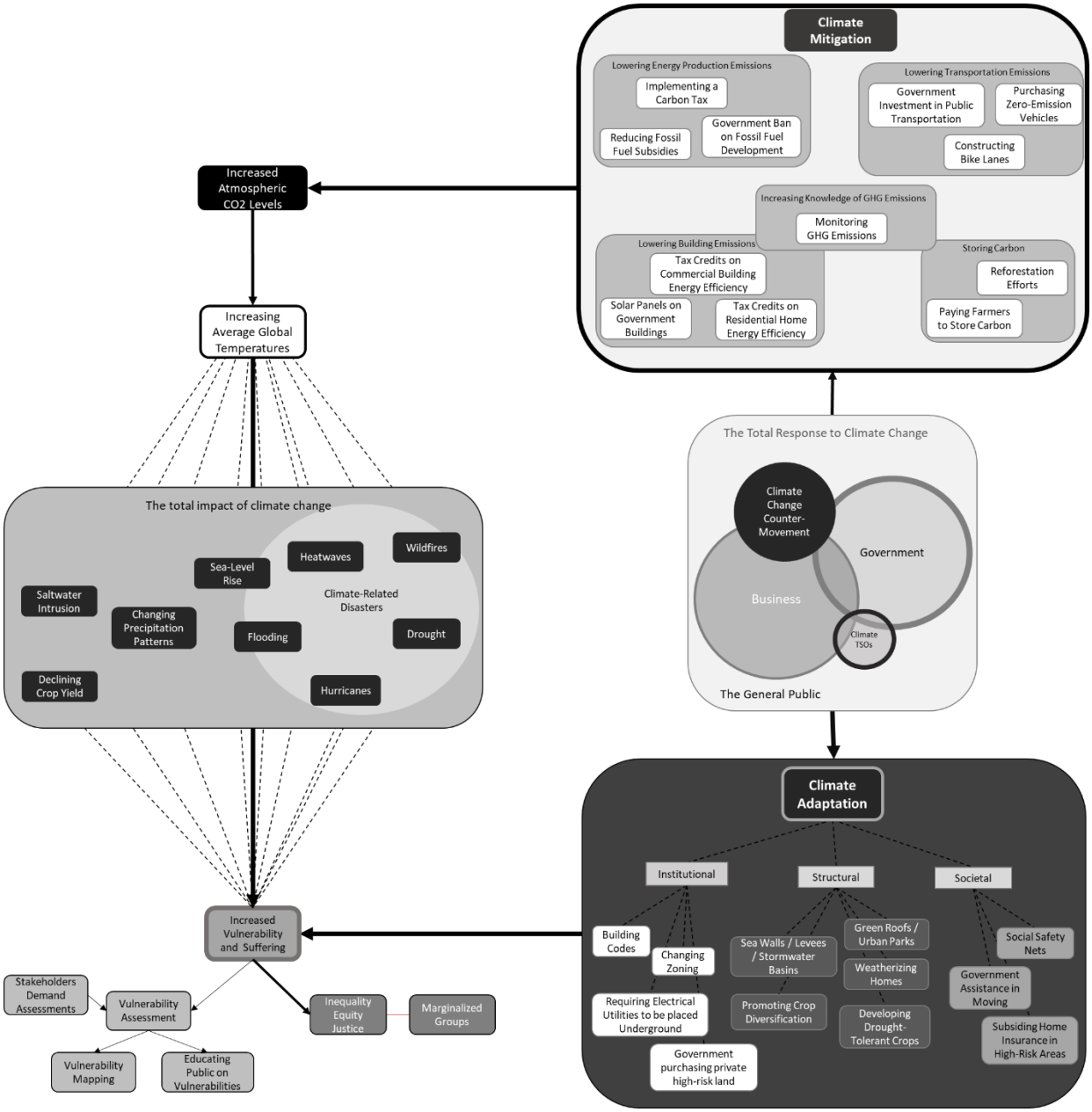


It should be noted that not all adaptation measures necessarily improve resilience. In some cases, they might even reduce it (Nelson, 2011). Adaptation strategies focused on sustainability strive to minimize vulnerability and enhance both the capacity to adapt and resilience into the future (Lei et al., 2013; Orlove, 2022).

Overall, it is important to consider how climate change impacts society and what effect different governmental legislative responses have on the impact of climate change. Whether the government acts to prevent the increase in the concentration of atmospheric greenhouse gas emissions or to lessen the suffering brought on by the rising global temperatures, understanding how government actions differ can help us better understand support for climate change legislative actions. Climate mitigation actions are generally focused on reducing CO2 levels in

the atmosphere, while climate adaptation actions aim to prevent and alleviate the impacts of climate change on vulnerable populations. The level of impact of climate change is also a matter of inequality, equity, and justice due to the disproportionate impact on marginalized groups (Burke, Hsiang, & Miguel, 2015; Pearson et al., 2018; Dolšak & Prakash, 2022). Other important factors to consider when thinking about vulnerability and suffering from climate change are the assessment of risk or vulnerability from climate change, vulnerability mapping, and educating the public about the risks or vulnerabilities from climate change (Falzon & Sen, 2024; Preston et al., 2011). Figure 1.5 shows a combined flowchart showing the relationship between government action on climate change and whether the actions address the causes or the symptoms of climate change.

Figure 1.5 Connecting Climate Policy Types to Their Effects on People.



Data Research Methods

All three studies in this dissertation utilize a single comprehensive survey instrument to collect data on the support of voting-age U.S. residents for various climate change legislations. The survey instrument itself was developed using the tailored survey design method, as outlined by

Dillman et al. (2014), which emphasizes customizing survey procedures to the target population in order to increase response rates and data quality. The overall survey approach can be described as both a descriptive survey and a correlational survey. Study 1 uses a descriptive survey design to explore and validate the latent structure of public support for climate change policies, distinguishing between support for mitigation and adaptation through exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). Studies 2 and 3 employ a correlational survey design to examine the relationships between political identity, the inverted quarantine impulse (IQI), and public support for climate change policies, allowing for the analysis of naturally occurring associations without experimental manipulation.

The data were gathered through a survey of voting-age adults in the United States conducted on December 5th, 2024. The sample was collected using the Prolific platform, a service that allows researchers to distribute their surveys throughout Prolific's pre-registered pool of participants. A sample was collected using Prolific's U.S. representative sampling tool.

The mean survey completion time was 12 minutes and 41 seconds, with a median duration of 11 minutes and 10 seconds. Most respondents received $1.67, but half the respondents who took longer than average were compensated an additional $0.17, bringing the average pay up to $1.76 per response, or an hourly rate of about $9.51 per hour. (See the Appendix for the survey instrument.)

Sample Characteristics

Numerous demographic variables such as age, race, gender, family income, and living arrangements were collected to understand the study sample population (See Table 1.1). These key demographic characteristics were compared to U.S. Census Bureau data from the 2020

Census, as summarized in the QuickFacts database (U.S. Census Bureau, 2021). The similarities and discrepancies for a number of demographic characteristics are discussed below.

Table 1.1 Sample Characteristics for Covariates by Political Identity, N=2,113.

	Democrat (N=1,078)		Republican (N=1,032)		All (N=2,113)	
	N	Mean (S.D.)	N	Mean (S.D.)	N	Mean (S.D.)
Age (18-86)	1077	41.965 (13.731)	1029	40.776 (13.940)	2106	41.384 (13.843)
Gender						
Man	509	0.473	508	0.491	1017	0.482
Woman	549	0.510	524	0.506	1073	0.508
Non-binary	17	0.016	3	0.003	20	0.010
I use a different term	1	0.001	0	0.000	1	0.001
Race						
White (not Spanish, Hispanic, or Latino)	698	0.648	774	0.749	1472	0.697
Spanish, Hispanic, or Latino	75	0.070	43	0.042	118	0.056
Black or African American	171	0.159	143	0.138	314	0.149
American Indian or Alaska Native	8	0.007	2	0.002	10	0.005
Asian or Asian American	83	0.077	33	0.032	116	0.055
More than one race selected	34	0.032	36	0.035	70	0.033
Education						
Some high school or less	5	0.005	1	0.001	6	0.003
High school diploma or equivalent	124	0.115	151	0.146	275	0.133
Associate's degree	87	0.081	95	0.092	182	0.086
Some college, but no degree	223	0.207	170	0.165	393	0.186
Bachelor's degree	387	0.359	358	0.347	745	0.353
Some graduate school but no degree	28	0.026	24	0.023	52	0.025
Graduate degree	223	0.207	233	0.226	456	0.216
Family Income						
Less than $25,000	130	0.121	94	0.091	224	0.106
$25,000 - $34,999	100	0.093	78	0.076	178	0.084
$35,000 - $49,999	149	0.138	108	0.105	257	0.122
$50,000 - $74,999	242	0.225	191	0.185	433	0.205
$75,000 - $99,999	159	0.148	171	0.166	330	0.156
$100,000 - $149,999	183	0.170	256	0.248	439	0.208
$150,000 or more	115	0.107	134	0.130	249	0.118
Housing type						
Homeowners	508	0.472	626	0.608	1134	0.539
Renters	443	0.412	330	0.321	773	0.367
Occupying without payment	125	0.116	73	0.071	198	0.094

In this sample, 69.7% of all respondents identified as white, compared to the U.S. Census figure of 75.5% for individuals identifying as white alone (not Hispanic or Latino). Black respondents comprised 14.9% of the sample, slightly higher than the national proportion of 13.6%. Hispanic or Latino individuals accounted for 5.6% of the sample, substantially underrepresenting the 18.9% reported by the Census. Similarly, Asian respondents made up 5.5% of the sample, compared to 6.3% nationally. Multiracial individuals accounted for 3.3% of the sample, closely aligned with the national figure of 2.9%. Native Americans were slightly overrepresented, constituting 0.47% of the sample compared to 0.26% nationally.

The mean age of the sample was 41.4 years. While data on the mean age of voting U.S. adults is difficult to calculate, the higher average value in the sample makes sense in the context that the sample includes 18–86-year-olds. According to the U.S. Census, the median age is 38.8 years, which includes those under 18 years old (U.S. Census Bureau, 2021).

The gender distribution in this study included 48.2% men and 50.8% women, with 0.95% identifying as non-binary and 0.05% selecting "use a different term." These figures align closely with Census estimates, which reported 49.5% male and 50.5% female representation nationally (U.S. Census Bureau, 2021).

Educational attainment in the sample diverges slightly from national trends. Among respondents, 35.3% held a bachelor's degree, compared to 33.1% nationally, while 21.6% reported having a graduate or professional degree, exceeding the national figure of 13.5%. Those with a high school diploma or less constituted 13.3%, which is notably lower than the Census-reported 39.2% of individuals with a high school diploma or less (U.S. Census Bureau, 2021). These differences likely reflect the Prolific platform's tendency to attract participants with higher educational attainment, a pattern commonly observed in online research (Peer et al., 2021).

The income distribution in the sample was broadly representative of U.S. households. For example, 20.5% of respondents reported earning $50,000 to $74,999 annually, somewhat aligning with Census estimates that 16.5% of households fall into this income bracket. However, respondents in the $25,000–$34,999 range (8.4%) were slightly underrepresented compared to the national average of 10.4%. Conversely, higher-income brackets ($100,000 and above) were overrepresented, with 32.6% of respondents self-reporting to be in this range compared to 27.6% nationally (U.S. Census Bureau, 2021).

In terms of housing, 53.9% of respondents were homeowners, compared to 64.6% nationally, indicating a slight underrepresentation of homeowners. Renters constituted 36.7% of the sample, slightly higher than the national proportion of 34.4%. Those occupying housing without payment of rent accounted for 9.4%, which aligns closely with national trends. According to Census estimates, approximately 9% of U.S. households live rent-free, often residing in properties owned by family members or friends (U.S. Census Bureau, 2021).

Potential limitations of this sample include the overrepresentation of individuals with higher education and income levels and the underrepresentation of Hispanic respondents, lower-income individuals, white respondents, and homeowners. The sample is also slightly older on average, though gender and most racial distributions align closely with the U.S. population. To learn more details about the survey implementation methodology and the approaches to reducing the four sources of survey error, please see the Appendix.

Empirical Studies

Study One

The primary objective of the first study (Chapter 2) is to develop and validate a comprehensive model of public support for government climate change policies in the United States by utilizing CFA and EFA to distinguish between support for mitigation and adaptation policies. Sociological research on public concern for climate change is broad, research on public support for climate change policies is relatively limited and has primarily focused on support for climate mitigation policies (Peer et al., 2021; Fairbrother, 2022), with a significant gap in our collective understanding of the range of policy preferences. A significant amount of scholarly attention has been dedicated to exploring public opinions on carbon taxes and climate mitigation policy support. However, there is a notable underrepresentation of studies examining attitudes toward a diverse array of other climate policy measures. Fairbrother (2022) points to an urgent need for research focusing on understanding the nuanced preferences, especially for climate adaptation policy support, that could inform more effective policy formulations.

Understanding the latent structure—the underlying, unobserved patterns that explain how different policy support items group together—is critical to understanding the gap between concern and support for climate change policies. By dissecting the layers of public support and opposition to climate policies, researchers and policymakers can identify the factors that facilitate or hinder the translation of environmental concern into policy endorsement. This approach not only promises a deeper understanding of the public's complex views but also provides a strategic foundation for designing interventions that align public support with effective climate action. Therefore, exploring the latent structure of policy support not only improves academics' understanding of climate change policy support but also enhances the

practical efficacy of policymaking by aligning it more closely with public sentiment and readiness for change.

The first study aims to better understand the latent structure of climate change policy support by addressing two main questions: 1) Does the underlying structure of public support for climate policies naturally align with the distinction between mitigation and adaptation? 2) When analyzed without predefined categories, what latent structure emerges from the data on its own, revealing how people group different policy items based on their support?

A better understanding of the latent structure will contribute to research on climate change support, which currently often blurs the line between the two major approaches. To my knowledge, there are no studies that have included an EFA of climate change policy support and clearly explained the underlying structure. It is imperative to understand how various policy items are grouped and which items most clearly represent either climate mitigation or adaptation policies. Understanding how support for different policy item groups is related to one another may potentially be significant and beneficial to research seeking to understand support for climate change policies. The first study aims to bridge this gap in knowledge by seeking to understand how climate mitigation and adaptation policy items group, but also to examine the underlying structure of groupings of policies that may exist underneath the overarching groups of mitigation and adaptation policies. Previous research in the broader field of public and environmental policy suggests that public support varies primarily along axes of economic impact of environmental measures, regulatory concerns, and assessments of environmental quality, as indicated by Carman (1998) and Xiao and Dunlap (2007). This study employs a survey to collect views on support for a range of climate change policy items. EFA and CFA will be used to investigate the underlying structure of public support for climate change policies. The

CFA analysis will aid in the statistical generation of composite variables for both climate mitigation and adaptation policies, which can be used in future studies examining climate change policy support.

Study Two

The primary objective of the second study (Chapter 3) is to examine the relationship between political identity and public support for climate change mitigation and adaptation policies, analyzing how partisan and ideological affiliations shape policy preferences.

The discrepancy between public concern for climate change and support for climate change policies has mainly been attributed to lower support by Republicans in the United States. It is understood that while Republicans generally avoid supporting climate mitigation efforts due to the CCCM, some Republicans seem willing to work towards supporting adaptation causes. For example, Florida Republican Governor Ron DeSantis recently established the Resilient Florida program, making $1 billion available to help local governments adapt to the effects of climate change. Other conservative groups, such as the World Climate Declaration, explicitly advocate for solutions prioritizing climate adaptation. The difference between Republican support for climate change adaptation and mitigation may stem from the CCCM's focused efforts on framing climate change in a way that was meant to reduce support from Republicans for mitigation policies. While support from Republicans for mitigation policies is low, the research on Republican support for adaptation support shows that support is generally higher. However, the research is limited in understanding climate change policy support. Therefore, there is a pressing need to examine variations in partisan support across different types of climate change policies and gain a deeper understanding of the factors that influence these changes in support.

The second study will examine the extent of political polarization regarding support for climate change mitigation and adaptation policies. More specifically, it will examine how political affiliation (Republican vs. Democrat) influences support for these policies. This study will incorporate the lens of social identity theory to predict a lower level of support for climate mitigation policy support among Republicans, influenced by the CCCM's targeted focus on opposing climate mitigation efforts. Therefore, the first hypothesis examines the extent to which support for climate change policies differs by political identity. This study will also explore the hypothesis that the CCCM's lack of emphasis on attacking adaptation efforts has resulted in comparatively higher Republican support for climate adaptation policies compared to climate mitigation policies. This study seeks to untangle the complex relationship between social identity and political identity and how they influence support for different groupings of climate change policy.

Study Three

The third study (Chapter 4) examines how the concept of the IQI—a belief that individuals can personally shield themselves from the hazards of the world—shapes public support for climate change policies (Szasz, 2007). The study explores two central questions: 1) Who is more likely to possess the IQI? 2) How does the IQI influence climate change policy support? More specifically, this study examines whether Republicans are more likely than Democrats to exhibit this impulse, potentially helping explain partisan differences in climate policy support preferences. Through multiple regression models and interaction effects, the study empirically assesses how the IQI relates to support for different types of climate policy.

These research questions suggest that those with a belief in their ability to self-protect (reflecting the IQI) may lean towards supporting climate adaptation policy, perceived as a more

immediate and solvable problem at the local level. A second hypothesis will explore whether Republicans are more likely to possess the IQI compared to Democrats, possibly helping explain previous findings showing variations of support for climate mitigation and adaptation policies.

Too little is known about the complexities of how the U.S. voting public supports climate change legislation. This dissertation makes significant theoretical, empirical, and practical contributions to the study of climate change policy support by examining the underlying factors that shape public attitudes toward mitigation and adaptation policies. Broadly, this research seeks to deepen our understanding of climate policy support in the United States, particularly by identifying differences in support for mitigation and adaptation legislation and the key political and social factors that influence these preferences. Additionally, this research explores how the IQI – the belief that individuals can insulate themselves from climate harm – affects climate policy attitudes, potentially swaying public support toward adaptation over mitigation policies.

This dissertation advances sociological theories of environmental attitudes by systematically investigating whether meaningful differences exist between support for climate mitigation and adaptation legislation. This research provides a clearer picture of how political identity, social identity, and psychological mechanisms interact to shape climate policy preferences. By applying social identity theory, this research examines how partisan divisions—particularly the influence of the CCCM, have led to greater polarization in mitigation policy support while leaving adaptation policies relatively less contested. Furthermore, this research extends the IQI concept by empirically testing whether individuals who believe they can protect themselves from climate harm are more likely to support adaptation policies over mitigation efforts. Understanding this mechanism enhances our knowledge of how public attitudes toward climate change policies are formed and maintained.

The key empirical contributions of this dissertation lie in its comprehensive and nuanced examination of public support for climate change policy in the United States, advancing both measurement and explanation. A central contribution is the development of practical measures for climate policy support, including composite measures for unidimensional climate change policy support, climate mitigation policy support, and climate adaptation policy support. These validated constructs offer scalable tools for future research and policy analysis. Through exploratory and confirmatory factor analyses, the dissertation clarifies the latent structure of climate policy preferences. Furthermore, political identity is empirically demonstrated to be a strong and consistent predictor of climate policy support. At the same time, it reveals that adaptation policies tend to be less politically polarizing than mitigation efforts. Importantly, this dissertation introduces and tests the IQI as a novel explanatory mechanism, showing that beliefs in personal protection from climate harm are associated with greater support for climate policies and are more prevalent among Republicans.

Together, these findings offer a multidimensional and theoretically informed understanding of how U.S. adults evaluate climate policy, with direct implications for policymakers, climate advocates, and communication strategists seeking to develop politically viable and publicly supported legislation. By distinguishing between mitigation and adaptation policy support, the research helps identify pathways for aligning climate policy with public attitudes and reducing political resistance. The development of robust, composite measures of climate policy support and its underlying dimensions also equips future scholars with valuable tools for studying environmental attitudes and advancing the broader field of climate policy research.

For policymakers, these findings offer insights into how climate policies can be framed to minimize polarization and maximize support. Emphasizing local economic benefits, resilience, and community-based adaptation may be more effective at gaining bipartisan backing than approaches that frame climate action primarily as a global responsibility. Furthermore, this research suggests that counteracting the IQI – by emphasizing the limits of individual self-protection and the necessity of collective action – could be a key strategy for increasing public support for mitigation policies. By addressing these critical gaps in the literature and providing actionable insights, this dissertation contributes to both academic knowledge and the practical advancement of climate change policymaking in the United States.

CHAPTER TWO: A COMPREHENSIVE MODEL OF THE LATENT STRUCTURE OF PUBLIC SUPPORT FOR GOVERNMENT CLIMATE POLICY IN THE UNITED STATES: A FACTOR ANALYSIS APPROACH.

Introduction

Climate change is one of the most significant challenges currently confronting humanity. While most people recognize that climate change is occurring (Jenkins-Smith et al., 2020), a notable gap persists between public acknowledgment of the issue and widespread support for policy interventions to address it (Fairbrother, 2022). Understanding public support for climate change policies is a critical aspect of addressing the challenges posed by climate change. While industry accounts for a significantly larger share of greenhouse gas emissions than individual actions, the federal government remains crucial in shaping societal responses to climate change, as evidenced by policies such as the Inflation Reduction Act of 2022. Examining public support for government action on climate change is fundamental to understanding the broader dynamics of societal responses to this crisis. This study aims to explore and clarify the different ways U.S. residents support climate change policies by employing CFA and EFA. These statistical analyses will enhance the understanding of public support dynamics and inform future research.

Determining whether climate policy support is unidimensional or follows a more complex latent structure is crucial for informing policymakers, academics, and other stakeholders. While sociological research on public concern for climate change is extensive, studies addressing public support for specific climate change policies remain relatively limited, with a predominant focus on climate mitigation efforts (Bernauer, 2013; Fairbrother, 2022). Fairbrother (2022) highlights the pressing need to explore nuanced public preferences, particularly for climate adaptation policies, that could inform more effective policy formulations.

The focus on mitigation policies has left a significant gap in our understanding of the complexities of policy preferences. Although considerable scholarly attention has been devoted to public opinion on carbon taxes and climate mitigation measures, there is a notable lack of research on attitudes toward a broader spectrum of climate policies examined concurrently.

Understanding the latent structure of public support for climate change policies is essential for addressing the gap between environmental concern and policy support. Although the latent structure of environmental legislation has been widely examined (e.g., Carman, 1998; Xiao & Dunlap, 2007), research specifically addressing the latent structure of climate change policy support remains limited. By analyzing the underlying dimensions of public support and opposition to climate change policies, researchers and policymakers can identify the factors that enable or impede the translation of concern into meaningful policy backing. This approach not only deepens our understanding of the public's nuanced perspectives but also provides a strategic basis for designing interventions that align public sentiment with effective climate action.

A clearer understanding of the latent structure of climate change policy support would significantly benefit research in this area, which often conflates the two major approaches of mitigation and adaptation. To date, no research is based on a confirmatory factor analysis (CFA) to statistically determine whether climate mitigation and adaptation policy support is the overall latent structure. It is crucial to determine how various policy items are grouped and which policy items best represent each latent factor.

This study seeks to address this gap by analyzing how climate policy items cluster, as well as uncovering any additional dimensions previously unknown. Insights from public and environmental policy research suggest that support often varies along dimensions such as the economic impact of environmental measures, regulatory concerns, and assessments of

environmental quality (Carman, 1998; Xiao & Dunlap, 2007). Although, it is unknown whether a similar pattern will emerge for climate change policies.

This study uses data from a survey on public support for a range of climate change policy items. A CFA will validate the latent structure of public support, as theorized below, while Exploratory Factor Analysis (EFA) will uncover additional groupings. These analyses will help develop composite variables for each underlying climate policy factor, which can be valuable for future research on climate policy support.

Theoretical Background

Addressing climate change encompasses a range of strategies, including adaptation measures such as building levees or weatherizing buildings, as well as mitigation efforts aimed at reducing greenhouse gas emissions. In some cases, adaptation may also involve human migration to less climate-vulnerable areas. Public support for these approaches varies depending on the specific policy in question (Fairbrother, 2022; Goldberg et al., 2021; Carman et al., 2022). A more comprehensive understanding of how climate policies cluster and how public support shifts across different policy types can provide valuable insights for researchers, climate organizations, and policymakers.

Most research on climate policy support has predominantly focused on mitigation policies, even if those studies have not explicitly stated that they are focusing on mitigation (Shwom et al., 2010), and fewer studies have examined adaptation policy support (Bernauer, 2013; Fairbrother, 2022). The emphasis on mitigation is unsurprising, as the potential consequences of a warming planet were analyzed and recognized long before the effects of climate change became directly observable. The limited research on variations in support for

mitigation policies has found, for example, that reducing fossil fuel subsidies garners more support than subsidizing sustainable energy sources (Dietz et al., 2007) and that low-carbon fuel standards receive stronger support than a carbon tax (Rhodes et al., 2017). While there is considerable research on variations in support for different mitigation policies, many mitigation policy items remain understudied, and research on adaptation policies is even more limited (Fairbrother, 2022, p. 6).

A few recent studies have increasingly focused on public support for adaptation policies (e.g., Bateman & O'Connor, 2016; Schwaller et al., 2020; Carman et al., 2022; Schwaller & BenDor, 2021; Houser et al., 2022), though much of the literature continues to conflate adaptation and mitigation policies (e.g., Bugden, 2022). However, no existing research has systematically analyzed public support for climate policies across the full spectrum while distinguishing mitigation and adaptation as separate but interconnected dimensions. Clarifying whether differences exist between support for mitigation and adaptation policies is a critical step toward a better understanding of climate change public support.

The disparity in research on mitigation and adaptation policy support may be partly attributed to the time lag between recognizing the causes and experiencing the effects of climate change. However, another key reason to examine differences in support for mitigation and adaptation policies is that climate change is often characterized as a "super wicked problem" (Levin et al., 2012). The Super Wicked Problem theory was developed within public policy and environmental governance discipline. The Super Wicked Problem theory identifies four defining characteristics:

1) Time is running out to solve them,
2) Those responsible for causing the problem are also tasked with solving it,

3) The necessary central authority is often weak or fragmented, and
4) Policy responses tend to discount the future in favor of short-term solutions irrationally.

According to Levin and colleagues (2012), climate change as a whole is described as a Super Wicked Problem. Though this paper argues that if we consider that climate change policies can be broken down into climate mitigation and adaptation policies, we can see how it is only climate mitigation policies where the Super Wicked Problem theory seems to apply. Given that mitigation and adaptation policies serve distinct functions—mitigation addressing the causes of climate change and adaptation responding to its symptoms—the public is likely to perceive these policies differently. The Super Wicked Problem framework may help explain why there are substantive differences between the two types of climate policies. Consider the following arguments as to why only climate mitigation should be considered a Super Wicked Problem:

1. Mitigation is frequently framed as a race against time, with reports such as those from the IPCC emphasizing the urgency of immediate action to prevent global temperatures from exceeding 1.5°C (Masson-Delmotte, 2021). In contrast, adaptation measures can be implemented over a range of time frames and may have immediate, observable results.
2. Climate change is often attributed to government policies that enabled the widespread release of greenhouse gases. Since governments are also responsible for implementing mitigation policies, these policies may be seen as more constrained by the Super Wicked Problem framework. Adaptation, on the other hand, can often be undertaken at the individual or community level, building a sense of efficacy and reducing perceptions of government dependence (Mendez, 2020).
3. Mitigation efforts are highly politicized, with partisan divides—particularly between Democrats and Republicans—hindering action. The Climate Change Countermovement

(CCCM) has systematically targeted mitigation policies through a network of organizations, individuals, and activities that actively oppose, delay, or undermine climate science, policies, and mitigation efforts (Dunlap, 2013; Brulle, 2021).

4. Mitigation policies focus on long-term solutions based on limiting global warming and the effects of climate change. In contrast, adaptation policy solutions can offer immediate benefits to addressing the consequences arising from climate change, such as protection from extreme weather events. This short-term focus makes adaptation more politically feasible (Mendez, 2020), while mitigation remains subject to the challenges outlined in the Super Wicked Problem framework.

Within this theoretical framework, climate change mitigation policies are likely to be perceived and treated differently from adaptation policies. Thus,

> H1: *Public support for climate policies is better explained using a two-dimensional framework that distinguishes between mitigation and adaptation policies than a unidimensional model that treats climate policy support as a single construct.*

This hypothesis is tested in two parts. First, a CFA assesses whether a two-dimensional model, in which climate change policy solutions are categorized into mitigation and adaptation (Model 2), provides a better fit for understanding climate policy structure than a unidimensional model with a single underlying factor (Model 1). A CFA is a statistical technique used to test whether observed variables group together into expected underlying factors based on a predefined theoretical model. In other words, a CFA is a statistical method used to test whether a researcher's expectations about how expected groupings of concepts will hold up mathematically.

Second, an EFA is used to assess what are the underlying factors of climate change policy support without any restraints or pre-assumptions (Model 3) so that the model can be

compared with the previous models to see if the same factors are aligned and which model provides a better explanation of the factors of climate policies. Given the wide variety of potential measures of climate change policy support, an EFA is a statistical technique used to determine whether a large set of analyzed items can be mathematically reduced into fewer underlying factors. This method identifies statistical relationships between policies, showing which policies can be expected to have similar patterns of support among the public. Understanding how support for climate policies is grouped benefits researchers, climate organizations, and policymakers. The EFA can guide future researchers in designing survey instruments by offering a foundation for how different policy items relate, enabling more efficient measurement of climate change policy support. The EFA may help reveal deeper, more nuanced dimensions of support that may exist within each of these major policy areas. Identifying potential sub-factors can provide deeper insights into the specific aspects of climate policy support that receive support or opposition. Researchers and policymakers can design more targeted interventions. For example, knowing that certain segments of the population support some factors more strongly, interventions can be tailored to enhance understanding and support for those factors.

Conducting an EFA on climate change policy support was partially inspired by Christopher Carman's 1998 study, "Dimensions of Environmental Policy Support in the United States," which examined a range of environmental policy actions to determine the underlying structure of how these actions are interrelated. Carman found that the concept of "support for environmental policy" was comprised of three overarching factors: "concern over environmental regulation," "concern over environmental economic issues," and "environmental quality assessment." Similarly, I anticipate that support for climate change policy may be equally

multifaceted and complex, although, at this point, it is still unknown. It is important to note that not all studies of the latent structure of environmental support have produced the same results as Carman (1998). Previous studies looking at the latent structure of environmental concern have found between two and three dimensions, some of them being such groupings as "Balance of Nature," "Limits of Growth," and "Human over Nature" (Albrecht et al., 1972), or "Attitudes toward Environment," "Concern for Environmental Action," and "Concern for Overpopulation" (Lounsbury and Tornatzky, 1977), which is why an EFA of climate policy support is so crucial now and should be repeated in the future.

Once each model factor analysis is conducted, the goal is to create composite variables for each of the three models: a unidimensional model, a two-dimensional model, and the model produced through the EFA. The scores of the highest loading items within each model will be used to create composite scales for each underlying factor. The reliability of the scales is assessed using Cronbach's alpha. Regression analysis on each of the composite scales is used to show how support varies among each of the variables based on a number of independent variables. The scores for each factor can be used as dependent variables in regression models, which can help reveal how different groups, whether based on political identity or other demographic groupings, may prioritize different aspects of climate change policy.

Methods

To understand the complexities of climate change policy support, it is essential first to consider how climate policies can be measured. A well-designed factor analysis requires a diverse set of survey questions to capture potential underlying structures, which is why the survey included a broad range of items assessing support for various climate policies. Not surprisingly, researchers often measure climate policy support through inconsistent measures.

Generally speaking, studies on climate policies have been methodologically inconsistent. Recent studies examining both climate change mitigation and adaptation policies used different measures for climate adaptation support unless they specifically adopted items from each other. Therefore, the first task was to generate a comprehensive list of potential policy items. The policy items used in this study were drawn from five primary sources:

- *Summary for Policymakers. Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (Masson-Delmotte, 2021): 10 items
- *Building a clean energy economy: A guidebook to the Inflation Reduction Act's investments in clean energy and climate action* (Inflation Reduction Act of 2022, 2022): 29 items.
- *Felt responsibility and climate engagement: Distinguishing adaptation from* mitigation (Bateman & O'Connor, 2016): 11 items
- *Measuring Americans' Support for Adapting to 'Climate Change' or 'Extreme Weather'* (Carman et al., 2022): 6 items
- *Denial and Distrust: Explaining the Partisan Climate Gap* (Bugden, 2022): 10 items.

These sources provided policy items focused on both adaptation and mitigation, resulting in a combined list of 69 policy items illustrating diverse approaches to addressing climate change. Of these, 20 items were adaptation-focused, 43 were mitigation-focused, and six combined elements of both.

Research on domain sampling theory acknowledges it is impossible to create an exhaustive list of measures for any domain; however, it emphasizes that the measures selected should adequately represent the construct being studied (Ghiselli, 1981). While theoretically, a larger number of questions is desirable for a successful EFA, asking too many questions introduces methodological issues. Excessive questions increase total survey error through higher drop-out rates, reduced data quality, longer completion times, increased cognitive strain, higher survey costs, and decreased sample sizes (Dillman et al., 2014). Thus, the battery of questions was systematically reduced.

Given the study's focus on distinct mitigation and adaptation policies, the six hybrid items combining adaptation and mitigation elements were removed from consideration. In reviewing the remaining items, emphasis was placed on maintaining a balanced representation of both policy types and ensuring coverage across multiple dimensions, such as economic impacts, regulatory concerns, and qualitative assessments, as recommended by Carman (1998). Mitigation items included a broad range of policies covering carbon storage, transportation emissions reduction, energy production emissions reduction, building emissions reduction, and increasing awareness of greenhouse gas emissions. Adaptation policies included institutional, societal, and structural responses. The item reduction aimed to retain adequate representation within each category without excessive redundancy.

Certain policy items, such as “Subsidies for qualified nuclear power companies,” were removed for being too niche or challenging to clearly and succinctly describe to respondents. Another item, “Tax credit for solar and wind facilities placed in service in connection with low-income communities,” was removed due to redundancy with an existing item regarding tax credits for energy-efficient home improvements, as well as the added complexity from

specifying "low-income communities," potentially complicating interpretation. Several other items were similarly excluded for being overly niche or duplicative of items already included. Items such as “Guaranteed loan financing and grant funding to agricultural producers and rural small businesses for underutilized renewable energy technologies” were removed for their complexity and niche focus. Additionally, policies like “providing domestic water supplies to disadvantaged communities lacking reliable access” were excluded because they did not explicitly relate to climate change. While water accessibility is impacted by climate change, including this measure would obscure whether respondents' support stemmed from addressing social needs or climate-specific concerns. A few other questions were excluded due to their niche focus or ambiguity. The final number of questions was reduced from 69 to 22 policy items. To see a complete list of the original 69 policies, what policies were removed, and why, please refer to the Appendix. The list of policy items included in the survey is organized in Table 2.1 by whether they focus on climate mitigation or adaptation strategies:

Table 2.1 Policy Items Categorized by Mitigation and Adaptation.

Climate Mitigation Policies
- Reducing the amount of money that the government is giving to support the fossil fuel energy sector?
- Adding a special federal pollution "carbon" tax to coal, oil, and gas to increase the cost of carbon-intensive activities and products?
- A government ban on all new fossil fuel development?
- Government investment in local and national public transportation systems, such as buses and trains?
- The allocation of government funding for the construction of bike lanes on city streets throughout America?
- The government's purchase of zero-emission vehicles for the U.S. Postal Service?
- The installation of solar panels on government buildings?
- Offering tax credits for energy-efficiency improvements to commercial buildings?
- The government providing tax credits for energy-efficiency improvements to residential homes?
- Providing funding to governmental agencies to monitor greenhouse gas emissions in the United States?
- A government program that pays farmers to store carbon on their land?
- National reforestation efforts to counteract national carbon dioxide (CO2) emissions?
Climate Adaptation Policies
- The funding of research on and development of drought-tolerant crops
- The federal government promoting farm crop diversification and land management to reduce the impact of severe weather events
- Measures to increase resilience to possible sea level rise, such as building new levees, sea walls, dikes, and stormwater basins
- The government subsidizing home insurance in high-risk areas most vulnerable to extreme weather
- Changing "zoning" rules about where buildings can be built to discourage new construction in areas most vulnerable to extreme weather
- The government's purchase of private land in areas most vulnerable to extreme weather events
- The requirement for electric utilities to relocate power lines underground to avoid outages from extreme weather events
- Increasing government social safety nets aimed at helping people affected by extreme weather events
- The government financially assisting Americans to move and resettle away from areas vulnerable to extreme weather

Survey implementation

Data was collected on December 3, 2024, through an online survey of voting-age adults in the United States administered via the Prolific platform. The questionnaire entitled "Public Perspectives on National Legislation Support" was designed using the Tailored Design Method, which aims to minimize the four sources of survey error, including coverage error, sampling error, nonresponse error, and measurement error (Dillman et al., 2014). Recruitment emphasized trust and transparency, using Washington State University branding and ensuring participant confidentiality, while respondents were incentivized with monetary compensation.

A stratified sample of 2,134 respondents was targeted to achieve a ±3% margin of error with 95% confidence, split evenly between Democrats and Republicans. An oversampling of 122 participants accounted for potential attrition, yielding an initial sample of 2,256 participants. Data collection utilized Prolific's U.S. representative sampling tool, stratified by political

affiliation and matched to U.S. Census demographics for age, sex, and ethnicity. The survey's median completion time was 11 minutes, with participants compensated at approximately $9.51/hour.

Though its non-probability sampling methods may limit generalizability (Elliot & Valliant, 2017), Prolific offers speed and cost-efficiency in data collection. Furthermore, prior research suggests that Prolific samples are diverse and of higher quality compared to traditional university pools (Peer et al., 2021; Palan & Schitter, 2018).

Following rigorous data quality checks, including attention checks and demographic validation, 181 respondents were excluded for failing both quality measures. A further 79 participants were excluded due to clustering anomalies, particularly a disproportionate representation of Ghana-born respondents. These exclusions yielded a final analytic sample of 2,113 participants after a second recruitment round replenished missing cases.

Some variables, including race/ethnicity, gender, and education, were grouped or dichotomized due to small sample sizes in certain categories. Due to the low number of respondents in many racial categories and the higher representation of white respondents, race was dichotomized into white and non-white. For gender, 23 respondents who did not identify as either a man or a woman were excluded from the analytical sample due to a small sample size. In terms of education, respondents who reported having less than a high school diploma were grouped with those who reported a high school diploma or equivalent. Similarly, those who reported earning an Associate's degree were combined with respondents who had completed some college but did not obtain a degree.

The descriptive statistics of the sample are displayed in Table 2.2. The characteristics of this sample align closely with U.S. Census data (2021) for gender and age but show deviations with regard to race/ethnicity, education, and income. White respondents (69.7%) were slightly underrepresented compared to the national figure (75.5%). The mean age of the sample (41.4 years) closely mirrors the national median (38.8 years), and gender representation is balanced, with 48.2% identifying as men and 50.8% as women, aligning with Census estimates. Education levels were higher than the national average, with 21.6% holding a graduate or professional degree (compared to 13.5% nationally), reflecting Prolific's tendency to attract more educated participants. Income distribution was broadly representative, though higher-income respondents were slightly overrepresented. Thus, the potential limitations of this sample include an overrepresentation of respondents with higher education and income levels and an underrepresentation of white respondents in comparison with the overall U.S. population.

Table 2.2 Sample Characteristics for Covariates by Political Identity, N=2,113.

	Democrat (N=1,078)		Republican (N=1,032)		All (N=2,113)	
	N	Mean (S.D.)	N	Mean (S.D.)	N	Mean (S.D.)
Age (18-86)	1077	41.965 (13.731)	1029	40.776 (13.940)	2106	41.384 (13.843)
Gender						
Man	509	0.481	508	0.492	1017	0.487
Woman	549	0.519	524	0.508	1073	0.513
Race						
White (not Spanish, Hispanic, or Latino)	698	0.648	774	0.748	1472	0.697
Non-white	380	0.353	261	0.252	641	0.303
Education						
High school diploma or equivalent or less	129	0.121	152	0.147	281	0.133
Associate's degree or some college	310	0.288	265	0.257	575	0.273
Bachelor's degree	387	0.359	358	0.347	745	0.353
Some graduate school but no degree	28	0.026	24	0.023	52	0.025
Graduate degree	223	0.207	233	0.226	456	0.216
Family Income						
Less than $25,000	130	0.121	94	0.091	224	0.106
$25,000 - $34,999	100	0.093	78	0.076	178	0.084
$35,000 - $49,999	149	0.138	108	0.105	257	0.122
$50,000 - $74,999	242	0.225	191	0.185	433	0.205
$75,000 - $99,999	159	0.148	171	0.166	330	0.156
$100,000 - $149,999	183	0.170	256	0.248	439	0.208
$150,000 or more	115	0.107	134	0.130	249	0.118

Results

The first goal of this study is to conduct a CFA on climate change policy support to statistically assess both a one-factor model (Model 1), which assumes that all policy items represent a single, unidimensional construct, and a two-factor model (Model 2) – where climate change policies are categorized into the two factors of mitigation and adaptation policy support. Of the 22 policy items, 12 correspond to climate mitigation policies, and 10 correspond to climate adaptation policies (as can be seen in Table 2.1).

The one-factor CFA model will be tested to assess whether a unidimensional structure better represents climate change policy support. Additionally, a CFA will test whether the 12 mitigation policies are statistically distinct from the 10 adaptation policies, evaluating the degree to which the data supports the predefined two-factor structure.

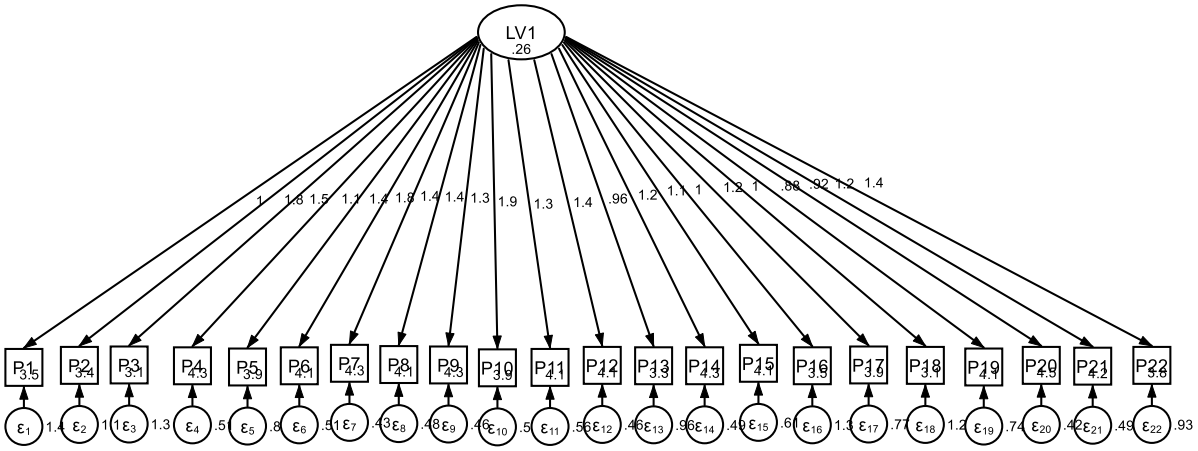
The fit of each model is evaluated using goodness-of-fit indices from structural equation modeling (SEM) procedures. Then, to identify which of the policies best measure each factor, item reduction will be performed within each construct. The item reduction helps determine which items load most strongly on their respective factors and whether any items do not fit well within their assumed category. Last, a CFA will be conducted on the factors with reduced items to ensure they still form a strong, coherent latent construct.

Model 1: Unidimensional Factor Structure.

Model 1 represents policy items as a unidimensional construct of climate change policy support, as illustrated in Figure 2.1. The oval labeled LV1 represents the main latent variable underlying the theoretical construct of the one-dimensionality of climate change policy support measured by 22 policy items (rectangles labeled P1 through P22). The value inside the oval beneath LV1 (0.26) shows the variance of the latent construct, suggesting moderate or low variability among respondents. This implies overall homogeneity of climate change support items in the sample. The arrows connecting LV1 to the individual policy items indicate the relationship between each policy item and the latent construct. The numbers along these lines show the strength of those relationships via their unstandardized loadings. Within each square (policy item), the values represent the mean levels of support on a scale from 1 to 5. The circles below each policy item show the error terms represented by epsilon. Higher epsilon values

indicate a larger portion of variance not captured by the latent construct, reflecting lower reliability for those specific items.

Figure 2.1 Model 1: Unidimensional Factor Structure of Climate Change Policy Support.



Confirmatory factor analyses (CFA) were conducted using SEM in Stata using the maximum likelihood estimation method. The statistical model demonstrated statistically significant factor loadings for all items ($p < 0.001$), indicating that each policy item was meaningfully related to the latent construct. However, factor loadings varied in strength, with some items (e.g., funding agencies to monitor GHG emissions, increased carbon tax, and the government purchasing zero-emission USPS vehicles) being stronger indicators than others. The model's likelihood ratio test was significant ($\chi^2(209) = 3831.05$, $p < 0.001$), suggesting that a single-factor structure may not perfectly fit the data. Additionally, error variances for some items were relatively high, indicating potential survey measurement issues. While these results suggest that the policy items share an underlying dimension, the model fit statistics indicate that a more nuanced structure, such as a two-factor or a three-factor model, may provide a better representation of the data.

Table 2.3 Mean Scores of Support for Climate Change Policies.

Climate Change Policy	Mean score*
The federal funding of disaster response teams	4.52
National reforestation efforts to counteract national carbon dioxide (CO2) emissions	4.32
The installation of solar panels on government buildings	4.30
The government providing tax credits for energy-efficiency improvements to residential homes	4.29
Government investment in local and national public transportation systems, such as buses and trains	4.29
Increasing government social safety nets aimed at helping people affected by extreme weather events	4.24
The federal government promoting farm crop diversification and land management to reduce the impact of severe weather events	4.14
Offering tax credits for energy-efficiency improvements to commercial buildings	4.12
The funding of research on and development of drought-tolerant crops	4.12
Measures to increase resilience to possible sea level rise, such as building new levees, sea walls, dikes, and stormwater basins	4.09
The requirement for electric utilities to relocate power lines underground to avoid outages from extreme weather events	4.09
The government's purchase of zero-emission vehicles for the U.S. Postal Service	4.06
Changing "zoning" rules about where buildings can be built to discourage new construction in areas most vulnerable to extreme weather	3.95
The allocation of government funding for the construction of bike lanes on city streets throughout America	3.94
Providing funding to governmental agencies to monitor greenhouse gas emissions in the United States	3.87
The government financially assisting Americans to move and resettle away from areas vulnerable to extreme weather	3.79
The government subsidizing home insurance in high-risk areas most vulnerable to extreme weather	3.53
Reducing the amount of money that the government is giving to support the fossil fuel energy sector	3.51
Adding a special federal pollution "carbon" tax to coal, oil, and gas to increase the cost of carbon-intensive activities and products	3.38
A government program that pays farmers to store carbon on their land	3.27
The government's purchase of private land in areas most vulnerable to extreme weather events	3.12
A government ban on all new fossil fuel development	3.07

* Mean scores are on a scale from 1 (Strongly Oppose) to 5 (Strongly Support).

While a multi-factor latent structure might be more precise, it is understandable that some researchers find use in measuring climate change policy support more broadly as a unidimensional construct in their research. Developing an easy-to-replicate construct for a singular concept has many utilities. Therefore, the five strongest loading factors to measure the unidimensional structure are the following:

1. 'Providing funding to governmental agencies to monitor greenhouse gas emissions in the United States' (factor loading: 0.821)
2. 'The government's purchase of zero-emission vehicles for the U.S. Postal Service' (0.798)
3. 'Adding a special federal pollution "carbon" tax to coal, oil, and gas to increase the cost of carbon-intensive activities and products' (0.682)
4. 'The federal government promoting farm crop diversification and land management to reduce the impact of severe weather events' (0.725)

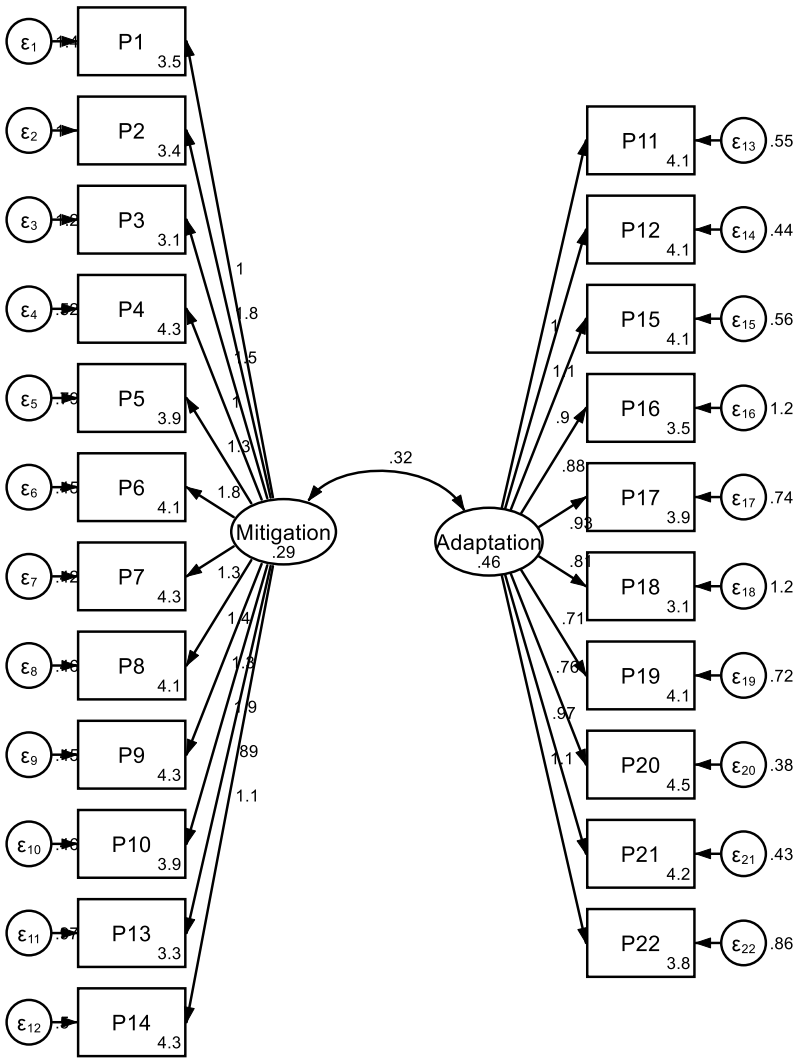
5. 'The installation of solar panels on government buildings' (0.726)

Based on the twenty-two policy items measured in this study, the combination of the five policy items above provides the best unidimensional measure of climate change policy. The statistical and methodological literature on factor analysis offers varying guidance on what cutoff to use for factor loadings when constructing scales, but a consensus leans toward more rigorous thresholds for better clarity and reliability. While researchers often apply cutoffs inconsistently (ranging from 0.3 to 0.7), it recommends using a minimum of 0.4 for practical significance, with 0.6 or higher preferred for achieving clean, interpretable factor structures (Howard, 2016). Additionally, from a structural perspective, loadings of 0.6 or higher are considered strong indicators of unidimensionality, reducing the risk of cross-loading and improving interpretability. In contrast, lower loadings may be used during initial exploration but are typically excluded in the final scale to ensure clarity and validity (Fleming, 2003).

Model 2: Two-Factor Structure of Climate Change Policy Support

Model 2 conceptualizes climate change policy support as a two-dimensional construct, distinguishing between mitigation and adaptation (see Figure 2.2). A CFA tested whether policy support is best represented by two distinct latent factors: Mitigation (support for policies addressing the causes of climate change) and Adaptation (support for policies helping communities cope with climate-related impacts). In the structural equation model, 12 mitigation policy items are loaded onto the Mitigation latent factor, and 10 adaptation policy items are loaded onto the Adaptation latent factor, with the model allowing for correlation between the two factors.

Figure 2.2 Model 2: Two-Dimensional Factor Structure of Climate Change Policy Support



All factor loadings were statistically significant ($p < 0.001$), indicating that each policy item was strongly related to its respective latent construct. The standardized factor loadings indicate that some policies were stronger indicators of their respective constructs than others. Among mitigation policies, ‘providing funding to governmental agencies to monitor greenhouse gas emissions’ and the ‘government's purchase of zero-emission vehicles for the U.S. Postal Service’ had particularly strong loadings. Similarly, among adaptation policies, ‘financially assisting Americans to relocate from areas vulnerable to extreme weather’ and ‘promoting farm

crop diversification to reduce the impact of severe weather events' were especially strong indicators. The estimated correlation between the latent factors of Mitigation and Adaptation policies (0.324, $p < 0.001$) suggests that while the two constructs are positively related, they are empirically distinct.

The model fit between Model 1 and 2 was assessed using multiple indicators, including the chi-square (χ^2) goodness-of-fit test, the chi-square/degrees of freedom ratio (χ^2/df), the Comparative Fit Index (CFI), the Root Mean Square Error of Approximation (RMSEA), and the Standardized Root Mean Square Residual (SRMR). These indices collectively provide a robust assessment of model adequacy, with lower χ^2 values, higher CFI scores, and lower RMSEA and SRMR values indicating better fit. Table 2.3 shows the mean scores for each of the 22 climate change policy items.

The chi-square (χ^2) statistic evaluates the difference between the predicted and observed covariance matrices, with lower values indicating better model fit. However, because the χ^2 test is highly sensitive to large sample sizes, it is often interpreted alongside the chi-square/degrees of freedom ratio (χ^2/df). A χ^2/df ratio below three is considered acceptable, while values below 2 suggest a good fit (Arbuckle, 2008).

Model 1 (unidimensional factor) produced a chi-square of 3831.05 (df = 209), resulting in a χ^2/df ratio of 18.33, which exceeds the acceptable threshold and suggests a poor fit. In contrast, Model 2 (Two Factors: Mitigation and Adaptation) yielded a lower chi-square value of 3421.26 (df = 208), with a χ^2/df ratio of 16.45, indicating a notable improvement but still exceeding the optimal range. Despite these values, the chi-square test is known to be overly strict in large samples, necessitating the use of additional fit indices.

The CFI compares the tested model to an independent model (where no relationships are assumed), with values closer to 1.0 indicating a better fit. A CFI above 0.90 is generally considered acceptable, while values above 0.95 indicate a good fit (Hu & Bentler, 1998). For Model 1, the CFI was 0.831, falling below the acceptable threshold and suggesting that the single-factor structure did not fit the data well. In Model 2, the CFI increased to 0.852, reflecting a better, though still suboptimal, fit. This increase indicates that allowing for two correlated factors – Mitigation and Adaptation – provides a more precise representation of climate policy support than a unidimensional model. Another indicator that is examined while conducting CFAs is the RMSEA, which estimates the model's lack of fit compared to a perfect model, with values below 0.08 indicating reasonable fit and values below 0.05 suggesting good fit (Browne & Cudeck, 1993).

For Model 1, the RMSEA was 0.091 (90% CI: 0.089–0.094), exceeding the conventional threshold for acceptable fit. This suggests that a single-factor solution does not sufficiently explain variation in climate policy support. In contrast, Model 2 produced a lower RMSEA value of 0.086 (90% CI: 0.083–0.088), indicating improved fit, though still slightly above the desired range. These results also support the hypothesis that distinguishing between mitigation and adaptation policies provides a more accurate representation of the data.

The SRMR measures the average difference between the observed and predicted correlations, with values below 0.05 indicating a good fit and values below 0.10 considered acceptable (Hu & Bentler, 1999). For Model 1, the SRMR was 0.058, suggesting a moderate model misfit but still within the acceptable range. However, SRMR was not reported for Model 2 due to missing values, preventing direct comparison. Given the improvement in other fit indices,

it is likely that Model 2 would have also yielded a lower SRMR, further supporting its superiority over the single-factor model.

Model 1, the unidimensional factor model, exhibited a poor fit, as indicated by a high chi-square value ($\chi^2(209) = 3831.05$, $p < 0.001$), a low CFI (0.831), and an RMSEA (0.091) above acceptable thresholds. See Table 2.4. Although the SRMR (0.058) suggested a reasonable level of fit, the overall model fit statistics indicate that a single-factor structure is insufficient to capture climate policy support.

Model 2, the two-factor model distinguishing Mitigation and Adaptation, resulted in substantially improved model fit with a lower chi-square value ($\chi^2(208) = 3421.26$, $p < 0.001$), an increased CFI (0.852), and a reduced RMSEA (0.086). The chi-square difference test confirmed that Model 2 fit the data significantly better than Model 1 ($\Delta\chi^2 = 409.79$, $p < 0.001$). These findings indicate that climate change policy support is better represented by two distinct but related dimensions rather than a single unidimensional construct.

Table 2.4 Fit Indices for Confirmatory Factor Analysis Models

Model	χ^2(df)	χ^2/df	CFI	RMSEA [90% CI]	SRMR	Log-Likelihood
Model 1 (Single Factor)	3831.05 (209)	18.33	0.831	0.091 [0.089, 0.094]	0.058	-59270.51
Model 2 (Mitigation & Adaptation)	3421.26 (208)	16.45	0.852	0.086 [0.083, 0.088]	- (Not reported)	-59042.08

The hypothesis sought to test whether public support for climate policies is better explained using a two-dimensional framework that distinguishes between mitigation and

adaptation policies than a unidimensional model that treats climate policy support as a single construct. The CFAs from models 1 and 2 confirm this hypothesis.

Performing item reduction to determine the best measures of mitigation and adaptation policy

To identify which of the 12 mitigation policies best measure the mitigation factor and which of the 10 adaptation policies best measure adaptation, item reduction is statistically performed within each factor. The highest standardized factor loadings for mitigation policies are the following five items:

1. The government's purchase of zero-emission vehicles for the U.S. Postal Service (factor loading: 0.816)
2. The installation of solar panels on government buildings (0.734)
3. Offering tax credits for energy-efficiency improvements to commercial buildings (0.731)
4. The government providing tax credits for energy-efficiency improvements to residential homes (0.715)
5. Providing funding to governmental agencies to monitor greenhouse gas emissions in the United States (0.830)

Similarly, the highest loading **adaptation policies** were the following:

1. Adding a special federal pollution "carbon" tax to coal, oil, and gas to increase the cost of carbon-intensive activities and products (0.744)
2. Increasing government social safety nets aimed at helping people affected by extreme weather events (0.711)
3. The funding of research on and development of drought-tolerant crops (0.675)
4. The federal funding of disaster response teams (0.639)

5. Measures to increase resilience to possible sea level rise, such as building new levees, sea walls, dikes, and stormwater basins (0.632)

Notably, all of these items had factor loadings above 0.6, the recommended cutoff (Flemming, 2003).

To verify that the models with the reduced number of items are better models that fit to represent climate mitigation and adaptation policies, CFAs for both latent structures are evaluated again to determine if there is indeed a better fit compared to the full models. Similar to how model fit was determined between Model 1 and 2, model fit with reduced items was assessed using multiple indices, including the chi-square (χ^2) goodness-of-fit test, the chi-square/degrees of freedom ratio (χ^2/df), the CFI, the RMSEA, and the SRMR.

In the reduced model, the chi-square statistic was $\chi^2(34) = 827.60$, $p < 0.001$, indicating a statistically significant difference between the model and the observed data (see Table 2.5). The RMSEA was 0.105 (90% CI: 0.099–0.112), exceeding the conventional cutoff for a good fit. The SRMR value of 0.040 suggests an excellent fit, further supporting the model's validity, especially in comparison with Model 1 (unidimensional structure), which had an SMSR value of 0.058. Additionally, all factor loadings were statistically significant ($p < 0.001$), with standardized loadings ranging from 0.71 to 0.82 for mitigation and 0.63 to 0.77 for adaptation, indicating that the selected items are strong indicators of their respective latent constructs.

Table 2.5 Fit Indices for Confirmatory Factor Analysis Models

Model	χ^2 (df)	χ^2/df	CFI	RMSEA (90% CI)	SRMR
Model 2 (Full Model)	3421.26 (208)	16.45	0.852	0.086 (0.083–0.088)	-
Model 3 (Reduced Model)	827.6 (34)	24.34	0.927	0.105 (0.099–0.112)	0.04

The final reduced-item CFA model of the two-factor latent structure demonstrated a better overall fit compared to earlier models (Models 1 and 2) with all items included. The CFI (0.927) and SRMR (0.040) indicate a good model fit, while the RMSEA (0.105) suggests some degree of misfit, though this may be inflated due to model complexity and the number of estimated parameters. Compared to the full-item model (Model 2), this reduced model improves construct validity and parsimony by retaining only the five strongest indicators per construct, ensuring that mitigation and adaptation policy support is measured efficiently without unnecessary redundancy.

Model 3: Performing an Exploratory Factor Analysis on Climate Change Policy Support

An EFA is conducted to explore potential alternative latent structures of climate change policy support. The new model of climate change policy support is then compared with the two previous two models discussed: Model 1 - unidimensional structure, and Model 2 – a two-factor model of mitigation and adaptation policy support. Principal component analysis and varimax rotation were used to conduct an EFA on the full list of policies displayed in Table 2.1.

One policy, 'The federal funding of disaster response teams' was dropped from the EFA after revealing very little variation of support among the entire sample, with a mean score of 4.522 on a scale from 1 to 5 and with a low standard deviation of 0.806, a -2.063 skewness, and

7.633 kurtosis. Of the remaining 21 policy items, three latent factors emerged (see Table 2.6). Factors with loading of less than 0.3 are not shown.

The three emerging factors are identified as:

- Factor 1: Promotion of Long-term Sustainability and Adaptation Strategies (adaptation and mitigation mix)
- Factor 2: Intensive Disaster Resilience and Protective Measures (pure adaptation)
- Factor 3: Direct Regulation and Mitigation of Fossil Fuels (pure mitigation)

Table 2.6 Exploratory Factor Analysis, Factor Loadings.

Factor1	Factor2	Factor3	Uniqueness	
		0.491	0.744	Reducing the amount of money that the government is giving to support the fossil fuel energy sector
		0.754	0.318	Adding a special federal pollution "carbon" tax to coal, oil, and gas to increase the cost of carbon-intensive activities and products
		0.791	0.387	A government ban on all new fossil fuel development
0.532			0.612	Government investment in local and national public transportation systems, such as buses and trains
0.324			0.612	The allocation of government funding for the construction of bike lanes on city streets throughout America
0.557		0.380	0.338	The government's purchase of zero-emission vehicles for the U.S. Postal Service
0.664			0.451	The installation of solar panels on government buildings
0.806			0.397	Offering tax credits for energy-efficiency improvements to commercial buildings
0.831			0.401	The government providing tax credits for energy-efficiency improvements to residential homes
0.392		0.467	0.291	Providing funding to governmental agencies to monitor greenhouse gas emissions in the United States
0.650			0.538	The funding of research on and development of drought-tolerant crops
0.625			0.463	The federal government promoting farm crop diversification and land management to reduce the impact of severe weather events
			0.781	A government program that pays farmers to store carbon on their land
0.683			0.526	National reforestation efforts to counteract national carbon dioxide (CO2) emissions
0.507			0.594	Measures to increase resilience to possible sea level rise, such as building new levees, sea walls, dikes, and stormwater basins
	0.675		0.626	The government subsidizing home insurance in high-risk areas most vulnerable to extreme weather
			0.672	Changing "zoning" rules about where buildings can be built to discourage new construction in areas most vulnerable to extreme weather
	0.385		0.744	The government's purchase of private land in areas most vulnerable to extreme weather events
0.361			0.751	The requirement for electric utilities to relocate power lines underground to avoid outages from extreme weather events
	0.651		0.414	Increasing government social safety nets aimed at helping people affected by extreme weather events
	0.797		0.393	The government financially assisting Americans to move and resettle away from areas vulnerable to extreme weather
α=0.913	α=0.724	α=0.843		

Factor 1, "Promotion of Long-term Sustainability and Adaptation Strategies (adaptation and mitigation mix)," broadly focuses on both mitigation and adaptation measures and can be categorized as taking actions that both reduce the release of greenhouse gas emissions and actions that may make the transition to a warming climate easier. The policies in this factor are more long-term actions, such as constructing bike lanes, offering tax credits for energy-

efficiency improvements, and national reforestation efforts. Notably, items that demonstrated significant cross-loadings on multiple factors were excluded from all associated factors to mitigate interpretive ambiguity and ensure construct clarity.

Factor 2, “Intensive Disaster Resilience and Protective Measures (pure adaptation),” is more clearly about immediate and significant actions in response to climate-related disasters. These include helping people resettle away from vulnerable areas, providing increased safety nets, and subsidizing home insurance in high-risk areas. The actions in this factor are more immediate and directly impact people financially through subsidies or safety nets. Factor 3, “Direct Regulation and Mitigation of Fossil Fuels (pure mitigation),” is about actions that directly impact the fossil fuel industry, such as a government ban on new fossil fuel development and adding a 'carbon' tax.

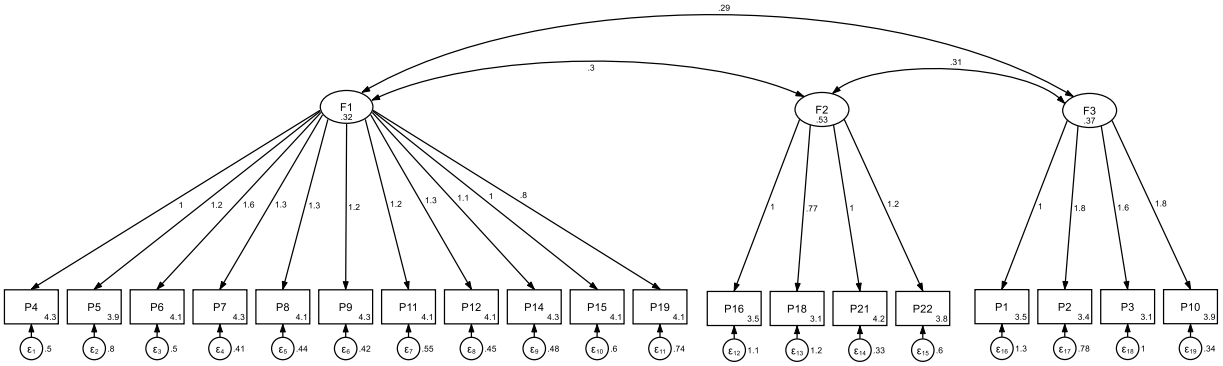
Composite scales were then created for each of the factors using those items. These scales are later used to compare how independent variables predict each factor. The Cronbach's alpha coefficients for each factor scale ranged from 0.724 to 0.913, confirming the internal reliability of the scales.

The EFA did not align with the latent factors predicted in Model 2 of Mitigation and Adaptation. While Factors 2 and 3 in the third model appear to correspond more closely with adaptation and mitigation actions, respectively, Factor 1 comprises a combination of climate change policies that more broadly reflect the conceptualization of "climate change policies" as established in prior research (as discussed in the literature review).

Similar to how model fit was determined between previous models, the best model was evaluated with multiple indices, including the chi-square (χ^2) goodness-of-fit test, the chi-

square/degrees of freedom ratio (χ^2/df), the CFI, the RMSEA, and the SRMR. The resulting three factors were used in a CFA to compare models.

Figure 2.3 Model 3: Three-dimensional Factor Structure of Climate Change Policy Support



In Model 3, the chi-square statistic was $\chi^2(149) = 1967.75$, $p < 0.001$, indicating a statistically significant difference between the model and the observed data. The RMSEA was 0.077 (90% CI: 0.074-0.080), suggesting an acceptable but not excellent fit, as it slightly exceeds the conventional threshold for a good fit (≤0.06). The CFI was 0.904, which indicates a reasonably good but not ideal model fit. The SRMR was 0.048, suggesting a strong model fit. The Coefficient of Determination (CD) was 0.990, indicating that the model explains a high proportion of variance in the observed variables.

Table 2.7 Fit Indices for Confirmatory Factor Analysis Models.

Model	χ^2(df)	χ^2/df	CFI	RMSEA (90% CI)	SRMR	Log-Likelihood
Model 1 (Single Factor)	3831.05 (209)	18.33	0.831	0.091 (0.089-0.094)	0.058	-59270.51
Model 2 (Mitigation & Adaptation)	3421.26 (208)	16.45	0.852	0.086 (0.083-0.088)	-	-59042.08
Model 2 (Reduced Model)	827.6 (34)	24.34	0.927	0.105 (0.099–0.112)	0.04	-59908.4
Model 3 (Three Factors)	1967.75 (149)	13.21	0.904	0.077 (0.074-0.080)	0.048	-51001.29

Table 2.7 compares all three models plus the reduced model 2. The results indicate that the three-factor model (Model 3) provides the best fit for the data compared to the alternative models. The single-factor model (Model 1) demonstrates poor fit, with a high chi-square statistic ($\chi^2(209) = 3831.05$, $p < 0.001$), low CFI (0.831), and an RMSEA (0.091) exceeding the conventional cutoff for good fit. The two-factor model (Model 2: Mitigation & Adaptation) shows some improvement, but its CFI (0.852) remains below the acceptable threshold of 0.90, and its RMSEA (0.086) suggests a less-than-adequate fit. The reduced model (Model 2: Reduced Model), despite a CFI of 0.927, exhibits a high RMSEA (0.105) and a poor chi-square ratio ($\chi^2/df = 24.34$), indicating potential over-simplification. In contrast, Model 3 (Three Factors) achieves the best balance between fit and model complexity, with a CFI of 0.904, an acceptable RMSEA of 0.077 (90% CI: 0.074–0.080), and the best log-likelihood (-51,001.29), indicating stronger explanatory power.

Table 2.8 Regression on Climate Change Constructs, N=2,079

	Model 1	Model 2		Model 3		
Variable	**(Unipolar)**	**(Mitigation)**	**(Adaptation)**	**(Factor1)**	**(Factor2)**	**(Factor3)**
Political Identity(Ref: Democrat)						
Republicans	-0.190***	-0.223***	-0.134***	-0.194***	-0.118***	-0.288***
Sex (Ref: Man)						
Woman	0.017*	0.013	0.026***	0.012	0.039***	0.020*
Age	-0.001***	-0.001***	-0.001*	-0.001*	-0.002***	-0.002***
Race (Ref: White)						
Non-white	-0.005	0.002	-0.021**	0.002	-0.051***	-0.001
Education (Ref: high school or less)						
Associate's degree or Some college, but no degree;	0.000	0.001	-0.004	-0.001	-0.010	0.003
Bachelor's degree;	0.027*	0.033**	0.015	0.025*	-0.002	0.053***
Some graduate school but no degree;	0.043	0.048	0.031	0.034	-0.002	0.098**
Graduate Degree	0.060***	0.071***	0.042**	0.052***	0.041*	0.114***
Family Income(Ref: Less than $25k)						
$25,000 - $34,999;	-0.007	-0.014	0.006	-0.012	0.015	-0.013
$35,000 - $49,999;	0.007	0.006	0.010	0.006	0.012	0.008
$50,000 - $74,999;	0.003	0.003	0.005	0.004	-0.003	0.004
$75,000 - $99,999;	-0.004	-0.008	0.001	-0.001	-0.016	-0.015
$100,000 - $149,999;	0.002	0.001	0.004	0.003	-0.016	0.007
$150,000 or more	0.017	0.018	0.014	0.021	-0.019	0.019
Constant	0.850***	0.870***	0.817***	0.877***	0.855***	0.844***
R-squared	0.289	0.317	0.168	0.274	0.114	0.336

* = p<0.05, ** = p<0.01, *** = p<0.001

The regression results compare three models predicting support for climate change policy constructs, and the independent variables included political identity, sex, race, education, and family income. (see Table 2.8). For all factors in each of the three models, the strongest predictor of climate change policy support was one's political identity. In all three models, Republicans showed less support than Democrats in all factors. The greatest difference in support was in Model 3, within Factor 3, which was 'Direct Regulation and Mitigation of Fossil Fuels (pure mitigation).' The least differences were in the same model in Factor 3, which was about 'Intensive Disaster Resilience and Protective Measures (pure adaptation).' These findings may hint at the possibility that climate adaptation policies are, in fact, less polarizing than climate

mitigation policies, potentially providing a doorway to bringing bipartisan support for climate change policies.

Examining differences in support between sexes shows that in all models, women show greater levels of support, with the greatest levels of support for factor 2 in Model 3 (+3.9%, $p < 0.001$), indicating that women might be more likely to support adaptation policies than men. When it comes to age, an increase in age shows a decline in climate policy support among all models. Examining differences in race, the rudimentary categorization of race as 'white' and 'non-white' shows that at least within these groupings, those who self-identified as white were more likely to show support within the two factors representing climate adaptation policies (Adaptation in Model 2, and Factor 2 in Model 3). The trend in education shows that greater levels of education show greater overall levels of support for climate policies for all factors. Noteworthy is that a graduate degree especially strongly predicts greater climate policy support, particularly for mitigation and mixed policies. Family income was not a significant predictor of climate change policy support within any of the factors or models.

Last, the three-factor model (Model 3) explains the most variance ($R^2 = 0.336$). Whereas Factor 2 in Model 3 had the lowest R^2 (0.114), indicating that other variables may need to be explored other than the independent variables included within the model to explain the variance in the model. Given that political identity is the strongest predictor of climate support, the low variance in Factor 2 may indicate a reduced role of political identity, especially when it comes to climate adaptation policies.

Discussion

This study aimed to better understand the latent structure of climate change policy support. The first stage examined whether a two-factor structure (Model 2) provided a clearer representation of climate change policy support compared to a unidimensional model (Model 1). The statistical analysis indicates that a two-factor structure, distinguishing between climate mitigation and adaptation policies, more accurately reflects the latent structure of climate policy support. Further examination of the two-factor structure to reduce the number of policy items for each factor (Model 2 reduced) suggested that item reduction may have oversimplified Model 2, limiting its effectiveness in capturing the latent structure.

The third model, based on an EFA, revealed a latent structure that diverged from the two-factor conceptualization in Model 2. The three-factor solution provides a stronger representation of climate policy support, consisting of one factor composed entirely of adaptation policies, another of mitigation policies, and a third blending both. Among the three models tested, Model 3 demonstrates the best fit, offering a more comprehensive understanding of the latent structure of climate change policy support. These findings were surprising, given that the first hypothesis only predicted that the two-dimensional model would better explain climate change policy support. Model 3 shows that we still have a lot to learn about the latent structure of climate change policy support. This suggests that climate policy support is shaped by more complex, multifaceted considerations than previously assumed, highlighting the need for continued empirical refinement and theoretical development.

Understanding how climate policies are structured and categorized is essential for accurately assessing public support, yet existing research does not distinguish between different types of climate policies. This study addresses this gap by developing a comprehensive model of

the latent structure of climate policy support, using factor analysis to identify how various policies group together. By uncovering these underlying dimensions, this research clarifies how climate policies are perceived and supported by the public, providing a stronger foundation for future studies on climate policy attitudes and informing more targeted policy communication strategies.

The Super Wicked Problem framework suggests that climate mitigation and adaptation should be treated as distinct dimensions of climate policy. Supporting this framework, both Model 2 and Model 3 indicate that the public perceives mitigation and adaptation policies differently. The findings provide empirical evidence for the conceptual distinction between mitigation and adaptation policy support, reinforcing the need for researchers and policymakers to consider these as separate but related constructs. Researchers examining climate policy attitudes should account for both the statistical and conceptual implications of this factor structure. Distinguishing between mitigation and adaptation allows for a more nuanced understanding of environmental attitudes. Future studies should further explore differences in public support across distinct categories of climate policies.

This study has some limitations, including constraints related to the sample population and the specific policy items included in the survey. This study's sample, drawn from the Prolific platform, may limit generalizability due to its non-probability sampling method and overrepresentation of highly educated and higher-income individuals. Additionally, the simplification of demographic categories and the exclusion of certain respondents due to data quality concerns may obscure important variations within key social groups. Furthermore, the analysis was limited to 22 policy items, which do not fully capture the breadth and complexity of

climate policies available to governments. Expanding the range of policy measures in future research could provide a more comprehensive understanding of climate policy support.

CHAPTER THREE: EXAMINING CLIMATE CHANGE MITIGATION AND ADAPTATION POLICY SUPPORT IN THE UNITED STATES THROUGH THE LENS OF POLITICAL IDENTITY

Introduction

Public concern for climate change does not always translate into support for climate policies. This discrepancy is often attributed to lower support among Republicans in the United States (Egan & Mullin, 2017; Goldberg et al., 2021; Unsworth & Fielding, 2014; Hornsey et al., 2016). While Republicans generally oppose climate mitigation policies due to the influence of the CCCM, some evidence suggests they are more receptive to climate adaptation efforts. For instance, Florida Republican Governor Ron DeSantis established the Resilient Florida program, allocating $1 billion to help local governments adapt to climate impacts. Similarly, conservative groups such as the World Climate Declaration explicitly prioritize adaptation over mitigation.

The apparent greater Republican support for adaptation policies may stem from the CCCM's strategic framing of climate change, which has aimed to undermine support for mitigation while inadvertently leaving room for adaptation as a politically acceptable alternative. However, relatively few studies have systematically examined climate policy preferences and those that do often suffer from methodological limitations. Fairbrother (2022) highlights a critical gap in climate policy research: while public attitudes toward carbon taxation have been extensively studied, far less is known about how people, particularly Republicans, perceive alternative mitigation strategies and adaptation policies. This study addresses this particular gap by investigating whether adaptation policies receive greater public support than mitigation policies, particularly among Republicans.

More specifically, this study examines the extent of political polarization in climate policy support, analyzing how political affiliation (Republican vs. Democrat) shapes attitudes toward mitigation and adaptation policies. Drawing on social identity theory, this study hypothesizes that Republicans exhibit lower support for mitigation policies due to the CCCM's targeted efforts against them, whereas adaptation policies may be perceived as more politically neutral or locally beneficial. By disentangling the interplay between social and political identity, this research provides insight into the conditions under which different segments of the public support climate policies.

Theoretical Background

As with many policies, climate policy support in the United States is shaped by a complex interplay of social and social-psychological forces. While climate change is a well-documented scientific phenomenon (Masson-Delmotte, 2021), attitudes toward climate change are deeply politically polarized, with a sharp divide along partisan lines in terms of belief in the problem and willingness to support solutions. Democrats overwhelmingly accept climate science, express concern, and support policy action, whereas Republicans remain more skeptical, reflecting a broader pattern in which belief, concern, and policy preferences move together (Egan & Mullin, 2017). This polarization raises an important question: What drives support for climate policies? While climate policy support has been widely studied, both in general and specifically through the lens of political identity, the nuanced ways in which political identity interacts with the underlying structures of climate policies remain largely unexplored.

Understanding Public Support for Climate Policy in the U.S.

To understand the nuanced ways in which political identity interacts with the underlying structures of climate policies, we must first understand the factors that influence public support

for climate change policies. Drews and Van den Bergh (2016) outline three key dimensions: individual social-psychological factors, perceptions of policy attributes, and broader contextual influences. Within the first category, political ideology, personal values, emotions, and perceptions of climate change all shape whether someone supports climate policies. At the same time, public reactions to policy proposals are affected by whether they are perceived as fair, costly, or effective. Lastly, trust in institutions, media framing, and economic conditions play a critical role in determining public receptiveness to climate action. People who hold egalitarian worldviews, have greater climate knowledge, and believe in anthropogenic climate change tend to be more supportive of policy measures (Drews & Van Den Bergh, 2016; Mullins-Jaime & Wachter, 2023; Rooney-Varga et al., 2021; Xue et al., 2016). At the same time, those who are skeptical, perceive high costs, or distrust government institutions are less likely to back climate initiatives (Fairbrother, 2022; Johansson et al., 2022; Ojala, 2015).

Within the U.S., evidence continues to demonstrate that the strongest predictors of climate policy support are deeply social-psychological (Goldberg et al., 2021; Myers et al., 2024). According to a recent paper by Goldberg et al. (2021), worry about climate change, risk perception, certainty that climate change is occurring, and belief in anthropogenic climate change are the most significant factors influencing policy preferences. Together, the authors show that these variables listed above explain more than half of the variation in public climate policy support. However, the key predictor of climate policy support remains political identification. Republican support for climate policies has eroded, while Democratic support has remained strong over the past two decades (Jenkins-Smith et al., 2020).

The partisan divide on climate change has not always been so extreme. Over the past two decades, the gap between the attitudes of Democrats and Republicans on climate change has

widened dramatically. In general, party affiliation tends to shape individuals' worldviews more than the other way around. People often adopt the attitudes and beliefs of their chosen party over time, with political identity acting as a lens through which they interpret broader social and political issues (Doell et al., 2021). Dunlap, McCright, and Yarosh (2016) document how conservative media, fossil fuel industry-backed misinformation campaigns, and ideological opposition to government intervention have reinforced Republican resistance to climate action. As climate change became associated with liberal politics, partisan identity itself became a stronger predictor of policy attitudes, making support less about the policies themselves and more about group loyalty.

The Influence of the Climate Change Countermovement on Climate Change Policy Support

For decades, political identity has been the strongest predictor of climate policy support in the United States (Hornsey et al., 2016). A key force behind this partisan gap is attributed to the CCCM, which, since the early 1990s, has crafted and promoted a campaign in opposition to climate policies (Brulle, 2021; Kolářová, 2020; McCright & Dunlap, 2000, 2003). Through strategic framing, lobbying, and media influence, the CCCM has systematically shaped public opinion, particularly among conservatives, making climate skepticism a core part of Republican identity.

One of the earliest and most impactful successes of the CCCM was its role in obstructing U.S. participation in the Kyoto Protocol. McCright and Dunlap (2003) document how the U.S. conservative movement mobilized against the agreement, framing it as a threat to economic growth and national sovereignty. Republican opposition to international climate agreements has persisted, most recently culminating in a Republican president withdrawing from the Paris Climate Agreement. (Perez & Waldholz, 2025). By focusing its opposition on policies broadly

meant to address the causes of climate change, the CCCM was able to cast climate action as both costly and unnecessary. This strategy proved highly effective, as Republican leaders have consistently aligned themselves with industry-backed arguments that positioned climate mitigation as harmful to U.S. businesses and workers.

Over time, the CCCM's influence extended beyond policymakers to the general public, particularly conservatives. McCright and colleagues (2015) show how conservative media, think tanks and business interests worked together to reinforce climate skepticism, ensuring that Republican voters remained deeply skeptical of climate science and resistant to policy solutions. The impact of this long-term effort is clear: Republican support for climate policies has eroded, while Democratic support has remained strong (Jenkins-Smith et al., 2020).

The CCCM's strategic framing has been highly effective in cultivating Republican opposition to climate mitigation policies by portraying them as economically burdensome and ideologically incompatible with conservative values. However, this opposition has not been equally extended to climate adaptation policies, raising the question of why adaptation remains a more politically viable pathway for conservatives.

The Emergent Gap of Support Between Climate Mitigation and Adaptation Policies

Another significant gap in the literature is that the distinction between mitigation and adaptation policies was not always clear in climate policy discussions by stakeholders. For many years, researchers and policymakers primarily focused on mitigation, often using the concept of "climate policy" as a synonym for emissions reduction efforts, thereby overlooking or conflating it with adaptation measures. It was not until 2007 that the Intergovernmental Panel on Climate Change (Masson-Delmotte, 2021) formally called for balancing attention between mitigation and

adaptation, recognizing that both were necessary responses to climate change (Orlove, 2022). The growing appreciation for the nuances of climate policy support broadened the scope of climate policy research, leading to a growing recognition that adaptation was a viable policy pathway, especially among conservatives who remained resistant to mitigation strategies.

In parallel, as scientists blurred the line between climate policies and climate mitigation policies, the CCCM also never made it their objective to differentiate between the different types of climate policies. Yet, the framing strategies employed by the CCCM have been particularly effective in shaping opposition to climate mitigation policies specifically (Dunlap & McCright, 2015). By emphasizing the economic costs, regulatory burdens of emissions reductions, and the unknown effectiveness of greenhouse gas emission-reducing policies, the CCCM has made mitigation seem like an overreach of government power rather than a necessary response to a global crisis (Brulle, 2021), or what Levin et al. (2012) call, a "Super Wicked Problem."

The framing of mitigation policies as harmful has been reinforced by conservative leaders who portray climate policies as a threat to individual freedoms, business interests, and economic growth. As a result, Republican voters are significantly less likely than Democrats to support aggressive climate action, a trend that has remained consistent for decades. Ultimately, the CCCM has played a decisive role in shaping the political landscape of climate policy in the U.S., ensuring that climate action remains a deeply partisan issue. By embedding climate skepticism within conservative ideology, the movement has made it politically costly for Republican leaders to support even moderate climate measures.

The CCCM has played a key role in persuading Republicans that mitigation is incompatible with their identity, while adaptation, which focuses on managing climate impacts rather than preventing them, has remained less politically contentious. As a result, Republicans

are more open to adaptation policies, especially when policies are not framed within politically loaded contexts (Clarke et al., 2019). The divide between mitigation and adaptation policies underscores a crucial reality in climate policy: while mitigation remains a partisan battleground, adaptation presents an opportunity for broader political consensus. If adaptation policies are framed in ways that align with conservative values—such as resilience, economic preparedness, and local governance—there may be pathways for bipartisan support for climate policies more broadly if the lines between climate policies and adaptation policies are equally blurred.

The Role of Social Identity in Climate Change Polarization

To fully understand how the CCCM has influenced Republican opposition to climate policy, it is essential to consider the role of social identity as an underlying mechanism influencing political differences. Political affiliation is more than just a set of policy preferences; it is a deeply ingrained part of individuals' self-concept. Social Identity Theory explains how people categorize themselves into groups, gain emotional connection and self-esteem from these affiliations, and distinguish themselves from outsiders (Brewer, 1991), with one of the main groups people identify with being their political groups.

At its core, Social Identity Theory suggests that people favor their own group, seeking to enhance their status and legitimacy while distancing themselves from outgroups (Tajfel et al., 1971). This tendency to prioritize ingroup loyalty over objective information is a powerful mechanism shaping climate change attitudes and policy support, where political identity has become a dominant factor in shaping environmental attitudes. When an issue like climate change becomes strongly associated with one political group—progressives and Democrats—it naturally invites opposition from the other group, reinforcing polarization. The more climate change is framed as a liberal concern, the more conservatives feel compelled to reject it, not necessarily

based on scientific evidence but as a defense of their group's identity (Mason, 2018). The implications of these findings are profound. The CCCM has capitalized on social identity mechanisms to reinforce climate skepticism among Republicans, framing climate action as an outgroup issue associated with liberal elites, government overreach, and economic harm. By embedding climate denial within conservative identity, the movement has made it difficult for Republican voters and politicians to break ranks without risking alienation from their political constituents.

Fielding and Hornsey (2016) apply Social Identity Theory to climate change, demonstrating that individuals tend to align their environmental beliefs and behaviors with those of their political group. Conservatives, for example, are more likely to oppose climate policies when they perceive them as threats to their ideological community, while progressives tend to embrace pro-environmental actions as a reflection of their group values. This suggests that climate attitudes are not just about facts and policies – they are expressions of group identity.

Further research reinforces the significance of this dynamic. Fielding et al. (2020) show that climate change messaging is far more effective when it is framed in ways that resonate with a person's social identity. In other words, conservatives may be more open to climate action when policies are presented in terms of economic opportunity, national security, or personal responsibility – values that align with conservative ideology. Similarly, Ferguson, McDonald, and Branscombe (2016) illustrate how social identity influences both climate skepticism and pro-environmental behavior, shaping whether individuals engage with or reject climate-related policies.

Influences on Climate Adaptation Policy Support

To better understand how Social Identity Theory and the Climate Change Countermovement (CCCM) shape differences in Democratic and Republican support for mitigation and adaptation policies, it is first essential to examine the broader factors influencing climate adaptation policy support. Unfortunately, very little research adequately explores support for climate adaptation policy. From what we know, evidence suggests that adaptation policies tend to receive broader public support (Houser et al., 2022). While support for adaptation policies is influenced by factors such as risk perception, trust in government, and political identity, people are generally more willing to back adaptation measures than to fund them through taxation. Interestingly, personal experiences with extreme weather events do not strongly predict adaptation policy support, but perceived future climate risks do, suggesting that individuals are more motivated by their expectations of future threats than by direct past experiences (Carman et al., 2022). Rubio Juan and Revilla (2021) further highlight key psychological distinctions between mitigation and adaptation policy support. They find that a greater psychological distance to climate change decreases support for the adaptation policy. Psychological distance does not have a direct effect on support for mitigation policies.

Lastly, a study by Schwaller and colleagues (2020) shows that climate adaptation support may not depend on political identity at all. They asked how political ideologies interact with climate adaptation decisions. They found that despite polarization around issues of climate change, political beliefs appear uncorrelated to their climate adaptation decisions, in contrast to climate mitigation policies, which are well documented to be politically polarized.

Exploring Differences of Mitigation Support between Democrats and Republicans.

Following research in the first study on the categorization of climate change policies, the first research question in the second study is aimed at better understanding the people who support those categories. Hence, the research question driving this study is: Is support for climate adaptation policies less polarized than support for climate mitigation policies?

Based on what we know about the CCCM, the interaction of social identity, and differences in climate policy support between Democrats and Republicans, the first hypothesis of this study seeks to confirm differences in support for climate change mitigation policies between Democrats and Republicans, explaining lower overall support for climate change policies by the U.S. public. Only then can we further examine more nuanced differences in support for the latent structure of climate policies. More specifically, the first hypothesis predicts:

H1: *Republicans will be less likely than Democrats to support climate mitigation policies.*

Figure 3.1 Diagram of the first hypothesis.

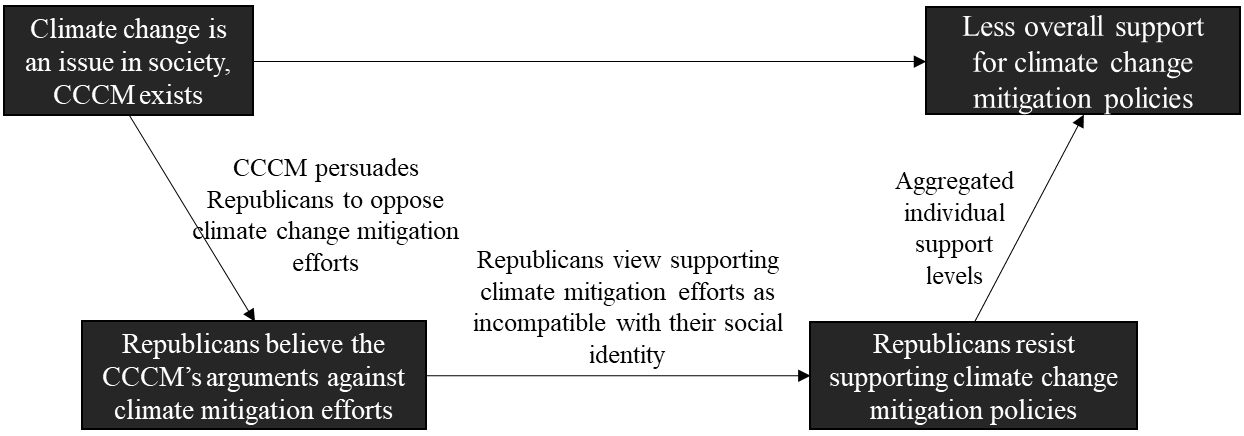


Figure 3.1 illustrates the theoretical argument for why we can expect to see lower levels of overall support for climate change policies. Using James Coleman's "boat" metaphor (Coleman, 1986) to explain sociological theory, this visual model illustrates how macro-level structures

(such as social norms or other contexts that exist in society) influence individual actions, which in turn collectively aggregate to reshape those same structures. The macro-micro-macro pathway completes a loop between structure and agency, much like a boat moving through water shaped by the environment but also leaving ripples in its wake. Here is how the model can be articulated through the four distinct corners:

1. Macro-Level Cause. Because climate change has become an issue in the U.S. public, the CCCM has worked tirelessly to convince Republicans that opposing climate change efforts is important. However, historically, their broad opposition to climate change efforts has really meant opposition to climate mitigation efforts.
2. Micro-Level Internal State. The influence of the CCCM, which actively argues against the prevailing scientific consensus on climate change, filters down to the micro level. Specifically, there is a notable level of persuasion of the CCCM's claims among Republicans.
3. Micro-Level Outcome. Because of the CCCM's influence, individual Republicans are more likely to oppose climate change mitigation policies. This resistance is shaped by individual Republicans viewing mitigation efforts as incompatible with their identity, based on their desire to align their identity with that of their own group.
4. Macro-Level Outcome. The aggregation of individual opposition within the Republican base contributes to a broader political environment where there is less overall public support for climate change mitigation policies.

Exploring Differences in Republican Support for Climate Mitigation and Adaptation Policy Support

Having theorized that Republicans exhibit lower support for climate mitigation policies compared to Democrats, the second hypothesis aims to investigate the distinctions in Republican support for mitigation versus adaptation policies. In recent years, some Republicans have deviated from long-standing partisan trends by showing increasing openness to support adaptation measures, presenting a sociological puzzle. This shift raises a question: What underlying factors shape Republican support for mitigation and adaptation policies?

Some conservatives see adaptation policies as more compatible with conservative values, as they often emphasize local and state-level initiatives, allowing Republicans to view adaptation as an actionable and fiscally responsible approach to climate resilience (Stern, 2020). Republicans view adaptation as compatible with values such as individualism, localism, and economic conservatism while viewing mitigation as potentially at odds with these values due to its global and regulatory nature (Dolšak & Prakash, 2018). Greater Republican support for climate change adaptation over mitigation may stem from the CCCM's focused efforts on framing climate change in a way that was meant to reduce support from Republicans for mitigation policies. Therefore, the next two hypotheses predict two outcomes, one for Democrats and one for Republicans:

> H2A: *Republicans are more supportive of climate adaptation policies than climate mitigation policies.*

Figure 3.2 Diagram of the second hypothesis.

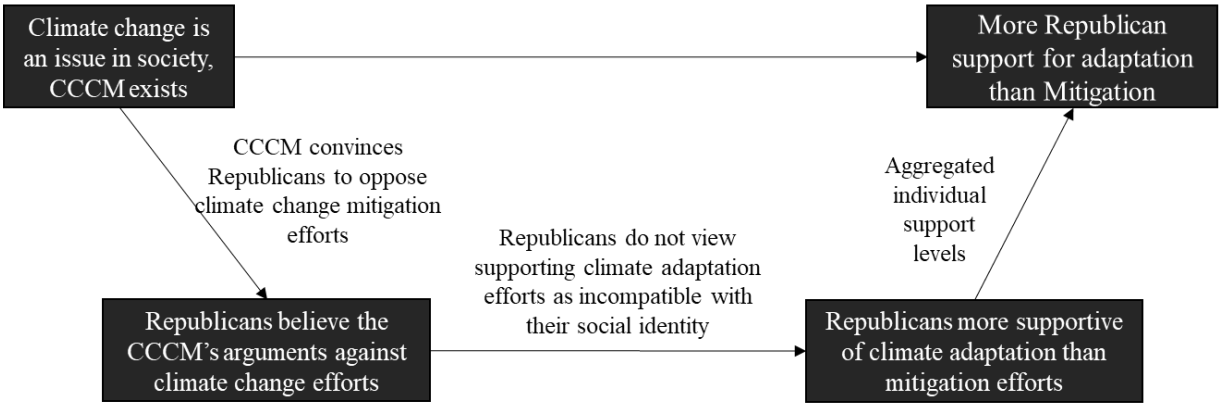


Figure 3.2 illustrates the theoretical argument for why we can expect greater overall levels of support for climate adaptation policies than climate mitigation policies among Republicans. Here is how the model can be articulated through the four distinct corners of Coleman's "boat" metaphor:

1. Macro-Level Cause. Like with the first hypothesis, the macro cause is the same in this hypothesis. Climate change has become a significant issue to the U.S. public, which is why the CCCM has worked to influence Republicans through its arguments against supporting climate change mitigation efforts.
2. Micro-Level Internal State. Republicans do not view support for climate adaptation as incompatible with their identity. The arguments of the CCCM often emphasize doubts about the efficacy or fairness of mitigation efforts, which aligns with broader conservative values around economic freedom and skepticism of regulatory interventions. At the same time, the CCCM has ignored adaptation policies while focusing on mitigation policies.
3. Micro-Level Outcome. Influenced by CCCM's framing of the issue, individual Republicans develop a preference for adaptation strategies over mitigation. This

preference can manifest as support for policies that focus on confronting the consequences of climate change rather than preventing climate change.

4. Macro-Level Outcome. This shift in individual preferences aggregates back to the macro level, where there is now more Republican support for adaptation strategies rather than mitigation efforts.

Democrats, in contrast to Republicans, may show less of this distinction of support between climate mitigation and adaptation policies, likely due to a broader acceptance of the scientific consensus on climate change and its anthropogenic drivers (McCright & Dunlap, 2003; Fielding et al., 2020). Therefore, the next hypothesis predicts that:

H2B: *Democrats are equally supportive of climate adaptation and mitigation policies.*

Methods

The Survey Instrument

To test the hypotheses outlined in the previous section, this study analyzes survey data to assess public support for climate mitigation and adaptation policies among Republicans and Democrats. Data for this study was collected on December 5, 2024, through an online survey of U.S. voting-age adults administered via the Prolific platform. The survey, titled *Public Perspectives on National Legislation Support*, was designed following the Tailored Design Method (Dillman et al., 2014), which aims to minimize survey errors related to coverage, sampling, nonresponse, and measurement bias. Data collection utilized Prolific's U.S. representative sampling tool, which stratifies participants by political affiliation and aligns with U.S. Census benchmarks for age, sex, and ethnicity. The median survey completion time was 11 minutes, with respondents compensated at an estimated rate of $9.51 per hour.

A stratified sample of 2,134 respondents was targeted to achieve a ±3% margin of error at a 95% confidence level, with equal representation of Democrats and Republicans. To mitigate potential attrition, an additional 122 participants were recruited, resulting in an initial sample of 2,256 respondents. To ensure data integrity, multiple quality control measures were implemented, including attention checks and demographic validation. A total of 181 respondents were excluded for failing both measures, while an additional 79 participants were removed due to clustering anomalies, particularly an overrepresentation of Ghana-born respondents. After a secondary recruitment round to replenish missing cases, the final analytic stratified sample included 2,113 participants, including 1,078 Democrats and 1,032 Republicans.

Key limitations exist with the convenience sample collected through Prolific. The non-probability sample ensures that a degree of coverage error exists within this sample. Some important differences between the sample used in this study and the general U.S. population include that the sample is over-representative of individuals with higher education and income levels and under-representative of Hispanic, lower-income, white individuals, and homeowners. Additionally, the mean age in the sample is higher than the general population.

Measures

The primary dependent variables in this study—support for climate mitigation and adaptation policies—were developed in a prior study (See Chapter 2). Support was assessed across twenty-two climate policies, covering a variety of mitigation and adaptation-focused climate policies (Table 2.1 for a complete list of policy items). Structural Equation Modeling was used to refine the measures, while exploratory factor analyses and confirmatory factor analyses were conducted to identify and validate distinct constructs for mitigation and adaptation policy support. Each construct measures support on a normalized scale between 0 and 100, where 0

indicates the lowest level of support among the sample, and 100 is the highest level of support. On average, Democrat support for climate mitigation was 85.4 points on a scale from 0 to 100. At the same time, Republican mean support was 63.3 points. Table 3.1 provides a breakdown of support by political identity.

Table 3.1 Descriptive Statistics by Political Identity, N=2,113

	Democrats		Republicans	
	N	Mean *(S.D.)*	N	Mean *(S.D.)*
Dependent variables				
Mitigation Support (0 to 100)	1,078	85.396 *(11.955)*	1,035	63.314 *(21.380)*
Adaptation Support (0 to 100)	1,078	81.368 *(12.478)*	1,035	67.728 *(19.427)*
Adaptation-Mitigation Scale Difference (-100 to 100)	1,078	-4.027 *(10.745)*	1,035	4.414 *(13.424)*
Focus on Mitigation or Adaptation (-3 Mitigation to 3 Adaptation)	1,073	-1.556 *(1.242)*	887	-0.718 *(1.765)*
Independent variables				
Climate Change is Happening				
Yes, climate change is happening	1,069	99.17%	779	75.27%
No, the climate is not changing at all	5	0.46%	148	14.30%
I don't know	4	0.37%	108	10.43%
How sure Climate Change is Happening (1 to 4)	1,078	3.824 *(0.442)*	1,035	3.191 *(0.885)*
Personal Experienced of Climate Change (1 to 5)	1,072	3.910 *(1.024)*	887	3.452 *(1.190)*
Seriousness of Climate Change to U.S. (1 to 5)	1,073	4.262 *(0.764)*	887	3.357 *(1.029)*
Climate Change will Negatively Affect Self or Family (1 to 5)	1,072	4.193 *(0.882)*	886	3.419 *(1.218)*
Climate Change Causes Beliefs (-3 Anthropogenic to 3 Natural)	1,072	-2.377 *(1.103)*	887	-0.905 *(2.075)*
Mitigation is Possible (1 to 5)	1,073	4.020 *(0.956)*	887	3.511 *(1.138)*
Adaptation is Possible (1 to 5)	1,073	4.191 *(0.839)*	887	3.897 *(0.962)*
Gender				
Man	509	0.481	508	0.492
Woman	549	0.519	524	0.508
Race				
White (not Spanish, Hispanic, or Latino)	698	0.648	774	0.748
Non-white	380	0.353	261	0.252
Age (18-86)	1,077	41.965 *(13.731)*	1,029	40.776 *(13.940)*
Education				
High school diploma or equivalent or less	129	0.121	152	0.147
Associate's degree or some college	310	0.288	265	0.257
Bachelor's degree	387	0.359	358	0.347
Some graduate school but no degree	28	0.026	24	0.023
Graduate degree	223	0.207	233	0.226
Family Income				
Less than $25,000	130	0.121	94	0.091
$25,000 - $34,999	100	0.093	78	0.076
$35,000 - $49,999	149	0.138	108	0.105
$50,000 - $74,999	242	0.225	191	0.185
$75,000 - $99,999	159	0.148	171	0.166
$100,000 - $149,999	183	0.170	256	0.248
$150,000 or more	115	0.107	134	0.130

From the two primary dependent variables, another variable was created, which shows the difference between mitigation and adaptation policy support. This variable is the main dependent variable used to test hypotheses H2A and H2B. The Adaptation-Mitigation Scale Difference takes the score of support for climate mitigation and subtracts it from the score of support for climate adaptation policies. The range of this newly constructed variable was from -47.1 to 72.6, where a more positive value indicates higher levels of support for adaptation policies than for mitigation policies. A histogram of this variable shows that most observations are normally distributed at centered at about zero, with a few outliers on either end.

Lastly, for greater redundancy in testing the hypotheses, a second measure for assessing the preferences of support for climate change mitigation or adaptation policies was developed. The survey item asked respondents the following questions:

> "We have heard people discuss different ways of thinking about climate change and its potential effects.
>
> One approach is to take steps to reduce the rise of temperatures observed in the last several years. The other is to take steps to adapt to living with higher temperatures.
>
> In your opinion, which approach should the U.S. government prioritize in addressing climate change?"

Respondents were asked to select one of the following response items:

> Focus entirely on reducing the rise of temperatures.
>
> Focus mostly on reducing the rise of temperatures.

Focus equally on reducing the rise of temperatures and adapting to living with higher temperatures.

Focus mostly on adapting to living with higher temperatures.

Focus entirely on adapting to living with higher temperatures.

The main independent variable in this study is political identity. To measure political identity, participants were first asked, "Generally speaking, do you usually think of yourself as a Republican, Democrat, Independent, or something else?" If a respondent selected Democrat, they were then asked if they were a strong Democrat or a moderate Democrat. Similarly, if a respondent selected Republican, they were asked if they were a strong Republican or a moderate Republican. If respondents selected to identify as either Independent or something else, they were asked whether they leaned Democrat or Republican. In the analysis, a simple dichotomous variable was created to measure political identity, with the categories of Democrat or Republican. The Democrat category includes those who self-identified as a strong Democrat, a moderate Democrat, or leaned Democrat. Similarly, the Republican category includes those who self-identified as a strong Republican, a moderate Republican, or leaned Republican. The generated dichotomous variable was then compared to the stratified sample of recruited participants to assess whether political identity classifications remained consistent.

Respondents were also asked a series of questions related to climate change, assessing their beliefs, perceptions, and attitudes regarding climate change and its potential impacts. These questions were designed to capture climate change awareness, perceived personal and societal risks, and attribution beliefs.

The first question in this block of questions asked about and measured belief in climate change. While many studies measure this variable in similar ways, the following two questions were borrowed from Leiserowitz et al. (2019), “Based on what you know, do you think that climate change is or is not happening?” to which respondents had the opportunity to answer either Yes, climate change is happening; No, the climate is not changing at all; or I don't know. Of the 2,113 respondents, 1,848 (87.46%) indicated that they believe climate change is happening, 153 (7.24%) stated that they do not believe climate change is happening, and 112 (5.30%) expressed uncertainty about whether climate change is occurring, in line with other recent findings (Drews & Van den Bergh, 2016; Goldberg et al., 2021; Kennedy and Tyson, 2024). When examining belief in climate change by political identity, 1,069 out of 1,078 self-identified Democrats (99.17%) reported that they believe climate change is happening. Among the 1,035 self-identified Republicans in the sample, 779 (75.27%) believed that climate change is happening, 148 (14.30%) indicated that they do not believe it is happening, while 108 (10.43%) were unsure if climate change was happening.

Respondents who acknowledged climate change were asked how sure or unsure they were that climate change is happening, providing insight into the strength of their beliefs. On a scale from 1 (very unsure) to 4 (very sure), the mean score for Democrats is 3.8, whereas for Republicans, it is 3.2. The certainty that climate change is occurring, along with belief in climate change, were two of the four most important predictors of climate change policy support, according to Goldberg et al. (2021). The other two predictors that accounted for half the variance predicting climate policy support were worry about climate change and risk perception, both of which are discussed below.

Examining the perceptions of personally experiencing extreme weather events, respondents were asked, “To what extent do you disagree or agree that you have personally experienced the effects of extreme weather events?” This question was also borrowed from Leiserowitz et al. (2019). A majority of respondents agreed or strongly agreed that they had personally experienced the effects of extreme weather events. On a scale from 1 (Strongly Disagree) to 5 (Strongly Agree), the mean score of personal experience for Democrats is 3.9, whereas for Republicans, it is 3.5.

Risk perception was further measured through two questions. The first question was borrowed from Leiserowitz et al. (2019) and asked, “How serious of a threat do you believe climate change is to the U.S.?” Responses were measured on a scale from 1 (Not a Threat at All) to 5 (An Extremely Serious Threat). Democrats have a mean score of 4.3, whereas Republicans have a mean score of 3.4.

The second question to measure risk perception was borrowed from Carman et al. (2022) and asked, “How unlikely or likely do you think climate change will negatively affect you or your family in your lifetime?” Responses were measured on a scale from 1 (Very Unlikely) to 5 (Very Likely). Democrats had a mean score of 4.2, whereas Republicans had a mean score of 3.4.

To measure respondents’ beliefs regarding the causes of climate change, the following question was also borrowed from Carman et al. (2022). Specifically, respondents were asked, “Over the past 200 years, to what extent do you think climate change has been caused by human activities, natural changes in the environment, or some combination of both?” Responses options were Mostly by human activities (-3), Somewhat more by human activities (-2), Equally by human activities and natural changes in the environment (0), Somewhat more by natural changes

(2), and Mostly by natural changes (3). Those who chose the equal response option were asked a follow-up question, “You previously indicated climate change is caused equally by human activities and natural changes in the environment. If you had to choose one primary cause, which would you select?” Respondents could choose from either - Human activities (-1) or Natural changes in the environment (1). The results from the two questions were combined to create a six-point scale with response options ranging from Mostly by human activities (-3), Somewhat more by human activities (-2), Lean more by Human Activities (-1), Lean more by Natural Changes (1), Somewhat more by natural changes (2), and Mostly by natural changes (3). A significant majority of respondents (83%) attributed climate change, at least partially, to human activities, with 46% believing it is “mostly caused by human activities” and 27% stating it is “somewhat more by human activities.”

In contrast, a much smaller portion of the population (16.69%) leaned toward natural explanations, with only 4.49% asserting climate change is “mostly by natural changes.” These figures highlight a strong recognition of anthropogenic causes, though a notable minority continues to emphasize natural changes. Among Democrats, the mean score was -2.4, indicating a strong leaning toward anthropogenic climate change. Whereas for Republicans, the mean score was -0.9, indicating that while many Republicans lean towards an anthropogenic explanation of climate change, many do not feel as strongly as Democrats.

Respondents were also questioned on their perceived beliefs in the efficacy of climate change mitigation policies by asking, “Do you disagree or agree that it is possible for society to limit the rise of global temperatures?” Almost three-fourths of respondents (72.5%) agreed to some extent, with 46.58% “somewhat agreeing” and 25.92% “strongly agreeing.” However, 15.72% of respondents disagreed, either “somewhat” (11.94%) or “strongly” (3.78%), while

11.79% of respondents remained neutral, neither agreeing nor disagreeing. Examining responses by political identity, Democrats are much more optimistic, with 80.8% agreeing that society can limit temperature rise compared to only 62.46% of Republicans. The mean score for Democrats, on a scale from 1 being *Strongly Disagree* to 5 being *Strongly Agree,* was 4.0. Meanwhile, for Republicans, the mean score was 3.5.

Respondents were asked about their perceived beliefs of the efficacy of climate change adaptation policies by asking, "Do you disagree or agree that society can take effective measures to lessen people's suffering from extreme weather events, such as big storms, heatwaves, or floods?" 81.99% of respondents agreed, with 48.67% somewhat agreeing and 33.32% strongly agreeing. Only a small proportion, 8.01%, disagreed, and 10% remained neutral. Examining responses by political identity, 85.84% of Democrats agreed, compared to 77.33% of Republicans. Notably, Republicans showed higher levels of skepticism, with 8.12% somewhat disagreeing and 2.59% strongly disagreeing, compared to 5.22% and 0.56% of Democrats. The mean score for Democrats, measured on a scale from 1 being Strongly Disagree to 5 being Strongly Agree, was 4.2. Meanwhile, the mean score for Republicans was 3.9.

A number of control variables were collected, including information on gender, race, age, education, and family income. To operationalize gender, respondents were asked whether they identified as a *Man, Woman, Non-binary,* or whether they *use a different term*. The sample contained roughly equal proportions of Democrat and Republican men and women, with 509 Democratic men, 508 Republican men, 549 Democratic women, and 524 Republican women. Of the 2,113 respondents, 20 self-identified as non-binary, and one respondent indicated that they use a different term. Those respondents were dropped from the analytical sample.

Regarding race/ethnicity, due to the low number of observations in many of the racial categories, a dummy variable of white / Non-white was created. The majority of the sample was white, with 698 Democrats and 774 Republicans, or about 64.8% and 74.8% of the sample, respectively. As a proportion of the entire sample, those who self-identified as *Spanish, Hispanic, or Latino* made up 5.6%, those who identified as *Black or African American* made up 14.9%, *American Indian or Alaska Native* were 0.5%, *Asian or Asian American's* were 5.5%, and those who selected more than one race were 3.3%.

The mean age for Democrats was 42.0 years and 40.8 for Republicans, which is lower compared to the median age of U.S. voters, 49 years for Democrats and 52 years for Republicans (Gramlich, 2020). Respondents in the sample are a lot more educated than the general population. 58% of Democrats self-reported having earned at least a bachelor's degree, and 60% of Republicans, compared to 41% of Democrats and 30% of Republicans in the general population (Gramlich, 2020).

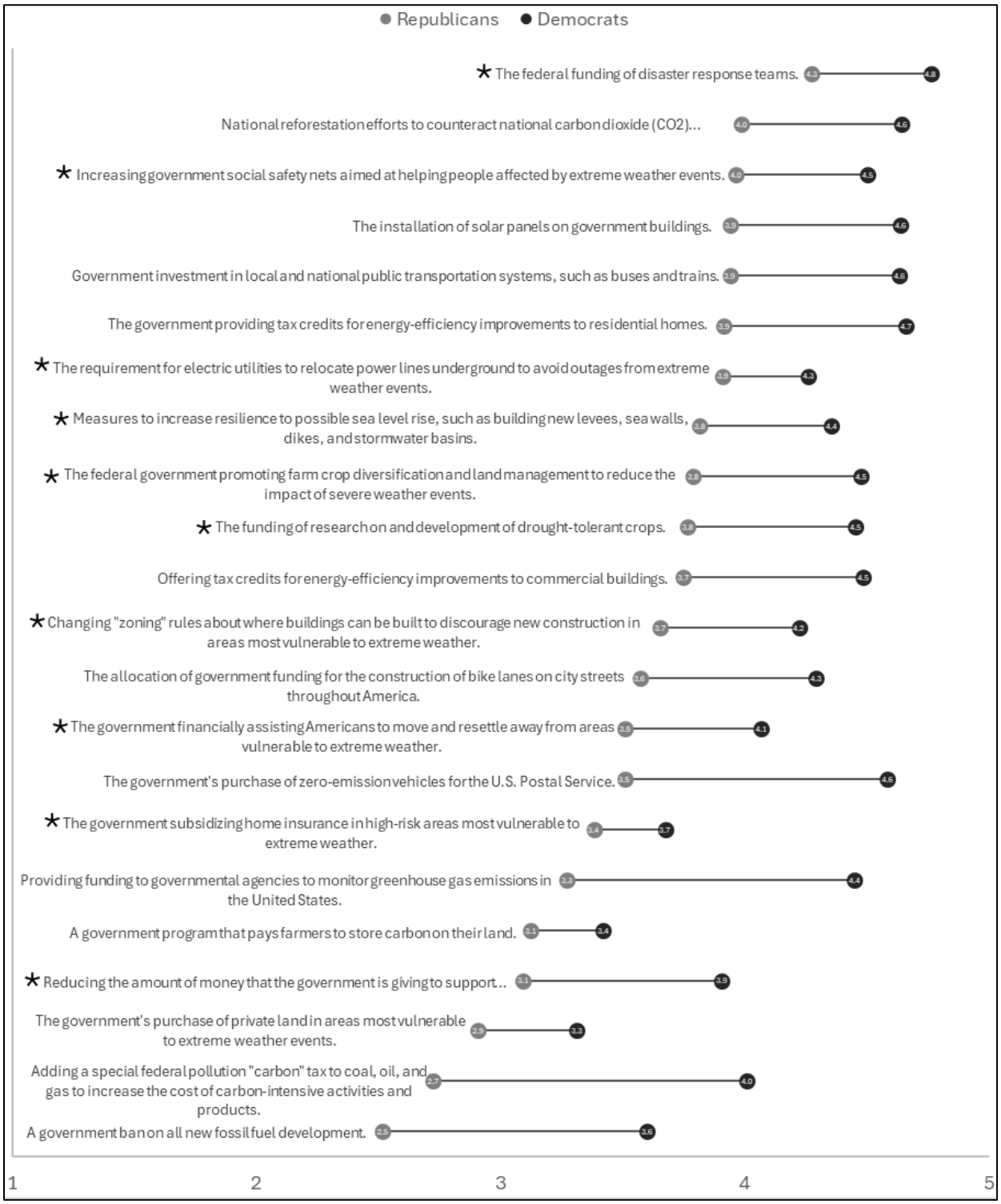
The distribution of family income among Democrats and Republicans highlights notable disparities. Democrats in our sample are somewhat less concentrated in the highest income brackets compared to Republicans. For example, 17.0% of Democrats report incomes between $100,000 and $149,999, compared to 24.8% of Republicans, indicating a higher proportion of Republicans in the upper-middle-income range. Similarly, while 10.7% of Democrats have family incomes of $150,000 or more, this figure rises to 13.0% among Republicans. Conversely, Democrats show a slightly higher representation in the lower income bracket (less than $25,000), with 12.1%, compared to 9.1% of Republicans. This suggests that Democrats in our sample might have a broader income distribution, with a slightly higher presence in both the lower and

middle-income categories, whereas Republicans are more frequently situated in higher income brackets.

Results

To examine the first hypothesis, whether Republicans are less likely than Democrats to support climate mitigation policies, the analysis begins by exploring the distribution of support across the 22 measured policy items. While Republican support was already shown to be lower than Democrats in the table of descriptive statistics (63 versus 85), Republican support is universally lower than Democrats across all climate policies. Figure 3.3 is a dot plot of climate change mitigation and adaptation policy support in the U.S., with results showing Republican and Democrat support for each policy on a 1 to 5 scale. To help distinguish between climate adaptation and mitigation policies, adaptation policies have been marked with an asterisk.

Figure 3.3 Dot Plot of Climate Change Mitigation and Adaptation Policy Support in America, by Political Identity.



At first glance, Figure 3.3 suggests a pattern in support levels, indicating that the gap between Democrats and Republicans appears smaller for adaptation policies. However, to draw more definitive conclusions, the next step in the analysis involves conducting a regression analysis to determine whether the differences in support for mitigation and adaptation policies by political identity are statistically significant.

Model 1 – H1: Base Model Examining Support for Climate Mitigation Policies by Political Identity

The first model (Model 1) is a baseline regression model examining the first hypothesis, with the dependent variable being the constructed variable of *mitigation support* and the independent variable being political identity, isolating the interpretation of the results from any control variables.

For each regression model, an analysis of the studentized residuals is conducted, which is more effective at detecting outliers than standardized residuals. Studentized residuals are more effective than standardized residuals for detecting outliers because they account for the influence each observation has on the regression model. By recalculating the model without each observation, outliers that significantly distort the model can be more accurately identified and excluded. In Model 1, 19 of the 2,113 observations were flagged as being outliers.

The resulting regression of 2,094 shows that political identity is a significant predictor of climate mitigation policy support (see Table 3.2). Republican support is 21.17 points ($p<0.01$) less than for Democrats, indicating that, on average, Republican support is much less than Democrat support, and it is statistically significant. Examining the constant shows that the base support for Democrats is 85.47 points, showing relatively high levels of support. This model also

shows that 29.42% of the variance in support for mitigation policies is explained by political identity alone. In conclusion, Model 1 provides further evidence that Republicans exhibit substantially lower support compared to Democrats, confirming previous research showing that political identity is a key factor influencing climate policy attitudes.

Table 3.2 Results of OLS Regression for Models Predicting Support for Climate Change Mitigation Policies.

	Model 1	Model 2	Model3
Republican (ref: Democrats)	-21.169***	-6.523***	-6.572***
How Sure Climate Change is Happening (1 to 4)		3.431***	3.180***
Focus on Mitigation or Adaptation (-3 Mitigation to 3 Adaptation)		-1.073***	-1.166***
Personal Experienced of Climate Change (1 to 5)		0.080	0.009
Seriousness of Climate Change to U.S. (1 to 5)		3.920***	4.122***
Climate Change will Negatively Affect Self or Family (1 to 5)		1.141***	1.336***
Climate Change Causes Beliefs (-3 Anthropogenic to 3 Natural)		-1.265***	-1.129***
Mitigation is Possible (1 to 5)		2.719***	2.562***
Adaptation is Possible (1 to 5)		1.918***	1.830***
Men (ref: Women)			-0.159
White (ref: Non-white)			1.738***
Age			-0.016
Education (ref: High School or less)			
Associates degree or some college			0.755
Bachelor's degree			0.916
Some grad school but not degree			-1.257
Graduate degree			1.596*
Family Income (ref: Less than $25,000)			
$25,000 - $34,999			-0.126
$35,000 - $49,999			1.680*
$50,000 - $74,999			0.391
$75,000 - $99,999			-0.543
$100,000 - $149,999			0.164
$150,000 or more			1.379
Constant	85.472***	31.314***	30.737***
Observations	2,094	1,928	1,898
R-squared	0.294	0.636	0.635

*** p<0.01, ** p<0.05, * p<0.1

Model 2 – Adding Climate Change Perceptions and Attitudes

Model 2 is an additive model, with political identity predicting climate mitigation policy support, with the additional controls for the sureness of climate change, the seriousness of climate change, the potential for climate change to harm self or family, the belief of whether climate change is anthropogenic or naturally caused, whether individuals believe mitigation is possible and whether individuals believe adaptation is possible.

Analyzing the studentized residuals of the initial regression in Model 2, 185 out of 2,113 observations were identified as outliers. In the remaining 1,928 observations, 63.58% of the variation in support for climate mitigation policies is explained. All predictor variables are statistically significant at the 99.9% confidence level, except for personal experience with climate change. Notably, the baseline support among Democrats, controlling for all other predictors, decreases to 31.3 points from 85.47 points in Model 1, suggesting that the control variables account for a substantial proportion of support, even among Democrats. Likewise, Republican identity is associated with a 6.523-point decrease in support ($p < 0.001$), compared to 21.17 points in Model 1. This reduction suggests that much of the partisan divide in support of mitigation policies can be explained by differences in climate-related beliefs rather than political identity alone. Variables such as certainty that climate change is happening (3.431, $p < 0.001$), perceived seriousness of climate change (3.920, $p < 0.001$), and belief in the possibility of mitigation (2.719, $p < 0.001$) emerge as strong predictors of policy support. The decline in the effect of Republican identity implies that these climate-related attitudes largely mediate partisan differences in policy support. While political identity remains the strongest predictor of climate policy support, its influence appears to be less substantial than initially indicated in Model 1.

Model 3 – Full Model

Model 3 adds controls for gender, race, age, education, and family income. Model 3 had 195 outliers, reducing the final number of observations to 1,898. This model explains 63.46% of the variance, which shows that adding the social controls did not increase our understanding of the variance of mitigation policy support. The effect of Republican identity also remains relatively stable at -6.572 ($p < 0.001$). This suggests that even after accounting for factors such as education, income, gender, and race, Republicans continue to express lower support for climate mitigation compared to Democrats.

Beyond political identity, several other variables are significant predictors of mitigation support. The more certainty that climate change is happening an individual has, the more support they show for climate change mitigation support (3.180 points, $p<0.01$) for each increase, holding all other variables constant.

The more likely an individual is to indicate a desire for the government to focus on adaptation over mitigation, the less likely they are to support climate mitigation policies, showing a -1.166-point drop in support ($p<0.01$) for every unit of greater adaptation focus.

The personal experience of climate change is not a significant predictor of climate change mitigation support. This is in line with previous research, which has found that while experience is not a strong predictor of policy support, perceived future risks are (Houser et al., 2022). In Model 3, the perceived seriousness of climate change in the U.S. is indeed a strong predictor of climate mitigation support, showing that for each unit increase in the perceived seriousness, an increase of 4.122 points ($p<0.01$) is shown in the regression model. Similarly, the belief that climate change will negatively affect oneself or one's family is also a predictor of climate

mitigation support, showing that for each unit increase of perceived risk, an increase in support of 1.336 points ($p<0.01$) is shown.

Unsurprisingly, those who are more likely to perceive climate change as being caused by natural events instead of human causes are less likely to support climate mitigation efforts. For each unit, a respondent indicates that they believe climate change is naturally caused. Model 3 predicts a 1.129-point dip ($p<0.01$) in support of mitigation policies.

Lastly, the belief that either mitigation or adaptation is possible are both significant predictors of climate mitigation support. A belief that mitigation is possible shows a 2.562-point ($p<0.01$) increase in support for mitigation policies for each unit increase in belief. In comparison, belief in adaptation being possible is associated with a slightly smaller but still significant increase in climate mitigation policy support (1.830, $p<0.01$).

Of the social demographic variables, notably, being white (compared to non-white) is associated with higher support (1.738, $p < 0.01$), while age does not appear to be a significant factor. Among education levels, holding a graduate degree is positively associated with support (1.596, $p < 0.1$), though other education levels do not show strong effects. Income exhibits an inconsistent pattern, with those earning $35,000-$49,999 displaying slightly higher support (1.680, $p < 0.05$), while other income brackets do not show significant effects.

The explanatory power of the models improves considerably as additional variables are included. Model 1 explains 29.4% of the variation in mitigation support ($R^2 = 0.294$). However, when climate attitudes are introduced in Model 2, the explained variance increases dramatically to 63.6% ($R^2 = 0.636$), indicating that beliefs about climate change are central to shaping policy support. The inclusion of demographic controls in Model 3 does not further improve the model

substantially, with R^2 remaining at 0.635, suggesting that these additional factors have limited influence beyond climate beliefs.

Overall, the findings confirm H1, as Republicans consistently demonstrate lower support for climate mitigation policies than Democrats. However, the strength of this relationship weakens considerably when accounting for climate-related attitudes, suggesting that the partisan divide is largely driven by differences in perceptions of climate change rather than political identity itself. Despite this, Republican identity remains a significant predictor even in the full model, highlighting that while political ideology may not be the sole driver of climate policy attitudes, it remains the most influential individual predictor in the model.

Examining Preferences of Support between Mitigation and Adaptation Policies Within Political Identities

The following hypotheses compare preferences for mitigation and adaptation policies within political identities. H2A focuses on Republicans, while H2B examines Democrats. H2A predicts that Republicans are more likely to support climate adaptation policies rather than climate mitigation policies. Both H2A and H2B are analyzed using the Adaptation-Mitigation Scale Difference variable discussed above as the main dependent variable. This scale subtracts individual support for climate mitigation policies from support for climate adaptation policies, resulting in a scale ranging from -100, which shows complete support for mitigation policies and no support for adaptation policies, to 100, indicating exclusive support for adaptation.

Before analyzing the full regression model for H2A, it is useful to examine Republicans' baseline preferences on the Adaptation-Mitigation Scale Difference. As shown in Table 3.1, Republicans have a mean preference score of 4.414 on a scale from -100 to 100. A mean of zero

would indicate no difference in their support for mitigation and adaptation policies. Even if support for mitigation policies is low, a score of zero would imply equally low support for adaptation policies.

Interpreting the Adaptation-Mitigation Scale Difference variable, a mean that is zero, suggests no significant differences in preferences in support for mitigation versus adaptation policies. A statistically significant mean above zero indicates a preference for adaptation policies, while a statistically significant mean below zero reflects a preference for mitigation policies.

H2A – Predicting Republican Preferences for Adaptation Policies

Table 3.3 presents the results of OLS regression models predicting preferences for climate change mitigation versus adaptation policies. Model 4 shows policy preference being predicted by political identity alone. Meanwhile, Model 5 includes a number of important predicting variables.

Table 3.3 Results of OLS Regressions for Models Predicting Preferences for Climate Change Mitigation or Adaptation Policies

	Model 4	Model 5
	Mitigation-Adaptation Difference	Mitigation-Adaptation Difference
Republicans (ref: Democrats)	8.441***	4.302***
How Sure Climate Change is Happening (1 to 4)		-0.638
Focus on Mitigation or Adaptation (-3 Mitigation to 3 Adaptatic		1.166***
Personal Experience of Climate Change (1 to 5)		0.669**
Seriousness of Climate Change to U.S. (1 to 5)		-1.824***
Climate Change will Negatively Affect Self or Family (1 to 5)		0.477
Climate Change Causes Beliefs (-3 Anthropogenic to 3 Naural)		0.951***
Mitigation is Possible (1 to 5)		-0.798***
Adaptation is Possible (1 to 5)		0.586*
Men (ref: Women)		0.507
White (ref: Non-white)		-2.346***
Age		0.044**
Education (ref: Bachelor's degree)		
High School or less		0.695
Associates degree or some college		0.503
Some grad school but no degree		0.837
Graduate degree		-0.704
Family Income (ref: $75,000 - $99,999)		
Less than $25,000		-0.345
$25,000 - $34,999		0.689
$35,000 - $49,999		-0.976
$50,000 - $74,999		-0.205
$100,000 - $149,999		-0.418
$150,000 or more		-0.570
Constant	-4.027***	1.455
Observations	2,113	1,907
R-squared	0.108	0.222
*** p<0.01, ** p<0.05, * p<0.1		

In support of H2A, Model 4 indicates that Republicans are significantly more likely than Democrats to prefer adaptation over mitigation policies (8.441, $p<0.001$). Hypothesis H2A is supported in both the simple model and the complex model. Several factors help explain Republicans' preference. Republicans who explicitly believe the government should focus more on adaptation than mitigation are also more inclined to support adaptation themselves (1.166,

$p<0.01$), though this association may be influenced by a modest correlation between the variables ($r = 0.3011$). The belief that climate change is less serious for the U.S. (-1.824, $p<0.01$), the perception that climate change is caused by natural rather than human factors (0.951, $p<0.01$), and skepticism about the feasibility of mitigation efforts (-0.798, $p<0.01$) are all associated with a stronger preference for adaptation among Republicans. Additionally, for both Republicans and Democrats who believe adaptation is possible tend to prefer it (0.586, $p<0.05$). In contrast, beliefs about climate change affecting oneself or one's family are not a significant predictor. Among socio-demographic characteristics, race and age were significant: white respondents were less likely to prefer adaptation (-2.346, $p<0.01$), while older respondents were slightly more supportive of adaptation (0.044 per year, $p<0.01$). Model 5, which includes additional predictors, improves the explained variance to 22.2%, suggesting a modest but meaningful set of predictors, with further exploration needed in future studies.

H2B – Predicting Democrats' Equal Preference for Mitigation and Adaptation Policies

Although Democrats are the reference group in both regression models, their baseline preferences can be inferred from the constant term, which represents the expected value on the mitigation–adaptation preference scale when all other variables are held at their reference levels or means. To facilitate the interpretation of the constant term in Model 5, mean centering was performed on several continuous variables. For example, the original mean age was 44 years; from this, a new age variable was created where the mean is set to zero. This allows the interpretation of Democrats in Model 5 to be made with all other predictors held constant at their means. In this model, the constant reflects Democrats with a mean sureness score of 3.5, a mean focus preference of 2.6, a mean personal experience score of 3.7, a mean seriousness rating of 3.9, a mean belief that climate change will negatively affect self or family of 3.8, a mean

anthropogenic belief score of -1.7, a mean belief in mitigation of 3.8, and a mean belief in adaptation of 4.1.

Furthermore, the reference categories for education and family income are set to those holding a bachelor's degree and having a family income between $75,000 and $99,999. In Model 5, all these values are centered at zero, which means that the constant represents the predicted score for individuals with these characteristics: Democrats who are women, non-white, with a bachelor's degree, and a family income between $75,000 and $99,999. The constant term in Model 5 is 1.5 points (statistically insignificant), suggesting limited support for Hypothesis 2B in this fully adjusted model.

Discussion

This study provides new insights into the partisan dynamics of climate policy support in the U.S., particularly the divide between mitigation and adaptation policies. Consistent with previous research (Egan & Mullin, 2017; Goldberg et al., 2021; Unsworth & Fielding, 2014), the findings confirm that Republicans are significantly less likely than Democrats to support climate mitigation efforts (confirming H1). The partisan gap in mitigation support weakens when climate-related attitudes (e.g., certainty about climate change, risk perception, and belief in anthropogenic causes) are considered, suggesting that underlying climate beliefs partially shape ideological opposition.

However, while Republicans remain resistant to mitigation, they show relatively greater support for adaptation policies. Democrats, on the other hand, exhibit no significant preference between the climate policy types. Political identity remains the strongest predictor of climate policy attitudes, even when controlling other factors. However, the influence of political identity

weakens when climate-related attitudes and beliefs are considered. Such a result suggests that partisanship drives policy preferences. This relationship is mediated by individuals' perceptions of climate change threats, causes, and solutions. Noteworthy, Republicans who believe mitigation efforts can make a difference are less likely to prefer adaptation, suggesting that skepticism about mitigation efforts plays a vital role in their relative preference for adaptation policies. Furthermore, the perception of climate change as a serious threat shifts Republican support toward mitigation rather than adaptation, reinforcing that risk perception is a strong driver of climate attitudes. However, personal experience with climate change does not significantly predict a shift in Republican policy preferences, reinforcing findings from previous studies that direct experience with extreme weather events does not necessarily translate into greater climate policy support (Houser et al., 2022).

This study also provides further evidence for the indirect influence of the CCCM in shaping Republican opposition to specifically mitigation policies. The CCCM's long-standing strategy of portraying mitigation policies as economically burdensome and ideologically incompatible with conservative values has had a profound effect, reinforcing skepticism toward regulatory climate action (Brulle, 2021; Dunlap & McCright, 2015). This polarization underscores the need for further exploration into the mechanisms by which social identity influences environmental attitudes, as well as ways to frame policies in ways that resonate across political divides (Tajfel et al., 1971; McAdam, 2017).

However, the results in this study also indicate that this opposition has not been universally extended to adaptation policies, raising the question of why adaptation remains a more politically viable pathway for conservatives. Republicans exhibiting greater support for adaptation policies relative to mitigation seems to present a political opportunity. These findings

support H2A, predicting Republicans' preference for adaptation over mitigation policies. These findings align with prior research suggesting that adaptation policies, which focus on managing climate impacts rather than preventing them, may be more acceptable to conservatives (Clarke et al., 2019; Dolšak & Prakash, 2018), unlike mitigation, which often involves government regulation, adaptation measures emphasize local control, resilience, and economic preparedness—values that resonate more strongly with conservative ideology.

In contrast to Republicans, Democrats exhibit no significant preference for mitigation or adaptation policies, supporting both types of climate action equally. These results support H2B and suggest that Democrats perceive mitigation and adaptation as complementary rather than competing approaches to climate change. Democrats' greater certainty that climate change is a serious threat likely contributes to their broad support for both policy approaches.

Implications for Climate Policy

The findings of this study have important implications for climate researchers, policymakers, and climate advocates seeking to increase public support for climate action. The partisan polarization in mitigation policy support suggests that efforts to promote mitigation policies must consider the role of political identity. Given the effectiveness of the CCCM in framing mitigation as a partisan issue, climate advocates may need to adopt messaging strategies that align mitigation policies with conservative values, such as national security, economic innovation, and market-based solutions (Ferguson et al., 2016).

Republican support for adaptation policies presents a potential avenue for bipartisan climate action. If adaptation policies are framed in terms of resilience, economic preparedness, and local control, they may garner broader political consensus among both Republicans and

Democrats. However, there is also a risk that focusing too heavily on adaptation may reinforce the perception that mitigation is unnecessary, potentially undermining efforts to reduce greenhouse gas emissions. Policymakers should, therefore, aim to present mitigation and adaptation as complementary strategies, emphasizing the long-term benefits of mitigation while also addressing immediate adaptation needs.

The use of a non-probability sampling approach with opt-in panelists from Prolific may limit the generalizability of the findings (Elliot & Valliant, 2017). However, research suggests that Prolific samples tend to be more diverse and yield higher-quality data compared to traditional university subject pools (Peer et al., 2021; Palan & Schitter, 2018). While a probability sample would enhance external validity, existing evidence indicates that Prolific respondents provide reasonably representative data on public perceptions and experiences within the U.S. population (Tand, Birrell, & Lerner, 2022).

Political identity, a key independent variable in this study, may be subject to sampling biases on Prolific. The sample used in this study is more highly educated than the general population, which may influence political attitudes and policy preferences. These differences suggest that findings should be interpreted with caution, as education-related biases could affect the representation of political identity.

While this study examines broad political identity categories (Republicans and Democrats), future research should explore intra-party variation. For example, younger Republicans and those with libertarian-leaning views may be more open to climate action than older, traditional conservatives (Jenkins-Smith et al., 2020). Further research should also investigate policies that integrate both mitigation and adaptation strategies, such as urban tree

planting initiatives, which contribute to emissions reduction while enhancing local climate resilience.

This study contributes to the sociological understanding of climate policy support by demonstrating how political identity shapes attitudes toward mitigation and adaptation policies. The findings confirm that Republicans are less supportive of climate mitigation policies but show relatively greater support for adaptation. In contrast, Democrats do not exhibit a preference between the two, supporting both equally. These patterns emphasize the role of the CCCM in shaping partisan climate attitudes and highlight the potential for adaptation policies to serve as a bridge for bipartisan climate action. These findings suggest that bipartisan climate change initiatives might benefit from a focus on adaptation measures that can bridge ideological gaps.

Moving forward, climate policymakers and advocates might have more success if they consider the influence of political identity when promoting climate policies. While mitigation remains a partisan battleground, adaptation may provide an opportunity for designing new strategies with broader political consensus. However, any approach must carefully balance the need for both adaptation and mitigation to ensure a comprehensive and effective response to climate change.

CHAPTER FOUR: THE INVERTED QUARANTINE IMPULSE, POLITICAL IDENTITY, AND CLIMATE CHANGE POLICY SUPPORT

Introduction

A common proverb among doomsday preppers is "Dig the well before you are thirsty." This saying may reflect several underlying values and assumptions, including self-reliance, skepticism toward government-provided resources, and the belief that proactive individual action is essential for survival. The water well provides a secure and independent source of clean drinking water, a form of insurance against the perceived risk of potential contamination in public water systems. This impulse to create personal safeguards against external risks is what Andrew Szasz (2007) calls the inverted quarantine. This concept is rooted in the sociological idea that when individuals seek to shield themselves from environmental risks, society then collectively does not address the systemic causes of contaminated public water. Doomsday preppers are just one extreme, but most people take steps to shield themselves from the hazards of the world, just in varying degrees.

Szasz's inverted quarantine complements Ulrich Beck's (1992) risk society theory, which argues that modern societies are increasingly defined by manufactured risks, threats such as climate change, pollution, and nuclear disasters that result from industrialization and global economic systems. Unlike pre-modern risks, which were localized and visible, these modern risks are global, invisible, and difficult for individuals to control (e.g., CO_2 emissions leading to long-term climate change). In response to these risks, individuals often prioritize privatized solutions over systemic intervention, opting to protect themselves rather than engage in collective action. This enduring pattern of self-protection reflects broader historical and contemporary responses to perceived risks.

The inverted quarantine towards risks has shaped human behavior for centuries and even millennia, dating as far back as the construction of ancient walled cities as a means of protection against external threats. In the modern era, gated communities, stockpiling firearms, and even wearing an N95 mask while grocery shopping exemplify contemporary iterations of this impulse (Szasz, 2007). Some affluent people have gone as far as building extravagant bunkers to survive potential global catastrophes (Rushkoff, 2022). As Beck (1992) suggests, risk perception and management are not only shaped by external threats but also reflect broader patterns of risk perceptions and management shaped by political ideology and sociodemographic factors.

Temporal, spatial, psychological, and ideological factors have all been proposed as explanations for society's failure to address climate change satisfactorily (Gifford, 2011; Spence et al., 2012; McAdam, 2017; Schuldt, Rickard, and Yang, 2018; Tand & Chooi, 2022). Part of the struggle has been shifting beliefs in the causes of inaction, from a lack of belief in the existence of climate change (Hamilton et al., 2015) to a lack of belief in the science of climate change (Bertoldo et al., 2019), to a lack of belief in the consequences of climate change (Lee et al., 2024). Nevertheless, climate change policies continue to lack broad public support. This study aims to help us gain a better understanding of the gap in support for climate change policies.

In previous research (Chapter 3), it was shown that the gap in climate change policy support is largely driven by Republicans' lower support for climate change mitigation policies. The concept of inverted quarantine may help explain the collective shift in support from mitigation to adaptation efforts, redirecting attention away from reducing the causes of climate change toward addressing and preparing for its consequences. Therefore, this study investigates this idea by studying the presence of the inverted quarantine impulse (IQI) in climate change

responses and explores how political ideology and sociodemographic factors shape these attitudes. Specifically, it seeks to answer three questions: (1) Who is more likely to possess the IQI? (2) Does the IQI influence support for climate adaptation policies and mitigation policies? (3) Does the IQI moderate the relationship between political identity and climate change policy support? Addressing these questions will increase our understanding of the IQI and provide insight into the sociopolitical barriers to comprehensive climate action. The data used to explore this subject was collected from a national survey of U.S. adults.

Theoretical Background

This study proposes that a key driving force influencing public support for climate change policy is the presence of the IQI. Andrew Szasz introduced the concept of the Inverted Quarantine in his work *Shopping Our Way to Safety – How We Changed from Protecting the Environment to Protecting Ourselves* (2007). The IQI is a concept developed within this study to further understand the impact of the IQI as a sociopsychological force influencing the inverted quarantine behaviors and beliefs. The IQI concept reflects a mindset where individuals believe they can shield themselves from the impacts of environmental harm, such as chemicals in food and dirty water, by buying organic food and bottled water. Szasz argues that collective shielding from external harm through the inverted quarantine has resulted in a society that is less concerned with the water quality provided by their municipalities and, therefore, less collective social action for common goods. Caving to the impulse of the inverted quarantine results in an overall decline in public support for environmental issues (Szasz, 2007).

Szasz (2007) broadly argues that due to the inverted quarantine, people opt to shield themselves from environmental harm instead of collectively organizing for solutions to external harms. The core assumption behind the inverted quarantine is that the entire environment is

permeated with risks, necessitating individual self-protection. However, this individualized response reduces the collective attention to broader, systemic environmental issues. Having a better understanding of what drives the IQI could provide insights into more effective strategies for mobilizing collective action against environmental harms.

Identifying Predictors of the Inverted Quarantine Impulse

Szasz (2007) identifies several potential predictors of the IQI. Understanding who engages in these behaviors can provide insight into the mechanisms driving privatized environmental protection. These predictors span environmental, psychological, and sociodemographic factors. Beyond Szasz, the inverted quarantine has received limited scholarly attention, particularly from quantitative researchers, making the current quantitative analysis of the phenomenon particularly relevant. One exception is by Liu et al. (2021), who explore how individuals in China, particularly in Beijing, use air filtration products to protect themselves from air pollution. Similarly, Johnson and colleagues (2017) examine the inverted quarantine behaviors of Beijing residents. These are the only two quantitative peer-reviewed studies directly addressing aspects of the inverted quarantine. In contrast, most of the limited existing literature on the predictors of inverted quarantine is qualitative. The following sections categorize key factors influencing engagement in inverted quarantine based on research conducted to date.

Environmental Predictors of the Inverted Quarantine Impulse

Various broader environmental and economic factors are theorized to influence the prevalence of inverted quarantine behaviors, shaping how individuals seek protection from perceived environmental risks. As bottled water, organic food, and home air purifiers have become more widely available and affordable, a larger segment of the population has adopted privatized environmental protection strategies. Szasz (2007) notes that increasing affordability

has transformed these products from niche commodities to mass-market goods, expanding the reach of inverted quarantine behaviors.

Geographic location, whether one lives in an urban, suburban, or rural environment, is believed to play a crucial role in shaping individuals' engagement in inverted quarantine behaviors. Access to organic food, water filtration systems, and other protective products varies depending on residential location. Suburban and exurban residents, in particular, may be more inclined to engage in inverted quarantine as a means of distancing themselves from perceived urban environmental risks. Szasz (2007) describes exurbia as a form of inverted quarantine, where individuals move to the outermost fringes of suburban areas to escape issues such as traffic congestion, noise, crime, and demographic diversity (pp. 74-75). The availability of quality public resources—such as municipal water, food safety regulations, and air quality—also influences engagement in inverted quarantine. When these public systems are perceived as inadequate, individuals may turn to privatized solutions, such as purchasing bottled water or installing home air filtration systems.

Psychological Predictors of IQI

The decision to engage in inverted quarantine, however, is not solely shaped by geographic factors; psychological factors also play a crucial role. Szasz (2007) suggests that risk perception influences engagement in inverted quarantine. For example, the perception of contaminated water increases the likelihood of purchasing bottled water. By extension, heightened perceived risk of environmental hazards may drive engagement in other privatized protective behaviors. However, empirical findings are mixed. Liu and colleagues (2021) found that individuals' self-reported perceived risk was not a significant predictor of inverted quarantine. Similarly, Johnson et al. (2017) found that while Beijing residents expressed concern

about air pollution, the primary driver of individualized protective measures was access to information about environmental risks.

Beyond risk perception, the belief that environmental risks are inevitable may also predict engagement in inverted quarantine. As Szasz (2007, p. 2) notes, “There is awareness of hazard, a feeling of vulnerability, of being at risk. That feeling, however, does not lead to political action aimed at reducing the amounts or the variety of toxins present in the environment. It leads, instead, to individualized acts of self-protection, to just trying to keep those contaminants out of one’s body.” A similar response may apply to climate change, where individuals perceive its effects as unavoidable and, therefore, focus on adaptation rather than prevention. Liu et al. (2021) found that a stronger belief in the ability to adapt to environmental hazards correlated with increased engagement in inverted quarantine.

Distrust in public institutions may also drive engagement in inverted quarantine. If individuals lack confidence in the safety of public water supplies, they may turn to bottled water as a precaution. A broader distrust of government institutions responsible for environmental regulation may lead to similar self-protective behaviors. Liu and colleagues (2021) provide evidence for this, finding that higher confidence in government institutions correlates with lower levels of inverted quarantine.

Sociodemographic Predictors of IQI

Inverted quarantine behaviors are not randomly distributed across the population; rather, they are shaped by a range of sociodemographic factors that influence individuals' ability, awareness, and motivation to engage in privatized protective measures. Income, education,

gender, age, race, and even religious beliefs all play a role in determining who is most likely to opt out of public systems in favor of individualized environmental protections.

Income is believed to be one of the most robust predictors of inverted quarantine. Higher-income individuals are more likely to afford privatized protective measures, such as purchasing bottled water, installing home air filtration systems, or buying organic food. Szasz (2007) notes that these consumer-based protective choices have become widespread in middle- and upper-class households, where discretionary income allows individuals to opt out of public systems perceived as unsafe. Liu et al. (2021) also found a positive relationship between income and inverted quarantine engagement.

A related economic factor is automobile dependency. Gross (2023) provides a theoretical discussion on the use of cars as a form of inverted quarantine. He argues that automobiles function as protective "cocoons," shielding individuals from external environmental threats such as pollution, crime, and social unpredictability. This perception of safety reinforces car dependency, ultimately diminishing public support for collective transportation solutions. Like Szasz (2007), Gross highlights how economic status and cultural norms shape the adoption of privatized protective measures, suggesting that reliance on automobiles as a form of self-protection may further entrench resistance to systemic environmental reforms.

Education level appears to be a significant factor. Higher levels of education are associated with greater awareness of environmental risks and increased engagement in inverted quarantine behaviors. Szasz (2007) discusses how growing public awareness of contaminants in food, water, and air has fueled demand for organic products and water filtration systems, particularly among those with access to scientific and health information. Liu et al. (2021) similarly found a positive correlation between education and inverted quarantine behaviors,

suggesting that access to scientific and health information influences individuals' willingness to opt for privatized solutions.

While Szasz (2007) does not explicitly examine gender differences in inverted quarantine, other scholars suggest that women may be more likely to engage in health-protective behaviors. MacKendrick (2014) argues that women, often positioned as primary caregivers, are more likely to seek out protective measures to safeguard their families' health, an observation that aligns with broader public health research. However, empirical findings on gender differences in inverted quarantine remain mixed. Liu et al. (2021), for instance, did not find gender to be a statistically significant predictor of engagement in these behaviors.

Age-related patterns in inverted quarantine engagement are complex. Older individuals may be less likely to engage in inverted quarantine due to habituation to traditional environmental risks, while younger generations—raised amid heightened awareness of pollution and climate change—may be more inclined toward privatized protective behaviors. However, empirical findings challenge this assumption. Liu et al. (2021) did not find age to be a significant predictor of inverted quarantine.

Race and ethnicity also shape engagement in inverted quarantine behaviors. Minority communities often face higher levels of exposure to environmental hazards, such as air and water pollution (Bullard, 2008), which could increase their motivation to seek privatized protective measures. Additionally, lower levels of institutional trust among some racial and ethnic groups (Wilkes & Wu, 2018) may further drive individuals toward individualized solutions rather than relying on public systems. These dynamics suggest that environmental inequalities and historical patterns of marginalization influence the adoption of inverted quarantine behaviors.

Religious beliefs can also play a role in shaping engagement in self-protective behaviors. Some religious traditions emphasize stewardship of the body and environment, promoting sustainable or "pure" consumption habits. For instance, Seventh-day Adventists often adhere to vegetarian diets and natural living practices as part of their religious commitment to health and well-being (Szasz, 2007). While the Seventh-day Adventists are a small group, such religious frameworks can serve as an additional motivator for individuals to engage in privatized protective behaviors, particularly when they align with broader environmental or health concerns.

Taken together, these sociodemographic factors highlight how engagement in inverted quarantine is shaped by a combination of economic resources, awareness of environmental risks, social roles, and broader cultural or institutional dynamics. While income and education appear to be the most consistent predictors, other characteristics, such as gender, age, race, and religious beliefs, introduce additional layers of complexity in understanding who is most likely to adopt privatized protective measures.

Political Identity and the IQI

Political identity is widely recognized as the most influential predictor of environmental attitudes, often outweighing education, personal experience, or even direct exposure to climate-related events (Dunlap & McCright, 2011; Doell et al., 2021; Coma et al., 2024). Research consistently demonstrates that partisan identity influences climate change beliefs, often more strongly than objective scientific knowledge or direct personal experience (Doell et al., 2021). The significance of political identity is further underscored by Falzon and Sen (2024), who argue that a sociological approach is essential in understanding how ideological narratives shape environmental discourse and action. This influence extends to engagement in inverted

quarantine, where political identity shapes preferences for environmental protection strategies. Conservatives may emphasize values such as personal responsibility and individual protection, favoring privatized solutions, while progressives tend to advocate for collective environmental action.

However, Szasz (2007) suggests that regardless of ideological stance, both groups may engage in inverted quarantine behaviors, albeit for different reasons. What constitutes collective action may also differ for Democrats and Republicans, depending on whether the focus is on local community efforts or broader national policies. Given the profound influence of political identity on environmental attitudes and climate change perceptions, this study will particularly examine the relationship between political identity and the inclination toward inverted quarantine.

Research supports the notion that Republicans, compared to Democrats, are more likely to engage in behaviors that align with the concept of the inverted quarantine. Republican ideology often emphasizes self-sufficiency and preparedness (Hawley & Gottfried, 2020). Republicans are also more likely than Democrats to own firearms (Joslyn et al., 2017), and opposition to gun reform tends to increase as trust in government decreases (Hansen & Seppälä, 2024). Additionally, Republicans exhibit greater resistance to collective solutions to social problems (Ingham & Lovett, 2019), a tendency that aligns with the IQI.

Further evidence of the political divide can be found in a Pew Research Center study, which found that 60% of Democrats believe organic produce offers health benefits, compared to 50% of Republicans (Kennedy, 2016). Additionally, during the COVID-19 pandemic, mask-wearing became a politicized issue in the United States, with Democrats more likely to wear masks in public settings than Republicans (Deane, 2025). However, it remains unclear whether

Republicans or Democrats are more likely to exhibit the inverted quarantine behavior. This uncertainty highlights the importance of further exploring the relationship between the IQI and political identity.

Given the multitude of factors that shape engagement in inverted quarantine, ranging from risk perception and institutional trust to socioeconomic status and geographic location, political identity emerges as a particularly compelling predictor. Unlike other sociodemographic factors, political ideology not only reflects personal values but also shapes broader attitudes toward government regulation, collective action, and market-based solutions to risk. Republicans, who emphasize self-sufficiency and individual responsibility, may be particularly inclined toward privatized protective measures, making political identity a crucial lens through which to examine the IQI. If Republicans are systematically more likely to engage in inverted quarantine behaviors than Democrats, this would suggest that political ideology plays a fundamental role in structuring environmental risk responses, potentially overriding other predictors such as income, education, or even perceived risk. Given the growing ideological polarization around environmental issues, understanding the relationship between political identity and inverted quarantine behaviors is essential for assessing the broader societal implications of privatized environmental protection. This leads to the first hypothesis in this study, which states that:

H1: *Republicans are more likely to possess the inverted quarantine impulse than Democrats.*

In an attempt to learn more about measures of the IQI, logistic regression is used to test several different measures of the inverted quarantine, comparing a simple model of each variable

where political identity predicts the IQI up to full models, including the various control variables mentioned above.

The Inverted Quarantine Impulse and Support for Adaptation vs. Mitigation

The IQI has been shown to shape how individuals respond to environmental risks, leading them to prioritize personal protective measures over collective action. Given the existential threat posed by climate change, it is critical to examine whether this impulse also influences support for different climate policies. According to Szasz (2007), people's apathy towards climate change may be due to feeling they will not be affected. If individuals believe they can shield themselves from climate risks through privatized solutions [i.e., adapt to climate change], they may be more inclined to favor adaptation policies that address immediate threats rather than mitigation efforts that require systemic change. Understanding the relationship between inverted quarantine and climate mitigation or adaptation policy preferences is crucial for examining how individual risk perceptions influence broader societal responses to climate change.

Adaptation strategies focus on adjusting to climate change's impacts, such as reinforcing infrastructure or relocating communities to minimize harm, while mitigation efforts aim to address the root causes of climate change by reducing greenhouse gas emissions through policy interventions and technological innovation (Falzon and Sen, 2024; Fairbrother, 2022). The IQI may lead them to shield themselves from climate risks through adaptation rather than systemic mitigation efforts.

It has been suggested that climate adaptation may not face the same political opposition as mitigation due to the free-rider problem associated with mitigation efforts. Opposition to

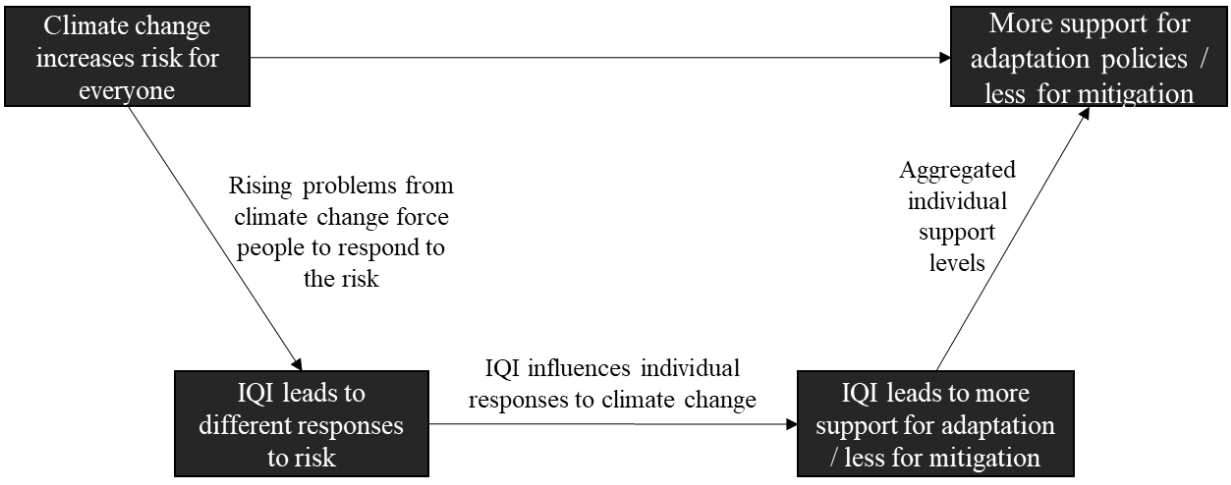
mitigation policies often stems from the perception that climate change is a global issue and that countries such as China and India are not contributing their fair share (Dolšak & Prakash, 2022). Using this same framework, the concept of the inverted quarantine can help explain why individuals who reject mitigation policies may be more inclined to support adaptation efforts. Because climate adaptation measures are localized and provide direct protective benefits, whereas mitigation requires global collective action, individuals with a stronger IQI are likely to favor adaptation over mitigation.

Largesse (2022) provides a compelling analysis of the relationship between inverted quarantine and climate policy preferences through climate change debates on Nantucket Island. Based on 30 interviews, the study highlights how discussions about climate response often revolve around whether adaptation should be an individual or collective responsibility, oscillating between consumer-driven solutions and critiques of consumerism. Her findings suggest that reliance on individualized protections against the effects of climate change weakens support for broader societal action, such as mitigation efforts by fostering a sense of self-sufficiency and adaptability that discourages collective engagement. Largesse's piece mirrors findings by Goldberg and colleagues (2021), who show those with higher perceived climate risks are more likely to engage in individual protective behaviors instead of collective action. Similarly, Schwaller and BenDor (2021) find that individuals with greater exposure to climate risks (e.g., flooding) engage in self-protective behaviors rather than collective action. Some scholars have also drawn parallels between the concept of inverted quarantine and climate adaptation, arguing that efforts to shield oneself from air pollution should not be classified as "acts of inverted quarantine" but rather as forms of adaptation (Liu et al., 2021). This distinction

suggests that at least some scholars make a connection between climate mitigation and adaptation and inverted quarantine.

Ulrich Beck's broader argument in risk society theory (1992) suggests that modern risks, such as climate change, drive people toward privatized solutions instead of systemic intervention. Beck's work provides a useful framework to contextualize the global risk brought on by climate change. Beck argues that manufactured risks, such as climate change, pollution, and nuclear disasters, increasingly define modern society. Today's risks are global, invisible, and difficult for individuals to control (e.g., CO_2 emissions leading to long-term climate change). As risks such as climate change become global, unpredictable, and manufactured by human systems, individuals often seek privatized solutions rather than advocating for systemic intervention. Figure 4.1 illustrates this logic, showing how the IQI influences support for climate mitigation or adaptation policies.

Figure 4.1 The Coleman Boat Illustrating the Influence of the Inverted Quarantine Impulse on Climate Adaptation and Mitigation Policy Support



Using James Coleman's "boat" metaphor (Coleman, 1986) to understand how the presence of risk from climate change leads to more support for adaptation policies and less support for mitigation policies, the boat is a visual framework that can be used to explain how macro-level

social outcomes emerge from individual-level actions. The "boat" refers to a diagram that starts at the macro level (e.g., social norms, institutions), moves down to the micro level (individual beliefs and behaviors), and then returns to the macro level (collective outcomes). It illustrates how societal structures influence individuals, who then make choices that, when aggregated, reshape those same structures. Exploring each part of the boat below, we can see that:

1. Macro-Level Cause: First, climate change is acknowledged as a significant societal problem that exists for everyone, bringing increased environmental risks. This broad recognition sets the stage for how individuals perceive and react to the issue of risk differently.
2. Micro-Level Internal State: The varying levels of IQI within individuals play a critical role in how they interpret the risk of climate change. The presence of the IQI influences individuals' interpretation of risk.
3. Micro-Level Outcome: Influenced by the IQI, individuals may show greater support for adaptation policies and less enthusiasm for mitigation strategies. Individual levels of support then aggregate throughout society.
4. Macro-Level Outcome: The collective preference for adaptation over mitigation aggregates back to the macro level.

The theoretical argument posed above leads to the next two hypotheses of this study:

> H2: *A greater inverted quarantine impulse in individuals leads to more support for climate adaptation policies.*
>
> H3: *A greater inverted quarantine impulse in individuals leads to reduced support for climate mitigation policies.*

The second and third hypotheses test whether the IQI predicts climate adaptation or mitigation support. Multiple regression models are used to test these hypotheses. The dependent variables, climate mitigation support and climate adaptation support, are also continuous and normally distributed, making regression analysis appropriate.

The Interaction of the Inverted Quarantine Impulse and Political Identification in Climate Policy Support

It has been suggested that political identity predicts the IQI (H1), with Republicans being more likely than Democrats to possess the IQI. Additionally, the IQI is hypothesized to influence climate policy preferences (H2 and H3). A substantial body of literature indicates that Republicans and Democrats respond differently to environmental issues (Coma et al., 2024; Dunlap, Xiao, and McCright, 2001; Fairbrother, 2022; McCright, Xiao, and Dunlap, 2014), particularly regarding climate change (Dunlap, McCright, and Yarosh 2016; Egan and Mullin 2017; Jenkins-Smith et al., 2020; Palm and Bolsen, 2020), with notable differences in climate policy support among Democrats and Republicans as seen in Chapter 3 and other literature (Doell et al., 2021; Goldberg et al., 2021). Building on previous research, this section examines whether the IQI serves as a moderating mechanism through which political identity shapes climate policy support. If the IQI is found to moderate this relationship, it may provide valuable insight into understanding the gap between climate change concerns and policy support.

Figure 4.2 A Moderating Model Illustrating the Influence of the Inverted Quarantine Impulse on Political Identity and Its Impact on Climate Change Policy Support.

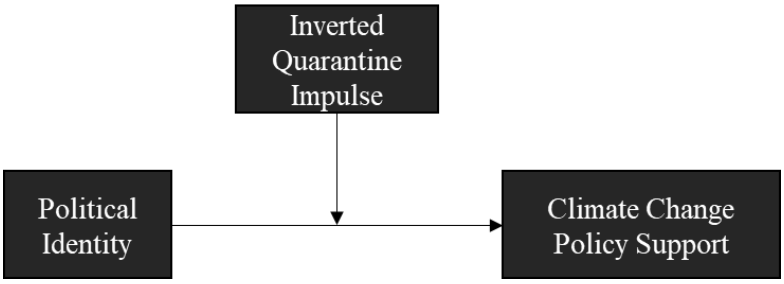


Figure 4.2 shows the moderating influence of the IQI on political identity to influence climate change policy support. Given the Republican preference for adaptation over mitigation policies that we saw in Chapter 3 and the theoretical argument posed above leads to the next two hypotheses of this study, which state:

> H4: *The inverted quarantine impulse moderates the relationship between political identity and support for climate adaptation policies.*
>
> H5: *The inverted quarantine impulse moderates the relationship between political identity and support for climate mitigation policies.*

The fourth and fifth hypotheses test the moderating effects of the IQI on political identity's influence on climate change policy support. To test these hypotheses, a moderation analysis is conducted, allowing for an assessment of the indirect pathway through which political identity shapes policy attitudes.

Methods

Data for this study were collected using a survey, as it provided the most efficient means of gathering information on U.S. adults' attitudes toward climate change legislation. The survey instrument was developed following the tailored survey design method (Dillman et al., 2014) to enhance response quality and minimize measurement error.

Participants and Procedures

The survey was administered on December 5, 2024, to a sample of voting-age adults in the United States. Data collection was conducted via Prolific, an online platform that connects researchers with pre-screened participants. Prolific's U.S. representative sampling tool was used to approximate the demographic composition of the U.S. adult population, improving generalizability. Participants were recruited from Prolific's pre-registered respondent pool, ensuring a diverse sample aligned with national demographic distributions. To encourage participation and ensure fair compensation, respondents were paid $1.67 for survey completion, with an additional $0.17 bonus provided to those who took longer than the average time. This brought the average compensation to $1.76 per response, equating to an hourly rate of approximately $9.51. The median survey completion time was 11 minutes and 10 seconds. The full survey instrument, including all questions and response options, is available in the appendix. The target population for this study was voting-age U.S. adults. The stratified convenience sample was collected on the Prolific platform, stratifying by political identity to ensure adequate representation of each main political party. The final sample included 2,113 participants, including 1,078 Democrats and 1,032 Republicans.

Measures of the Inverted Quarantine Impulse

The primary dependent variable in this study is the IQI, conceptualized as an individual-level attribute. Given that this phenomenon has been largely overlooked in quantitative research, it is measured using multiple approaches to ensure a comprehensive assessment. The analysis will compare different measures side by side to evaluate their validity and consistency. The first measure of the IQI is designed to capture behaviors associated with the IQI. Respondents were asked, "Are you currently taking any of the following actions with the intention of reducing your

exposure to harmful substances?" with forced-choice response options of Yes or No. They were presented with a list of behaviors, including:

- Buy bottled water
- Use a water filter
- Buy organic food
- Buy locally grown/raised food
- Avoid certain types of food
- Use an air filter in your home
- Avoid outdoor activities in areas with poor air quality

The first case study that Szasz (207) originally wrote about focused on purchasing bottled water in lieu of drinking potentially polluted tap water. Therefore, the first item measures whether respondents buy bottled water. Recently, using a water filter has become more common, especially with the popularization of reusable water bottles. Therefore, respondents were also asked if they used a water filter. Another case study that Szasz (2007) focuses on is the buying of organic foods, which is why respondents were asked if they buy organic foods. Respondents were also asked if they buy locally grown or raised food, which is perceived as being more natural than industrially farmed produce. Lastly, respondents were asked if they avoid certain types of food, expecting that those with IQI take active steps to reduce their exposure to potential toxins from certain types of food. Previously, Liu et al. (2021) and Johnson et al. (2017) both measured the use of air purifying systems. Both studies also measured whether individuals reduced outdoor activities or exercise, behaviors associated with the inverted quarantine. Therefore, respondents were asked if they use an air filter in their homes and whether they avoid outdoor activities in areas with poor air quality.

Because the IQI is thought to be influenced by both individual economic status and broader economic conditions, financial constraints may prevent some individuals from engaging in these behaviors. If the cost of participation is too high, whether due to low income or inflation, certain IQI actions may be prohibitive. To assess the presence of the IQI while accounting for these economic limitations, respondents who initially answered "No" to any item were presented with a follow-up question: "If cost were not a concern, would you consider taking any of the following actions with the intention of reducing your exposure to harmful substances?" They were then shown only the items they had previously declined, ensuring that the measure of the IQI reflects respondents' willingness to engage in these behaviors without economic constraints influencing their choices. A 'Yes' response is assigned a value of 1, with a score for each respondent produced by summing the behaviors in which they participate. The final measurement ranges from zero (0) to seven (7).

Table 4.1 Correlation Matrix Between Behaviors of IQI, N=2,113.

	Buy bottled water	Use a water filter	Buy organic food	Buy locally grown/raised food	Avoid certain types of food	Use an air filter in your home	Avoid outdoor activities
Buy bottled water	1.0000						
Use a water filter	0.1364	1.0000					
Buy organic food	0.1626	0.2694	1.0000				
Buy locally grown/raised food	0.0825	0.2766	0.3968	1.0000			
Avoid certain types of food	0.1487	0.2831	0.3963	0.3521	1.0000		
Use an air filter in your home	0.1367	0.3698	0.2312	0.2900	0.2607	1.0000	
Avoid outdoor activities	0.1320	0.2627	0.3159	0.2378	0.3988	0.2818	1.0000

The correlation matrix in Table 4.1 indicates that the variables exhibit generally weak to moderate positive correlations, suggesting that they collectively represent a broader behavioral pattern. Therefore, constructing a composite variable from these measures could effectively capture an individual's overall inclination toward the inverted quarantine behavior.

Table 4.2 Inverted Quarantine Impulse Behavior by Political Identity. N=2,113.

IQI Behavior	Democrats N (Proportion)	Republicans N (Proportion)
Higher Engagement	527 (51.11%)	592 (57.20%)
Lower Engagement	551 (48.89%)	443 (42.80%)

At first glance, Table 4.2 presents Democrats to engage in high and low IQI behaviors at relatively similar rates. In contrast, Republicans exhibit a greater propensity for high IQI behaviors compared to low IQI behaviors. However, the full statistical analysis will determine whether these observed patterns reflect meaningful differences or are merely descriptive variations.

Next, a set of questions measuring beliefs relating to the IQI to climate change were asked. First, respondents were asked, "Assuming that climate change is happening, to what extent do you disagree or agree with the following statements?" The question was phrased by presupposing that climate change is happening because respondents who previously indicated that they did not believe climate change was happening were also asked the question above. The response options for each of the four questions were Strongly Disagree, Somewhat Disagree, Neither Disagree nor Agree, Somewhat Agree, and Strongly Agree.

The first question asks, "I can protect myself against extreme weather events by taking effective protective measures." This survey question relates the IQI specifically to climate change by assessing the belief that individual actions can provide sufficient protection against extreme weather events. Strong agreement with this statement may suggest a preference for personal adaptation strategies over collective mitigation efforts, aligning with the IQI's core premise that individuals prioritize self-protection rather than systemic solutions. If respondents

believe they can effectively shield themselves from climate risks through personal measures, they may be less likely to support broader climate policies aimed at reducing the root causes of extreme weather events.

The next question asks, “If I need to move due to the personal impacts of extreme weather events, I will be able to move to a more suitable place.” This survey question relates the IQI to climate change by assessing the belief that relocation is a viable personal solution to extreme weather events. Strong agreement with this statement may suggest an individualized approach to climate adaptation, where respondents see mobility as a personal safeguard rather than advocating for broader societal efforts to address climate risks. This aligns with IQI’s core idea that individuals prioritize self-protection over collective action, assuming they can personally escape environmental hazards rather than working toward systemic mitigation.

The final question asks, “It is possible to purchase technology and equipment to successfully adapt to the effects of extreme weather events.” This survey question relates the IQI to climate change by assessing the belief that technological and consumer-based solutions can provide sufficient protection against extreme weather events. A strong agreement with this statement may suggest a reliance on individualized, market-driven adaptation strategies rather than collective, systemic efforts to mitigate climate risks. This aligns with IQI’s core premise that individuals attempt to shield themselves from environmental threats through personal consumption choices rather than engaging in broader social or political action.

Together, the scores of the three questions above were combined to produce a scale measure of IQI Beliefs. More accurately, though, this measure may be reflecting the Inverted Quarantine Beliefs in relation to Climate Change. The scale of the measure ranges from -6 to +6. Conversely, those with scores closer to +6 demonstrate a greater belief in the ability to take

protective measures, which may reflect a stronger IQI and a tendency to prioritize personal adaptation over broader climate mitigation efforts. The correlations between items can be seen in Table 4.3.

Table 4.3 Correlation Between Beliefs of IQI, N=2,113.

	I can protect myself against extreme weather events by taking effective protective measures.	It is possible to purchase technology and equipment to successfully adapt to the effects of extreme weather events.	It is possible to purchase technology and equipment to successfully adapt to the effects of extreme weather events.
I can protect myself against extreme weather events by taking effective protective measures.	1.0000		
It is possible to purchase technology and equipment to successfully adapt to the effects of extreme weather events.	0.3340	1.0000	
It is possible to purchase technology and equipment to successfully adapt to the effects of extreme weather events.	0.4688	0.4168	1.0000

The correlation matrix indicates that the variables exhibit somewhat moderate positive correlations, suggesting that they collectively represent a broader pattern of belief. Therefore, constructing a composite variable from these measures could effectively capture an individual's overall belief toward inverted quarantine measures with regard to climate change.

Similar to IQI behavior, Table 4.4 shows that Republicans appear to exhibit slightly higher levels of IQI beliefs than Democrats, with Republicans averaging 1.67 on the scale ranging from -6 to +6. In contrast, Democrats tend to cluster closer to the midpoint, with a mean score of 0.55, suggesting that, on average, they do not hold strong beliefs in either direction. However, the full statistical analysis will determine whether these differences are substantively meaningful or merely descriptive variations.

Table 4.4 Inverted Quarantine Impulse Belief by Political Identity. N=2,113.

Inverted Quarantine Measure	Democrats Mean (Std Dev.)	Republicans Mean (Std Dev.)
IQI Belief (-6 – +6)	0.5547 (2.621)	1.6695 (2.583)

Comparing the two measures of IQI, the correlation between the IQI Behavior and IQI Belief measures is 0.1059, showing a weak positive correlation. A pairwise correlation with significance test shows that the correlation is statistically significant, with $p<0.001$. Therefore, these tests provide evidence that IQI Behavior and IQI Beliefs are two unique and distinct measures of the IQI, representing unique aspects of IQI instead of overlapping constructs, providing a strong justification for separate analysis for each variable in the tests of hypotheses that follow.

Measuring Climate Change Views

Respondents were also questioned on a series of items related to climate change, assessing their beliefs, perceptions, and attitudes regarding climate change and its potential impacts. These questions were designed to capture climate change awareness, perceived personal and societal risks, and attribution beliefs, all of which have been theorized to predict participation in the inverted quarantine.

As Szasz (2007) writes, one important concept in predicting inverted quarantine is the perception of risks in the environment. Therefore, respondents were asked about their own environmental risk perception by asking, “To what extent are you concerned about being exposed to harmful substances in your drinking water, air, or food? To which one could respond on a unipolar ranging from Not at all concerned (1), Slightly concerned (2), Somewhat concerned (3), to Very concerned (4).

Another question measuring risk perception, this time on a national scale, is, “How serious of a threat do you believe climate change is to the U.S.?” To which respondents could answer this question with: Not a threat at all (1), A minor threat (2), A moderate threat (3), A serious threat (4), and An extremely serious threat (5). A higher perceived threat is theorized to predict higher levels of IQI.

Respondents were asked about their views on climate change, “Based on what you know, do you think that climate change is or is not happening?” Respondents could answer this question with the following responses: Yes, climate change is happening; No, the climate is not changing at all; or I don’t know. Furthermore, they were asked, “How unsure or sure are you that climate change is happening?” Respondents were able to answer in polar choices ranging from Very Unsure to Very Sure. Furthermore, respondents were asked whether they believed in anthropogenic climate change or not by asking, “Over the past 200 years, to what extent do you think climate change has been caused by human activities, natural changes in the environment, or some combination of both?” To which respondents could answer, Mostly by human activities (-3), Somewhat more by human activities than natural changes in the environment (-2), Equally by human activities and natural changes in the environment, Somewhat more by natural changes in the environment than human activities (2), and Mostly by natural changes in the environment (3). Those who previously indicated that they believe that climate change is caused equally by human activities and natural changes in the environment were asked a follow-up question: “If you had to choose one primary cause, which would you select?” Respondents could select either More by human activities (-1) or More by natural changes (1). Answers from both questions above were combined to formulate the variable measuring beliefs in the origins of climate change.

Respondents were also asked, “How unlikely or likely do you think climate change will negatively affect you or your family in your lifetime?” Respondents could answer this question on a scale from Very Unlikely (-2) to Very Likely (+2). Furthermore, respondents were asked, “To what extent do you disagree or agree that you have personally experienced the effects of extreme weather events?” They could answer on a scale from Strongly Disagree (-2) to Strongly Agree (+2).

Another question asks, “The cost of mitigating climate change makes reversing climate change an unrealistic solution.” This survey question relates the IQI to climate change by assessing whether individuals view climate mitigation as practical. If a respondent agrees that the cost of mitigating climate change makes reversal unrealistic, it suggests they may be more inclined to disengage from collective mitigation efforts and instead adopt privatized, self-protective behaviors, a core feature of the IQI. Essentially, the question taps into the rationale that if systemic action is perceived as unfeasible, individuals may be more likely to rely on personal adaptation strategies rather than advocating for or supporting broader climate policies.

Szasz (2007) asserts that *the belief that environmental risks are inevitable* predicts engagement in the inverted quarantine. This sense of inevitability relating to climate change was measured by asking the question, “Do you disagree or agree that it is possible for society to limit the rise of global temperatures?” A strong agreement with this statement reflects confidence in collective, systemic efforts to address climate change, suggesting a lower inclination toward the IQI, as these individuals see mitigation as both feasible and necessary. Conversely, disagreement with this statement aligns with the IQI’s core premise that large-scale solutions are ineffective or unattainable, reinforcing a preference for individualized protective measures over collective action. Those who doubt society’s ability to limit the rise in global temperature may be more

likely to disengage from systemic mitigation efforts and instead focus on personal adaptation strategies.

Measuring Climate Policy Support

Support for climate mitigation and adaptation policies are measures used as the dependent variables assessing H2 through H5. Support was assessed across twenty-two climate policies, covering a variety of mitigation and adaptation-focused climate policies. Structural equation modeling was used to refine the measures where exploratory and confirmatory factor analyses were conducted to identify and validate distinct constructs for mitigation and adaptation policy support. Each construct measures support on a normalized scale between 0 and 100, where 0 indicates the lowest level of support among the sample, and 100 is the highest level of support. Table 4.5 indicates that, on average, Democrat support for climate mitigation policies is 85.4 points, while Republican support is 63.3, on a scale from 0 to 100. Whereas on average, Democrat support for climate adaptation policies is 81.4 points, while Republican support is 67.7. In other words, Democrats have greater overall support for climate mitigation and adaptation policies than Republicans. For more information about how these variables were constructed, please refer to Chapter 2.

Table 4.5 Climate Policy Support Measures by Political Identity.

Climate Policy Support Measures	Democrats	Republicans
N	1,078	1,035
Mitigation Support (0 to 100) *(Standard Deviation)*	85.396 *(11.955)*	63.314 *(21.380)*
Adaptation Support (0 to 100) *(Standard Deviation)*	81.368 *(12.478)*	67.728 *(19.427)*

Measuring Political Identity

The main independent variable in this study is political identity. To measure political identity, participants were first asked, "Generally speaking, do you usually think of yourself as a Republican, Democrat, Independent, or something else?". If a respondent selected Democrat, they were then asked if they were a strong Democrat or a moderate Democrat. Similarly, if a respondent selected Republican, they were asked if they were a strong Republican or a moderate Republican. Whereas if a respondent selected that they identify as either Independent or something else, they were asked whether they leaned Democrat or Republican. In the analysis, a simple dichotomous variable is created to measure political identity, with the categories of Democrat or Republican, each including those who identified as either strong, moderate, or leaning towards either political party. The generated dichotomous variable was then compared to the stratified sample of recruited participants to assess whether political identity classifications remained consistent.

Measuring Sociodemographic Variables

Demographic measures included age, income, education, gender, race/ethnicity, and religious affiliation. Gender was assessed by asking respondents whether they identified as a man, woman, non-binary, or another term. The sample contained roughly equal numbers of Democratic and Republican men and women, with 509 Democratic men, 508 Republican men, 549 Democratic women, and 524 Republican women. Among the 2,113 respondents, 20 identified as non-binary, and one selected a different gender term, which was not included in the analytical sample.

Because of small sample sizes in several racial categories, a binary white/non-white variable was created. The majority of respondents identified as white, comprising 698 Democrats

(64.8%) and 774 Republicans (74.8%). Among the entire sample, 5.6% identified as Spanish, Hispanic, or Latino, 14.9% as Black or African American, 0.5% as American Indian or Alaska Native, 5.5% as Asian or Asian American, and 3.3% as multiracial.

The mean age was 42.0 years for Democrats and 40.8 for Republicans, both younger than the median age of U.S. voters (49 for Democrats, 52 for Republicans; Gramlich, 2020). Respondents were more highly educated than the general population, with 58% of Democrats and 60% of Republicans reporting at least a bachelor's degree, compared to national estimates of 41% and 30%, respectively (Gramlich, 2020).

Income distributions revealed differences between party affiliations. Republicans were more concentrated in higher income brackets; 24.8% reported earning between $100,000 and $149,999, compared to 17.0% of Democrats, while 13.0% of Republicans reported incomes of $150,000 or more, compared to 10.7% of Democrats. Conversely, Democrats were more represented in lower income categories, with 12.1% earning less than $25,000, compared to 9.1% of Republicans. This suggests a broader income distribution among Democrats, whereas Republicans were more frequently in higher income tiers. Because of low sample sizes in several categories, some groups were consolidated.

Religious affiliation varied substantially by party identification. Among Democrats, the most common response was no religious affiliation, with 51.6% identifying as having no religion. Catholics represented 16.6% of Democrats, followed by Protestants at 14.8%. Other religious affiliations were less common, with Agnostics at 3.0%, Christian-Other at 2.9%, Orthodox Christians at 2.1%, and Jewish respondents at 2.0%. Smaller proportions identified as Muslim (1.9%), Buddhist (1.5%), or Hindu (0.5%). Among Republicans, Protestants comprised the largest religious group at 34.3%, followed by Catholics at 30.5%. In contrast to Democrats,

only 13.1% of Republicans reported no religious affiliation. Orthodox Christians were also more prevalent among Republicans (6.4%) than Democrats (2.1%). Other religious affiliations were relatively similar in representation, with Agnostics making up 1.7%, Jewish respondents 2.2%, and Muslims 1.4%.

Because of small sample sizes in several religious categories, groups were consolidated to improve statistical reliability while preserving meaningful distinctions. Religious affiliation was recoded into five categories: Catholic, Protestant, Christian-Other (Christian-Other, Inter-nondenominational, Orthodox Christian), Non-religious (None, Agnostic), and Other Religions (Jewish, Muslim, Hindu, Buddhist, Native American, Other). (See Table 4.6).

It is also important to acknowledge potential limitations with this sample. Compared to the general U.S. population, the sample overrepresents individuals with higher education and income levels and underrepresents Hispanic, lower-income, and white individuals. Additionally, the sample skews slightly older, though gender and most racial distributions are broadly similar.

Table 4.6 Descriptive Statistics, N=2,113

	Democrats		Republicans	
	N	Mean (%)	N	Mean (%)
Age (18-86)	1,077	41.965	1,029	40.776
Gender				
Man	509	48.1%	508	49.2%
Woman	549	51.9%	524	50.8%
Race				
White (not Spanish, Hispanic, or Latino)	698	64.8%	774	74.8%
Non-white	380	35.3%	261	25.2%
Education				
High school diploma or equivalent or less	129	12.1%	152	14.7%
Associate's degree or some college	310	28.8%	265	25.7%
Bachelor's degree	387	35.9%	358	34.7%
Some graduate school but no degree	28	2.6%	24	2.3%
Graduate degree	223	20.7%	233	22.6%
Family Income				
Less than $35,000	230	21.3%	172	16.6%
$35,000 - $49,999	149	13.8%	108	10.4%
$50,000 - $74,999	242	22.5%	191	18.5%
$75,000 - $99,999	159	14.8%	171	16.5%
$100,000 or more	298	27.6%	393	38.0%
Religious Affiliation				
Catholic	178	16.6%	315	30.5%
Protestant	159	14.8%	354	34.3%
Christian Other	71	6.6%	147	14.2%
Other Religions	80	7.4%	65	6.3%
Non-Religious	587	54.6%	152	14.7%
Homeownership Status				
Homeowner	508	47.1%	626	60.5%
Not a homeowner	570	52.9%	409	39.5%
Beliefs and Experiences				
Climate Change is Happening				
Yes, climate change is happening	1,069	99.2%	779	75.3%
No, the climate is not changing at all	5	0.5%	148	14.3%
I don't know	4	0.4%	108	10.4%
How sure Climate Change is Happening (1 to 4)	1,078	3.824	1,035	3.191
Climate Change Causes Beliefs (-3 Anthropogenic to 3 Natural)	1,072	-2.377	887	-0.905
Mitigation is Possible (1 to 5)	1,073	4.020	887	3.511
Adaptation is Possible (1 to 5)	1,073	4.191	887	3.897
Seriousness of Climate Change to U.S. (1 to 5)	1,073	4.262	887	3.357
Personal Experienced of Climate Change (1 to 5)	1,072	3.910	887	3.452
Climate Change will Negatively Affect Self or Family (1 to 5)	1,072	4.193	886	3.419
Environmental Harms Concern (1 to 4)	1,078	3.019	1,035	2.966

Results

Given that Szasz (2007) illustrates the concept of inverted quarantine through the example of purchasing bottled water, it is appropriate to analyze bottled water purchasing as its own outcome. Accordingly, the first model examines whether political identity predicts the likelihood of purchasing bottled water. A full model was also estimated for this outcome, incorporating additional predictors theorized by Szasz and other researchers as significant factors influencing inverted quarantine behavior. These same predictors were included in the full models for the other analyses as well.

The second model examines engagement in inverted quarantine behaviors. The outcome variable was constructed by summing seven self-reported IQI behaviors. Respondents were then categorized into two groups: those exhibiting high IQI engagement (participating in all seven behaviors) and those with low engagement. The third model extends this analysis by evaluating political identity as a predictor of IQI behavior.

Table 4.7 Regression Models Showing Effect of Political Identity on the IQI Measures, N=1,926

	Model 1 IQI Bottle Water	Model 1 Full IQI Bottle Water	Model 2 IQI Behavior	Model 2 Full IQI Behavior	Model 3 IQI Belief	Model 3 Full IQI Belief
Republicans (ref. Democrats)	0.994***	0.730***	0.500***	0.440***	1.149***	0.808***
Age		0.006		0.009**		-0.004
Women (ref: Men)		-0.093		0.133		-0.467***
White (ref: Non-white)		-0.919***		-0.544***		-0.284**
ref: Less than $35,000						
$35,000 - $49,999		-0.335		-0.144		-0.100
$50,000 - $74,999		-0.184		-0.069		0.201
$75,000 - $99,999		-0.393*		-0.070		0.449**
$100,000 or more		-0.488***		-0.328**		0.845***
ref: H.S. diploma or equiv or less						
Assoc. deg. or some college		-0.212		0.001		-0.054
Bachelor's degree		-0.481**		-0.096		0.383**
Some grad school but not degree		-0.550		-0.361		0.565
Graduate degree		-0.416*		0.088		0.384*
ref: Non-Religious						
Catholic		1.087***		0.532***		0.935***
Protestant		1.010***		0.568***		0.964***
Christian-Other		0.950***		0.336*		0.545**
Other		0.285		0.251		0.290
IQ Concern		0.459***		0.606***		0.049
Belief in Adaptation		-0.072		0.089		0.426***
Constant	0.720***	0.349	-0.046	-2.390***	0.586***	-1.662***
R-squared					0.046	0.157

*** p<0.01, ** p<0.05, * p<0.1

Regression Models Examining the First Hypothesis

The first hypothesis predicts that Republicans are more likely to possess the IQI than Democrats. Interpreting Table 4.7, this study found support for Hypothesis 1. Comparing all regression models, there are both consistent patterns and notable differences among the predictors of IQI. Focusing only on political identity, Republicans are significantly more likely than Democrats to engage in bottled water purchases, engage broadly in IQI behaviors, and hold stronger IQI beliefs. Looking at only the full models, another way of interpreting the influence of political identity on IQI is that Republicans are 107% more likely than Democrats to buy bottled water (holding all other predictors constant), 55% more likely to participate in IQI behavior, and 124% more likely to have IQI beliefs."

Expanding the analysis to other predictors, environmental concern has been theorized as a key driver of engagement in privatized protective measures. However, prior research has found no clear link between self-reported risk perception and the tendency to opt out of public environmental protection. The results here partially support this contradiction. Concern about environmental risks significantly increases the likelihood of engaging in protective behaviors but does not necessarily lead to stronger beliefs in individualized solutions. In other words, those who perceive greater risk are more likely to act on it but do not necessarily develop a broader ideological commitment to these protective measures.

Belief in climate adaptation follows an unexpected pattern. While individuals who believe adaptation is possible are not significantly more likely to engage in protective behaviors, they are 53% more likely to believe in inverted quarantine solutions as a general principle. This suggests that adaptation beliefs may serve as a way to rationalize protective behaviors in ideological rather than behavioral terms.

Economic status presents a mixed picture. While individuals earning over $100,000 are 28% less likely to engage in protective behaviors, those earning between $75,000 and $99,999 are 120% more likely to believe in individualized solutions. This contradicts the assumption that higher-income individuals consistently opt out of public systems. Instead, financial resources appear to influence beliefs more than direct action, at least within more affluent families.

Education follows a similar pattern. Individuals with a bachelor's degree are 38% less likely to purchase bottled water but 46% more likely to endorse the belief in individualized solutions. This supports prior research suggesting that higher education increases environmental awareness but does not always lead to action (Ballew et al., 2020).

While previous studies suggest that women are generally more likely to adopt protective health behaviors (MacKendrick, 2014), the findings here indicate no significant differences in actual behavior between men and women. However, women are 37% less likely than men to believe in inverted quarantine solutions.

Age is a significant predictor of engagement in protective behaviors, with older individuals 9% more likely to participate every year older, holding all other predictors constant. This runs counter to expectations that younger generations, who have grown up amid heightened awareness of climate change, would be more active in adopting privatized protective measures. However, the lack of a corresponding increase in beliefs suggests that older individuals' engagement in these behaviors is likely driven by practical concerns rather than ideological commitment.

Racial disparities are evident. White individuals are 42% less likely to engage in protective behaviors and 25% less likely to believe in inverted quarantine solutions compared to non-white individuals. These findings may reflect broader patterns of environmental inequality, where minority communities, often facing greater exposure to environmental hazards, are more likely to adopt self-protective measures.

Remarkably, religious affiliation emerges as one of the strongest predictors of engagement in privatized protective strategies, suggesting that faith-based worldviews influence the responses to environmental hazards. Compared to non-religious individuals, Catholics are 196% more likely to buy bottled water, 70.2% more likely to engage in protective behaviors, and 161% more likely to believe inverted quarantine solutions, holding constant all other predictors. Protestants and other Christian groups follow a similar trend.

Table 4.8 Regression Models Examining the Effect of the Inverted Quarantine Impulse on Climate Change Policy Support, N=1,922.

	Model 1 Adaptation	Model 1 Full Adaptation	Model 2 Adaptation	Model 2 Full Adaptation	Model 3 Mitigation	Model 3 Full Mitigation	Model 4 Mitigation	Model 4 Full Mitigation
IQI-Behavior	3.121***	2.346***			1.344*	1.621***		
IQI-Belief			0.133	0.555***			-0.284*	0.469***
Age		0.011		0.019		-0.036*		-0.030
Republicans (ref. Democrats)		-3.677***		-3.683***		-7.014***		-7.069***
Women (ref: Men)		0.753		1.108*		-0.360		-0.073
White (ref: Non-white)		-0.483		-0.635		1.517**		1.438**
ref: H.S. diploma or equiv or less								
Assoc. deg. or some college		0.960		0.986		1.159		1.178
Bachelor's degree		0.520		0.248		1.605*		1.377
Some grad school but not degree		0.060		-0.446		0.147		-0.254
Graduate degree		1.198		1.043		3.218***		3.069***
ref: Less than $35,000								
$35,000 - $49,999		0.972		0.951		1.741*		1.734*
$50,000 - $74,999		0.265		0.131		0.646		0.539
$75,000 - $99,999		-0.933		-1.215		-0.743		-0.973
$100,000 or more		0.225		-0.411		0.746		0.232
ref: Non-Religious								
Catholic		1.370		1.179		-1.522*		-1.735**
Protestant		1.122		0.918		-0.517		-0.739
Christian-Other		0.965		0.919		-0.509		-0.584
Other		-2.529**		-2.488**		-4.028***		-4.021***
Climate Change Sureness (1-4)		2.028***		1.818***		3.070***		2.892***
Belief in Anthropogenic CC (-3-3)		-0.859***		-0.927***		-2.059***		-2.117***
CC Seriousness (1-5)		3.465***		3.569***		5.652***		5.739***
CC Personal Experience (1-5)		0.970***		0.971***		0.515*		0.503
CC will likely harm family (1-5)		1.595***		1.725***		1.176***		1.270***
Constant	74.964***	43.538***	76.519***	44.048***	76.479***	36.309***	77.526***	36.698***
R-squared	0.016	0.319	0.001	0.321	0.006	0.570	0.001	0.573

*** p<0.01, ** p<0.05, * p<0.1

Regression Models Examining the Second and Third Hypotheses

The second and third hypotheses examine the relationship between the IQI and support for climate change policies. When examining the relationship between the IQI and support for climate change policies, both IQI behaviors and IQI beliefs will be explored side-by-side.

The first model is a simple model where IQI beliefs predict support for climate adaptation policies. The literature predicts that the presence of IQI beliefs will be positively correlated with support for climate adaptation policies. The second model adds controls for sociodemographic variables. The third model adds known predictors of climate change policy support.

The regression results provide strong support for Hypothesis 2, which predicts that a greater IQI leads to increased support for climate adaptation policies. The findings indicate that IQI Behavior is a significant predictor of adaptation support. In the initial model without controls, individuals who engage in more inverted quarantine behaviors show significantly higher adaptation policy support. This relationship remains statistically significant even after accounting for political identity, education, income, race, gender, and climate change attitudes, though the effect size is somewhat reduced. Similarly, IQI Beliefs are initially an insignificant predictor of adaptation support, but once additional predictors are included, its effect becomes positive and statistically significant. This suggests that while those who engage in inverted quarantine behaviors consistently favor adaptation policies, individuals who hold strong IQI beliefs tend to support adaptation measures, but their support only becomes evident when controlling for confounding factors. These results align with the idea that individuals who act or believe in ways that shield themselves from external harm view systemic adaptation efforts as complementary rather than contradictory to their efforts.

The results for Hypothesis 3, which predicts that a greater IQI leads to reduced support for climate mitigation policies, run counter to expectations. Rather than decreasing mitigation support, IQI Behaviors are actually positively associated with it. In the baseline model, individuals who frequently engage in inverted quarantine behaviors express significantly greater support for mitigation policies. This relationship remains significant in the full model, though with a slightly reduced effect size. The findings for IQI Beliefs follow a similar pattern. In the initial model, IQI Beliefs appear to have no significant effect on mitigation support. However, once key covariates are accounted for, the relationship reverses direction, with IQI Beliefs significantly increasing support for mitigation measures. Instead of acting as a barrier to

collective climate action, a stronger IQI, both in behavior and belief, is associated with greater support for mitigation policies.

Regression Models Examining the Fourth and Fifth Hypotheses

The final two hypotheses predict the moderating influence of the IQI on political identity's influence on climate change policies. The idea behind testing two separate hypotheses is that we might expect a moderating effect of IQI on political identity to influence adaptation policy support. However, the literature does not suggest that we would expect the same effect when predicting mitigation policy support.

Four models are used to explore these last two hypotheses, as can be seen in Table 4.9. Model 1 examines the interaction between IQI Behavior and Political Identity. A full model adds various controls, such as sociodemographic variables and other predictors of climate change policy support. The first two models look at the two measures of IQI, simple and full models, just for adaptation policy support (H4), whereas the latter two models look at mitigation support (H5).

Table 4.9 Regression Models Examining the Interactive Effect of the Inverted Quarantine Impulse on Political Identity, Influencing Climate Change Policy Support, N=1,922.

	Model_1 Adapt Suppt.	Model_1_Full Adapt Suppt.	Model_2 Adapt Suppt.	Model_2_Full Adapt Suppt.	Model_3 Mitig Suppt.	Model_3_Full Mitig Suppt.	Model_4 Mitig Suppt.	Model_4_Ful Mitig Suppt.
IQI-Behavior	2.317***	2.237***			-0.836	0.287		
IQI-Belief			0.194	0.447***			-0.211	0.200
Republicans (ref. Democrats)	-13.382***	-3.831***	-16.960***	-5.483***	-23.927***	-8.880***	-29.411***	-11.581***
High IQI Behavior X Republican	4.791***	0.250			10.016***	3.048***		
IQI-Belief X Republican			0.850***	0.241			1.520***	0.603***
Age		0.011		0.019		-0.036*		-0.028
Women (ref: Men)		0.754		1.094*		-0.345		-0.108
White (ref: Non-white)		-0.489		-0.639		1.441**		1.429**
ref: H.S. diploma or equiv or less								
Assoc. deg. or some college		0.949		0.962		1.020		1.117
Bachelor's degree		0.509		0.235		1.479		1.344
Some grad school but not degree		0.041		-0.433		-0.079		-0.220
Graduate degree		1.179		1.032		2.987***		3.041***
ref: Less than $35,000								
$35,000 - $49,999		0.967		0.954		1.681*		1.743*
$50,000 - $74,999		0.272		0.137		0.731		0.555
$75,000 - $99,999		-0.935		-1.221		-0.762		-0.989
$100,000 or more		0.229		-0.401		0.787		0.257
ref: Non-Religious								
Catholic		1.378		1.243		-1.422*		-1.575**
Protestant		1.128		0.955		-0.441		-0.646
Christian-Other		0.968		1.003		-0.465		-0.373
Other		-2.519**		-2.439*		-3.907***		-3.899***
Climate Change Sureness (1-4)		2.025***		1.757***		3.029***		2.740***
Belief in Anthropogenic CC (-3-3)		-0.857***		-0.930***		-2.031***		-2.125***
CC Seriousness (1-5)		3.464***		3.560***		5.634***		5.716***
CC Personal Experience (1-5)		0.970***		0.960***		0.520*		0.474
CC will likely harm family (1-5)		1.589***		1.726***		1.102***		1.274***
Constant	80.170***	43.650***	80.024***	41.695***	85.787***	37.671***	86.769***	36.334***
Observations	2,113	1,922	2,113	1,922	2,113	1,922	2,113	1,922
R-squared	0.184	0.319	0.168	0.322	0.329	0.572	0.312	0.575

*** p<0.01, ** p<0.05, * p<0.1

The findings of this study offer important insights into the role of the IQI in shaping climate policy preferences, particularly in relation to political identity. Hypothesis 4 proposed that the IQI moderates the relationship between political identity and support for climate adaptation policies, while Hypothesis 5 extended this expectation to climate mitigation policies. Both hypotheses were tested using two distinct IQI measures, behavior and beliefs, examining their effects both independently and in relation to other predictors. Notably, the influence of both IQI behavior and beliefs remains consistent across measures, with only slight variations in strength and statistical significance.

Results show that IQI Behavior significantly moderates the effect of political identity on mitigation support. In support of hypothesis 5, while Republicans are less supportive of climate

policies overall, Republicans who engage in high IQI Behavior express significantly greater support for climate mitigation policies than their partisan counterparts who do not engage in such behaviors. However, the findings show that there is no moderating effect of the IQI on political identity to influence support for adaptation policies, showing that hypothesis 4 is not supported. IQI Belief, in contrast to IQI Behavior, has a much smaller moderating effect, suggesting that behavioral engagement is a stronger predictor of policy support than ideological belief alone. These results suggest that while political identity remains a dominant factor in climate attitudes, Inverted Quarantine behaviors may reduce partisan resistance to climate policies, offering a potential pathway for increasing support among otherwise resistant groups.

The results highlight the strong role that political identity plays in shaping support for climate policies. Across all models, identifying as a Republican is associated with significantly lower support for both adaptation and mitigation efforts. Even after accounting for key demographic and attitudinal variables, Republicans exhibit a substantial negative effect on climate policy support compared to Democrats. However, the interaction effects suggest that the extent of Republican opposition varies based on engagement in IQI-related behaviors and beliefs.

IQI Behavior moderates the relationship between political identity and climate policy support, meaning that the negative effect of identifying as a Republican is weaker among those who actively engage in IQI-related behaviors. The interaction between Republican identity and IQI Behavior is positive and statistically significant, indicating that Republicans who practice IQI Behavior express a greater willingness to support climate adaptation policies than their fellow partisans who do not. This effect is particularly pronounced for mitigation policies, where high IQI Behavior weakens Republican opposition by over 12 points. Similarly, while the

interaction between Republican identity and IQI Belief is also positive, its magnitude is considerably smaller, though still positive (whereas H5 predicted a negative effect). Republicans with stronger IQI Beliefs are somewhat more supportive of climate policies than those without such beliefs, but the effect is relatively modest compared to behavioral engagement.

These findings suggest that behavioral engagement with steps to shield oneself from environmental hazards moderates partisan differences in climate policy support. While political identity remains a dominant predictor of climate attitudes, Republicans who engage in IQI Behavior are significantly more receptive to both adaptation and mitigation policies than those who do not. However, IQI Belief alone appears to exert only a limited moderating effect.

Beyond political identity and IQI measures, several demographic factors also contribute to variations in climate policy support. Individuals show declining support for mitigation policies with age in the model measuring the influence of IQI Behavior, holding constant for all other predictors. Women exhibit slightly greater support for adaptation policies in the model for IQI Belief, though gender differences are not significant for mitigation. Race also plays a role, as white respondents demonstrate significantly higher support for mitigation policies compared to non-white respondents. Higher levels of education, particularly at the graduate level, are associated with increased support for mitigation efforts. Income does not appear to influence support for adaptation policies. However, there is some evidence that individuals earning slightly more than $35,000 show greater support for mitigation policies compared to those earning less, though this effect does not persist at higher income levels. Religious affiliation, on the other hand, appears to be a dividing factor in climate attitudes. Catholics show lower levels of mitigation support. Those in the “Other” religious category exhibit significantly lower support for both adaptation and mitigation policies compared to non-religious, holding constant for all

other predictors. This suggests that while mainstream religious affiliations in the United States may not exert strong effects on climate policy attitudes, certain religious groups may be less inclined to support climate interventions.

Additionally, belief in anthropogenic climate change, perceived climate seriousness, and the belief that climate change will harm one's family are all strongly linked to higher levels of adaptation and mitigation support. Personal experience with climate change also has a strong effect on climate policy support.

Discussion

Overall, the findings illustrate the complex interplay between political identity, the IQI, and climate attitudes. While Republican opposition to climate policies remains strong, IQI Behavior serves as an important moderating factor, reducing the strength of this resistance. Political identity, risk perception, and religious affiliation emerge as some of the strongest predictors of both shielding oneself from external hazards and holding beliefs consistent with the IQI, reinforcing the idea that environmental risk management is deeply embedded in ideological and cultural frameworks. Income and education show more complex relationships, with higher-income individuals sometimes exhibiting lower engagement in inverted quarantine strategies, suggesting that financial resources alone do not determine whether individuals take personal protective measures in response to environmental threats. Additionally, gender and age show unexpected patterns, challenging conventional wisdom about who is most likely to engage in self-protective behaviors. The racial differences observed further highlight disparities in engagement with inverted quarantine, suggesting that individuals facing greater environmental vulnerabilities may be more likely to adopt self-protective strategies as a means of coping with risk.

These findings also shed light on how shielding oneself from external hazards relates to climate policy attitudes. Contrary to the expectation that those who engage in self-protective strategies would reject systemic solutions, the results suggest the opposite: individuals who take such actions tend to support both adaptation and mitigation policies. One possible explanation is that having the IQI does not reflect opposition to government intervention but rather heightened concern about environmental risks. Those who take individual precautions may see adaptation policies as necessary to strengthen resilience against climate threats and may simultaneously support mitigation efforts as a means of addressing the long-term drivers of climate change.

Another potential explanation is that individuals may view adaptation and mitigation policies through a self-interest lens. While previous research has found that personal experiences with extreme weather events do not strongly predict adaptation policy support (Carman et al., 2022), other research on risk perception has found contradictory results (Leiserowitz, 2006), showing the need to investigate these potential insightful findings further. Additionally, cognitive dissonance may play a role. Individuals who invest time and resources into protecting themselves from climate risks may justify their actions by endorsing broader climate policies, reinforcing their worldview rather than maintaining ideological opposition to systemic solutions.

Political identity remains a significant factor in climate policy attitudes, with Republicans expressing substantially lower support for both adaptation and mitigation policies compared to Democrats. However, having the IQI moderates this relationship, reducing the partisan gap in climate policy support. Republicans who take self-protective measures against environmental threats show significantly greater support for adaptation and mitigation policies than those who do not, indicating that actively shielding oneself from external hazards weakens ideological resistance to policy solutions. This effect is particularly pronounced for mitigation policies,

where engaging in inverted quarantine behaviors substantially mitigates Republican opposition. A similar, though smaller, moderating effect is observed for IQI Belief, suggesting that while both IQI components interact with political identity, behavioral engagement exerts the strongest influence on climate policy support.

Overall, these results suggest that shielding oneself from external hazards does not necessarily indicate a rejection of systemic solutions. Instead, self-protective actions may reflect heightened climate concern, personal risk assessment, or a means of reducing cognitive dissonance. These findings contribute to a growing body of research suggesting that individual actions and policy attitudes are not necessarily at odds and that engaging in inverted quarantine practices may, in some cases, foster greater support for collective climate solutions. Future research should explore the psychological and ideological mechanisms driving these relationships, particularly how personal experience with climate risks shapes policy attitudes across different political and demographic groups.

This study challenges the assumption that having the IQI signals opposition to systemic climate action, revealing instead that those who shield themselves against environmental hazards are often more, not less, supportive of both adaptation and mitigation policies. While political identity remains a strong determinant of climate policy attitudes, the IQI appears to moderate ideological resistance, particularly among Republicans. These findings suggest that the IQI is not merely an act of individualism but a psychological bridge between personal concern and collective action. If climate policy messaging can reframe adaptation not as an alternative to mitigation but as a gateway to broader systemic engagement, it may be possible to mobilize even those who are otherwise skeptical of government intervention. The real question is not whether

people will act in the face of climate risk but whether they will recognize that true protection requires more than just individual effort.

CHAPTER FIVE: WHAT DOES THIS ALL MEAN FOR OUR UNDERSTANDING OF CLIMATE CHANGE POLICY SUPPORT?

In January 2025, the California wildfires burned with unprecedented intensity, fueled by prolonged drought, extreme heat, and high winds, conditions exacerbated by climate change. As entire communities were displaced, homes destroyed, and lives lost, the devastation underscored a critical reality: climate change is not a distant or abstract threat but an immediate crisis demanding urgent action. However, despite the overwhelming scientific consensus and growing public concern, meaningful policy responses remain limited. While a majority of people in this study believe that climate change is happening (87%) by both Democrats (99%) and Republicans (75%), climate change policy support still lacks support. This dissertation has sought to address a fundamental question: Why is there a gap between concern for climate change and support for climate policies? More specifically, why do people, especially in the U.S., acknowledge climate change as a problem yet remain divided in their willingness to endorse government action to address it?

Through three empirical studies, this dissertation advances our understanding of climate policy support by unraveling its underlying structure, examining the influence of partisan differences, and exploring the role of psychological mechanisms such as the IQI in shaping climate policy support. Taken together, these studies challenge conventional approaches to measuring public support for climate action and offer insights into how policymakers, researchers, and advocates might navigate these complexities to promote meaningful change.

Climate Policy Support is Not a Monolithic, Unidimensional Construct

The first study establishes that climate policy support is best understood as two distinct constructs, mitigation and adaptation, rather than a unidimensional measure. Using EFA and

CFA on a broad set of climate policies, this study reveals that public attitudes do not coalesce around a singular concept of "climate action." Instead, mitigation policies, those that seek to reduce greenhouse gas emissions and slow climate change, form a separate dimension of support from adaptation policies, which focus on managing the symptoms of climate change. This distinction is critical because it challenges a common assumption in public opinion research that climate policy support is a singular construct. Climate change policy researchers who continue to measure climate policy support as either only mitigation policy support or without a clear measure of mitigation and adaptation policies may be looking at only one part of the greater picture of climate policy support. By empirically validating a two-dimensional framework, this dissertation provides a more accurate and theoretically grounded model for studying climate policy attitudes.

This dissertation offers both theoretical and practical contributions to environmental sociology and political psychology, particularly in how climate policies are conceptualized and supported. It highlights that public resistance to climate action is not uniform. While mitigation policies face strong political polarization, adaptation policies garner relatively broader support. This distinction has direct implications for political strategy, suggesting that adaptation measures may serve as an entry point for bipartisan climate action. Additionally, this research advances our understanding of the underlying structure of climate policies by providing more precise ways to measure and analyze support for both mitigation and adaptation efforts.

Partisan Divides and the Climate Change Countermovement

Chapter 3 revealed deep partisan divides in climate policy support, showing that while Republicans are significantly less supportive of mitigation policies than Democrats, they are more open to adaptation measures. Whereas Democrats support both mitigation and adaptation

policies equally, Republicans tend to reject mitigation efforts like carbon taxes and emissions regulations but express greater approval for adaptation policies such as infrastructure investments and disaster preparedness programs.

This asymmetry can be understood through Social Identity Theory and the influence of the Climate Change Countermovement (CCCM). Over decades, conservative organizations, fossil fuel interests, and right-wing media have framed mitigation policies as economically harmful and as government overreach, making opposition to mitigation a core component of Republican political identity. However, adaptation policies have not been subjected to the same level of ideological resistance, allowing Republicans to view them as more pragmatic and acceptable. These findings highlight how political identity shapes not just general climate attitudes but also the distinct ways in which different policy solutions are received across partisan lines.

Social Identity Theory helps explain why climate policy attitudes are so deeply entrenched. Individuals derive a sense of self from their group memberships, particularly their political identity. In the context of climate change, Republicans may reject mitigation policies not necessarily because of rational cost-benefit analysis but because these policies are strongly associated with Democratic and liberal identities. Endorsing mitigation policies may feel like a betrayal of their in-group, making opposition more of an identity-protective response than a purely ideological one. However, adaptation policies do not carry the same partisan baggage. Therefore, Republicans may view adaptation as more compatible with their identity.

This dissertation advances our understanding of social identity theory by illustrating that partisan identities shape not only general climate attitudes but also differential support for mitigation versus adaptation policies. It suggests that the political framing of climate policies,

rather than just their substantive content, plays a critical role in determining public support. These findings highlight the power of identity-based resistance to climate action while also pointing to adaptation policies as a potential pathway for bipartisan climate progress.

The Inverted Quarantine Impulse and the Psychology of Climate Policy Support

Chapter 4 introduced a novel social-psychological mechanism, the IQI, to explain variations in climate policy support. The IQI refers to the belief that individuals can protect themselves from environmental risks, often by adopting personal strategies to shield themselves from any hazards. Although Szasz (2007) has extensively discussed the concept of inverted quarantine, this study builds upon and extends this prior work by examining the underlying sociopsychological impulse—termed the 'Inverted Quarantine Impulse'—which facilitates a deeper understanding of inverted quarantine behavior. In aggregate, the inverted quarantine leads to lower collective action on common problems. In the context of climate change, individuals who exhibit strong IQI behaviors and beliefs may be more inclined to support adaptation policies, which align with a self-protective mindset, and less inclined to support mitigation policies.

The findings confirm that Republicans are significantly more likely than Democrats to exhibit IQI behaviors and beliefs. Moreover, individuals with stronger IQI tendencies are more supportive of adaptation policies, which is consistent with the idea that adaptation is perceived as a means of protecting oneself from climate risks. However, the results also reveal an unexpected relationship: greater IQI is also associated with increased mitigation support. This suggests that while IQI fosters a self-protective orientation, it does not necessarily translate into opposition to collective solutions such as emissions reductions. Instead, Republicans with strong IQI tendencies demonstrate greater support for both mitigation and adaptation policies than

Republicans without IQI tendencies, though their overall support remains lower than that of Democrats. The surprising results of the effects of IQI on mitigation support suggest that Republicans who are already taking steps to shield themselves from environmental hazards may also recognize the benefits of broader systemic efforts to reduce those hazards. In other words, support for mitigation and adaptation policies is not zero-sum; individuals who engage in self-protective behaviors may simultaneously see value in collective action, challenging the assumption that personal adaptation necessarily undermines support for mitigation.

The findings on the relationship between IQI and climate change complicate the common assumption that conservative skepticism toward climate action is purely ideological. While partisan identity remains the strongest predictor of climate policy attitudes, the presence of psychological mechanisms like IQI suggests that some individuals, particularly Republicans, may be persuadable if policies are framed in ways that resonate with self-protection and risk management. The IQI is a meaningful factor in public responses to climate change, influencing support for different types of policy interventions, and should be incorporated into future studies of climate policy support. Lastly, this study also provided practical measures of inverted quarantine behavior and beliefs.

Policy and Practical Implications

The findings of this dissertation suggest several important implications. Recognizing that climate policies are not unidimensional allows policymakers and advocates to frame mitigation and adaptation policies differently to appeal to distinct political constituencies. Because adaptation policies tend to garner broader bipartisan support, policymakers could leverage adaptation efforts as a gateway to broader climate action while gradually shifting narratives around mitigation to reduce partisan resistance.

Understanding that mitigation and adaptation policies are perceived differently suggests that climate legislation should be designed with this distinction in mind. Policymakers might prioritize adaptation measures in politically conservative areas where mitigation policies face strong opposition while simultaneously integrating mitigation efforts into adaptation programs. For example, gathering support for installing solar panels might gain stronger bipartisan support if it was done so in conjunction with an adaptation measure, such as installing solar panels over parking lots, thus reducing summer temperatures and direct sunlight on cars (or providing shelter from rain). Efforts to make cities greener may be framed by their effects on adapting to climate change, such as reducing surrounding temperatures and making hot summer days more bearable. This approach could make mitigation efforts politically palatable over time.

Because Republicans demonstrate greater support for adaptation policies than mitigation policies, policymakers can use adaptation as a politically practical entry point for broader climate policy support. By framing adaptation initiatives as necessary protections rather than government overreach, bipartisan support for climate action may become more achievable. If policymakers and organizations are more cognitively aware of the influence of the CCCM and its effects on the social identity of Republicans, communicators can better navigate their arguments away from identity-triggering arguments. Given that opposition to mitigation policies is strongly tied to partisan identity and the influence of the CCCM, policymakers and advocates should explore alternative frameworks for mitigation efforts. For example, emphasizing economic growth, national security, or local job creation through clean energy investments may help reduce Republican resistance to mitigation policies by aligning them with conservative values.

Individuals with stronger IQI tendencies, particularly Republicans, are more supportive of adaptation policies and even some mitigation efforts. Policymakers and advocates can frame

climate policies as tools for personal and community protection. For example, instead of talking about greenhouse gas emissions as reducing overall atmospheric CO2 concentrations, this contributes towards mitigating climate change. Instead, it should be emphasized how emissions reductions contribute to local air quality and public health.

IQI behaviors and beliefs suggest that some people believe they can shield themselves from climate risks through personal actions (by adapting) rather than global CO2 reduction efforts. While this does open some strategic avenues for building wider policy support, policymakers could also strategize about ways to counteract this perception by providing education on the limitations of individual adaptation and demonstrating how large-scale government action to address systemic climate threats will ease the ability of individuals to shield themselves from the threats of climate change. Messaging that highlights the interconnectedness of climate risks, for example, how wildfires, floods, and extreme weather events affect entire communities regardless of individual preparedness, could help shift support toward broader mitigation efforts. While it is possible to be prepared for events such as the California wildfires, it is simultaneously possible to reduce the strength of those wildfires and the personal risks individuals incur while also focusing our collective efforts on mitigating climate change.

Study Limitations and Future Research

As with any research, this dissertation has limitations. The use of non-probability sampling via Prolific, while cost-effective and efficient, limits its generalizability. Ideally, a probability sample collected through a mail-to-web system would have been preferable. This approach, as outlined by Dillman et al. (2014), would involve sending respondents personalized letters with unique survey links, followed by multiple reminder mailings in a tailored survey

design to maximize response rates and reduce nonresponse bias. Additionally, a mixed-mode strategy combining mail and web could have further improved coverage and representation, ensuring a more demographically diverse and representative sample, reducing total survey error.

The survey instrument measured support for a broad number of climate policy items, which predominantly aligned with either mitigation or adaptation categories. However, to capture the full complexity of climate policy preferences, future research should include a set of policy items that integrate both mitigation and adaptation efforts. By employing factor analysis, scholars can assess whether public support for climate policies follows a two-dimensional structure or whether a more nuanced, multidimensional framework better reflects how individuals conceptualize climate action.

Additionally, measuring the IQI after climate policy support raises the possibility of increased measurement error, potentially contributing to response bias and order effects (Dillman et al., 2014). Respondents' prior exposure to climate policy questions may have influenced how they interpreted and answered the IQI items by priming certain attitudes on climate change. More research is needed to refine how IQI is measured, particularly in survey contexts. Future studies should explore alternative question ordering, experimental designs, or longitudinal approaches to assess whether the placement of IQI items systematically influences responses. Additionally, incorporating qualitative methods or mixed-method approaches could provide deeper insights into how individuals conceptualize their own protective behaviors and beliefs in relation to broader climate policy preferences.

A key limitation of this study is its reliance on observational data, which makes it difficult to determine the causal direction between the IQI and climate policy support. The causal direction is not clear, and performing an experiment would help clarify the causal direction and

increase our theoretical understanding of the influence of IQI on policy support. In addition, the causal direction between the influence of IQI and political identity is also not known. While the findings suggest that Republicans are more likely to act in and believe in shielding themselves from external threats, it remains unclear whether it is being a Republican that shapes one's IQI or if having an IQI orientation makes individuals more likely to adopt conservative political views. Establishing causality in this relationship would provide critical insights into how psychological orientations toward risk and self-protection intersect with broader ideological and identity-based processes in shaping climate policy attitudes.

Further research would also benefit from capturing population sample snapshots in different periods to account for shifts in public and political sentiments with regard to climate change and the broader political or economic climates. Additionally, this literature would also benefit from examining the relationship between social identity and the IQI beyond the U.S. and understanding the influence on climate policy support in other nations around the world. Lastly, future research should also explore longitudinal shifts in climate attitudes, testing whether the observed partisan asymmetry in mitigation versus adaptation support persists over time.

As wildfires rage, sea levels rise, and extreme weather events become more frequent, the need to bridge the gap between concern and action has never been more urgent. Ultimately, this dissertation underscores the challenges of achieving widespread support for climate action in the U.S. Despite high levels of public concern, Republican resistance to mitigation continues to hinder progress. However, this dissertation also provides some hope. Given what we now know about the inverted quarantine and climate change policy support, finding ways to gain Republican support for adaptation and mitigation policies seems clearer than ever. If researchers, policymakers, and advocates can harness the insights from this research, acknowledging the

complexities of public opinion and leveraging areas of bipartisan support, there may still be hope for meaningful climate policy in the critical years ahead.

REFERENCES

Albrecht, S. L. (1972). Environmental Social Movements and Counter-Movements: An Overview and an Illustration. *Journal of Voluntary Action Research*, *1*(4), Article 4.

Ballew, M. T., Pearson, A. R., Goldberg, M. H., Rosenthal, S. A., & Leiserowitz, A. (2020). Does Socioeconomic Status Moderate the Political Divide on Climate Change? The Roles of Education, Income, and Individualism. *Global Environmental Change*, *60*, 102024. https://doi.org/10.1016/j.gloenvcha.2019.102024

Bateman, T. S., & O'Connor, K. (2016). Felt Responsibility and Climate Engagement: Distinguishing Adaptation from Mitigation. *Global Environmental Change*, *41*, 206–215. https://doi.org/10.1016/j.gloenvcha.2016.11.001

Beck, U. (1992). *Risk Society: Towards a New Modernity* (1st edition). SAGE Publications Ltd.

Bernauer, T. (2013). Climate Change Politics. *Annual Review of Political Science*, *16*(1), 421–448. https://doi.org/10.1146/annurev-polisci-062011-154926

Bertoldo, R., Mays, C., Böhm, G., Poortinga, W., Poumadère, M., Tvinnereim, E., Arnold, A., Steentjes, K., & Pidgeon, N. (2019). Scientific Truth or Debate: On the Link Between Perceived Scientific Consensus and Belief in Anthropogenic Climate Change. *Public Understanding of Science*, *28*(7), 778–796. https://doi.org/10.1177/0963662519865448

Boussalis, C., Coan, T., & Holman, M. (2019). Communicating Climate Mitigation and Adaptation Efforts in American Cities. *Climate*, *7*(3), 45. https://doi.org/10.3390/cli7030045

Brewer, M. B. (1991). The Social Self: On Being the Same and Different at the Same Time. *Personality and Social Psychology Bulletin*, *17*(5), 475–482. https://doi.org/10.1177/0146167291175001

Brulle, R. J. (2021). Networks of Opposition: A Structural Analysis of US Climate Change Countermovement Coalitions 1989-2015. *Sociological Inquiry*, *91*(3), 603–624. https://doi.org/10.1111/soin.12333

Bugden, D. (2022). Denial and Distrust: Explaining the Partisan Climate Gap. *Climatic Change*, *170*(3–4), 34. https://doi.org/10.1007/s10584-022-03321-2

Building a Clean Energy Economy: A Guidebook to the Inflation Reduction Act's Investments in Clean Energy and Climate Action (2021-09-27). (2022). [Guidebook]. Executive Office of the President. https://bidenwhitehouse.archives.gov/wp-content/uploads/2022/12/Inflation-Reduction-Act-Guidebook.pdf

Bullard, R. D. (2008). *Dumping in Dixie: Race, Class, and Environmental Quality*. Westview Press.

Burke, M., Hsiang, S. M., & Miguel, E. (2015). Global Non-Linear Effect of Temperature on Economic Production. *Nature*, *527*(7577), 235–239. https://doi.org/10.1038/nature15725

Carman, C. J. (1998). Dimensions of Environmental Policy Support in the United States. *Social Science Quarterly*, *79*(4), 18.

Carman, J. P., Lacroix, K., Goldberg, M. H., Rosenthal, S., Gustafson, A., Howe, P., Marlon, J., & Leiserowitz, A. (2022). Measuring Americans' Support for Adapting to 'Climate Change' or 'Extreme Weather.' *Environmental Communication*, *16*(5), 577–588. https://doi.org/10.1080/17524032.2022.2087709

Cerda, J. B. O. and A. (2022, September 8). Republicans and Democrats Have Different Top Priorities for U.s. Immigration Policy. *Pew Research Center*. https://www.pewresearch.org/short-reads/2022/09/08/republicans-and-democrats-have-different-top-priorities-for-u-s-immigration-policy/

Clark, A., Benoit, P., & Walters, J. (2023). Government Shareholders, Wasted Resources and Climate Ambitions: Why Is China Still Building New Coal-Fired Power Plants? *Climate Policy*, *23*(1), 25–40. https://doi.org/10.1080/14693062.2022.2062285

Clarke, E. J. R., Klas, A., Stevenson, J., & Kothe, E. (2019). The Role of Late-Night Infotainment Comedy in Communicating Climate Change Consensus. *Environmental Communication*. https://doi.org/10.31234/osf.io/ufg9r

Coleman, J. S. (1986). Social Theory, Social Research, and a Theory of Action. *American Journal of Sociology*, *91*(6), 1309–1335. https://doi.org/10.1086/228423

Coma, A., Johnson, E. W., & Philip Schwadel. (2024). Elite Cueing, Gender, and the Partisan Gap in Environmental Support. *The Sociological Quarterly*, 1–21. https://doi.org/10.1080/00380253.2024.2347917

Cropper, M., Cui, R., Guttikunda, S., Hultman, N., Jawahar, P., Park, Y., Yao, X., & Song, X.-P. (2021). The Mortality Impacts of Current and Planned Coal-Fired Power Plants in India. *Proceedings of the National Academy of Sciences*, *118*(5), e2017936118. https://doi.org/10.1073/pnas.2017936118

Deane, A. T., Michael Lipka and Claudia. (2025, February 12). 1. Americans' Views on Covid-19 Risk and the Country's Response to Health Emergencies. *Pew Research Center*. https://www.pewresearch.org/politics/2025/02/12/americans-views-on-covid-19-risk-and-the-countrys-response-to-health-emergencies/

Deane, C. D., Jocelyn Kiley and Claudia. (2024, November 13). What Trump Supporters Believe and Expect. *Pew Research Center*. https://www.pewresearch.org/short-reads/2024/11/13/what-trump-supporters-believe-and-expect/

Dietz, T., Dan, A., & Shwom, R. (2007). Support for Climate Change Policy: Social Psychological and Social Structural Influences*. *Rural Sociology*, *72*(2), 185–214. https://doi.org/10.1526/003601107781170026

Dietz, T., Shwom, R. L., & Whitley, C. T. (2020). Climate Change and Society. *Annual Review of Sociology*, 27.

Dillman, D. A. (with Smyth, J. D., & Christian, L. M.). (2014). *Internet, Phone, Mail, and Mixed-Mode Surveys: The Tailored Design Method* (Fourth edition.). Wiley.

Doell, K. C., Pärnamets, P., Harris, E. A., Hackel, L. M., & Van Bavel, J. J. (2021). Understanding the Effects of Partisan Identity on Climate Change. *Current Opinion in Behavioral Sciences*, *42*, 54–59. https://doi.org/10.1016/j.cobeha.2021.03.013

Dolšak, N., & Prakash, A. (2018). The Politics of Climate Change Adaptation. *Annual Review of Environment and Resources*, *43*(1), 317–341. https://doi.org/10.1146/annurev-environ-102017-025739

Dolšak, N., & Prakash, A. (2022). Three Faces of Climate Justice. *Annual Review of Political Science*, *25*(1), 283–301. https://doi.org/10.1146/annurev-polisci-051120-125514

Drews, S., & Van Den Bergh, J. C. J. M. (2016). What Explains Public Support for Climate Policies? A Review of Empirical and Experimental Studies. *Climate Policy*, *16*(7), 855–876. https://doi.org/10.1080/14693062.2015.1058240

Dunlap, R. E. (2013). Climate Change Skepticism and Denial: An Introduction. *American Behavioral Scientist*, *57*(6), 691–698. https://doi.org/10.1177/0002764213477097

Dunlap, R. E., & Brulle, R. J. (Eds.). (2015). *Climate Change and Society: Sociological Perspectives*. Oxford University Press.

Dunlap, R. E., & McCright, A. M. (2011). Organized Climate Change Denial. *The Oxford Handbook of Climate Change and Society*, 144–160.

Dunlap, R. E., McCright, A. M., & Yarosh, J. H. (2016). The Political Divide on Climate Change: Partisan Polarization Widens in the U.S. *Environment: Science and Policy for Sustainable Development*, *58*(5), 4–23. https://doi.org/10.1080/00139157.2016.1208995

Dunlap, R. E., Xiao, C., & McCright, A. M. (2001). Politics and Environment in America: Partisan and Ideological Cleavages in Public Support for Environmentalism. *Environmental Politics*, *10*(4), 23–48. https://doi.org/10.1080/714000580

Dunlap, R., & McCright, A. (2015). *Challenging Climate Change: The Denial Countermovement* (pp. 300–332).

Egan, P. J., & Mullin, M. (2017). Climate Change: US Public Opinion. *Annual Review of Political Science*, *20*(1), 209–227. https://doi.org/10.1146/annurev-polisci-051215-022857

Elliott, M. R., & Valliant, R. (2017). Inference for Nonprobability Samples. *Statistical Science*, *32*(2). https://doi.org/10.1214/16-STS598

Estimates of the Voting-Age Population for 2023. (2024, March 29). Federal Register. https://www.federalregister.gov/documents/2024/03/29/2024-06666/estimates-of-the-voting-age-population-for-2023

Fairbrother, M. (2022). Public Opinion About Climate Policies: A Review and Call for More Studies of What People Want. *PLOS Climate*, *1*(5), e0000030. https://doi.org/10.1371/journal.pclm.0000030

Falzon, D., & Sen, R. (2024). A Call for a Sociology of Adaptation. *Sociological Forum*, *39*(2), 135–148. https://doi.org/10.1111/socf.12998

Ferguson, M. A., McDonald, R. I., & Branscombe, N. R. (2016). Global Climate Change: A Social Identity Perspective on Informational and Structural Interventions. In S. McKeown, R. Haji, & N. Ferguson (Eds.), *Understanding Peace and Conflict Through*

Social Identity Theory (pp. 145–164). Springer International Publishing. https://doi.org/10.1007/978-3-319-29869-6_10

Fiack, D. (2022). Governing for Resilience: A New Epoch in U.s. Environmental Policy and Politics? *Journal of Environmental Studies and Sciences*, *12*(1), 43–80. https://doi.org/10.1007/s13412-021-00685-2

Fielding, K. S., & Hornsey, M. J. (2016). A Social Identity Analysis of Climate Change and Environmental Attitudes and Behaviors: Insights and Opportunities. *Frontiers in Psychology*, *7*. https://doi.org/10.3389/fpsyg.2016.00121

Fielding, K. S., Hornsey, M. J., Thai, H. A., & Toh, L. L. (2020). Using Ingroup Messengers and Ingroup Values to Promote Climate Change Policy. *Climatic Change*, *158*(2), 181–199. https://doi.org/10.1007/s10584-019-02561-z

Framework Convention on Climate Change. (2010). United Nations. https://unfccc.int/resource/docs/2010/awglca12/eng/14.pdf

Ghiselli, E. E. (1981). *Measurement Theory for the Behavioral Sciences*. W H Freeman & Co.

Gifford, R. (2011). The Dragons of Inaction: Psychological Barriers That Limit Climate Change Mitigation and Adaptation. *American Psychologist*, *66*(4), 290–302. https://doi.org/10.1037/a0023566

Goldberg, M. H., Gustafson, A., Ballew, M. T., Rosenthal, S. A., & Leiserowitz, A. (2021). Identifying the Most Important Predictors of Support for Climate Policy in the United States. *Behavioural Public Policy*, *5*(4), 480–502. https://doi.org/10.1017/bpp.2020.39

Gramlich, J. (2020). What the 2020 Electorate Looks Like by Party, Race and Ethnicity, Age, Education and Religion. *Pew Research Center*. https://www.pewresearch.org/fact-tank/2020/10/26/what-the-2020-electorate-looks-like-by-party-race-and-ethnicity-age-education-and-religion/

Gross, M. (2023). Car Driving as Inverted Quarantine and the Sensory Response to Collective Threats: Challenges for Public Transport. *The Senses and Society*, *18*(3), 241–253. https://doi.org/10.1080/17458927.2023.2197684

Hamilton, L. C., Hartter, J., Lemcke-Stampone, M., Moore, D. W., & Safford, T. G. (2015). Tracking Public Beliefs About Anthropogenic Climate Change. *PLOS ONE*, *10*(9), e0138208. https://doi.org/10.1371/journal.pone.0138208

Hansen, M. A., & Seppälä, M. (2024). Support for Gun Reform in the United States: The Interactive Relationship Between Partisanship and Trust in the Federal Government. *Political Behavior*, *46*(3), 2025–2045. https://doi.org/10.1007/s11109-023-09907-5

Hornsey, M. J., Harris, E. A., Bain, P. G., & Fielding, K. S. (2016). Meta-Analyses of the Determinants and Outcomes of Belief in Climate Change. *Nature Climate Change*, *6*(6), 622–626. https://doi.org/10.1038/nclimate2943

Houser, M., Gazley, B., Reynolds, H., Grennan Browning, E., Sandweiss, E., & Shanahan, J. (2022). Public Support for Local Adaptation Policy: The Role of Social-Psychological Factors, Perceived Climatic Stimuli, and Social Structural Characteristics. *Global*

Environmental Change, *72*, 102424. https://doi.org/10.1016/j.gloenvcha.2021.102424

Hunter, L. M., Koning, S., Fussell, E., King, B., Rishworth, A., Merdjanoff, A., Muttarak, R., Riosmena, F., Simon, D. H., Skop, E., & Van Den Hoek, J. (2021). Scales and Sensitivities in Climate Vulnerability, Displacement, and Health. *Population and Environment*, *43*(1), 61–81. https://doi.org/10.1007/s11111-021-00377-7

Ingham, S., & Lovett, F. (2019). Republican Freedom, Popular Control, and Collective Action. *American Journal of Political Science*, *63*(4), 774–787. https://doi.org/10.1111/ajps.12439

Jenkins-Smith, H. C., Ripberger, J. T., Silva, C. L., Carlson, D. E., Gupta, K., Carlson, N., Ter-Mkrtchyan, A., & Dunlap, R. E. (2020). Partisan Asymmetry in Temporal Stability of Climate Change Beliefs. *Nature Climate Change*, *10*(4), 322–328. https://doi.org/10.1038/s41558-020-0719-y

Johansson, A., Berggren, N., & Nilsson, T. (2022). Intolerance predicts climate skepticism. *Energy Economics*, *105*, 105719. https://doi.org/10.1016/j.eneco.2021.105719

Johnson, T., Mol, A. P. J., Zhang, L., & Yang, S. (2017). Living under the dome: Individual strategies against air pollution in Beijing. *Habitat International*, *59*, 110–117. https://doi.org/10.1016/j.habitatint.2016.11.014

Joslyn, M. R., Haider-Markel, D. P., Baggs, M., & Bilbo, A. (2017). Emerging Political Identities? Gun Ownership and Voting in Presidential Elections*. *Social Science Quarterly*, *98*(2), 382–396. https://doi.org/10.1111/ssqu.12421

Kennedy, B., & Tyson, A. (2024, December 9). How Americans View Climate Change and Policies to Address the Issue. *Pew Research Center*. https://www.pewresearch.org/science/2024/12/09/how-americans-view-climate-change-and-policies-to-address-the-issue/

Kennedy, C. F. and B. (2016, December 1). The New Food Fights: U.S. Public Divides Over Food Science. *Pew Research Center*. https://www.pewresearch.org/science/2016/12/01/the-new-food-fights/

Klepp, S., & Chavez-Rodriguez, L. (Eds.). (2018). *A Critical Approach to Climate Change Adaptation: Discourses, Policies, and Practices* (1st ed.). Routledge. https://doi.org/10.4324/9781315165448

Kolářová, M. (2020). Climate Change and the Transition Movement in Eastern Europe: The Case of Czech Permaculture. *Czech Sociological Review*, *56*(3), 363–386. https://doi.org/10.13060/csr.2020.022

Largesse, E. (2022). Class, Climate Change, and Closed Systems: Inverted Quarantine on Nantucket Island. *Environmental Sociology*, 1–14. https://doi.org/10.1080/23251042.2022.2042887

Lee, S., Goldberg, M. H., Rosenthal, S. A., Maibach, E. W., Kotcher, J. E., & Leiserowitz, A. (2024). Climate Change Belief Systems Across Political Groups in the United States. *PLOS ONE*, *19*(3), e0300048. https://doi.org/10.1371/journal.pone.0300048

Lei, Y., Wang, J., Yue, Y., Zhou, H., & Yin, W. (2014). Rethinking the Relationships of Vulnerability, Resilience, and Adaptation from a Disaster Risk Perspective. *Natural Hazards, 70*(1), 609–627. https://doi.org/10.1007/s11069-013-0831-7

Leiserowitz, A. (2006). Climate Change Risk Perception and Policy Preferences: The Role of Affect, Imagery, and Values. *Climatic Change, 77*(1), 45–72. https://doi.org/10.1007/s10584-006-9059-9

Leiserowitz, A., Maibach, E., Rosenthal, S., & Kotcher, J. (2019). Climate Change in the American Mind: November 2019. *Yale University and George Mason University*.

Levin, K., Cashore, B., Bernstein, S., & Auld, G. (2012). Overcoming the Tragedy of Super Wicked Problems: Constraining Our Future Selves to Ameliorate Global Climate Change. *Policy Sciences*, *45*(2), 123–152. https://doi.org/10.1007/s11077-012-9151-0

Liu, W., Du, C., Chu, X., & Wang, Z. (2021). "Inverted Quarantine" in the Face of Environmental Change: Initiative Defensive Behaviors Against Air Pollution in China. *Sustainable Production and Consumption*, *26*, 493–503. https://doi.org/10.1016/j.spc.2020.12.024

Lounsbury, J. W., & Tornatzky, L. G. (1977). A Scale for Assessing Attitudes toward Environmental Quality. *The Journal of Social Psychology, 101*(2), 299–305. https://doi.org/10.1080/00224545.1977.9924020

Lu, H., & Schuldt, J. P. (2016). Compassion for Climate Change Victims and Support for Mitigation Policy. *Journal of Environmental Psychology*, *45*, 192–200. https://doi.org/10.1016/j.jenvp.2016.01.007

Lucas, J. W. (2003). Theory-Testing, Generalization, and the Problem of External Validity. *Sociological Theory*, *21*(3), 236–253. https://doi.org/10.1111/1467-9558.00187

Mackendrick, N. (2014). More Work for Mother: Chemical Body Burdens as a Maternal Responsibility1. *Gender & Society*, *28*(5), 705–728. https://doi.org/10.1177/0891243214529842

Mason, L. (2018). *Uncivil Agreement: How Politics Became Our Identity*. The University of Chicago Press.

Masson-Delmotte, V. (2021). *Summary for Policymakers. Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. IPCC.

McAdam, D. (2017). Social Movement Theory and the Prospects for Climate Change Activism in the United States. *Annual Review of Political Science*, *20*(1), 189–208. https://doi.org/10.1146/annurev-polisci-052615-025801

McCright, A. M., & Dunlap, R. E. (2000). Challenging Global Warming as a Social Problem: An Analysis of the Conservative Movement's Counter-Claims. *Social Problems, 47*(4), 499–522. https://doi.org/10.2307/3097132

McCright, A. M., & Dunlap, R. E. (2003). Defeating Kyoto: The Conservative Movement's Impact on U.S. Climate Change Policy. *Social Problems, 50*(3), 348–373.

https://doi.org/10.1525/sp.2003.50.3.348

McCright, A. M., Dunlap, R. E., & Marquart-Pyatt, S. T. (2016). Political Ideology and Views About Climate Change in the European Union. *Environmental Politics*, *25*(2), 338–358. https://doi.org/10.1080/09644016.2015.1090371

McCright, A. M., Xiao, C., & Dunlap, R. E. (2014). Political Polarization on Support for Government Spending on Environmental Protection in the Usa, 1974–2012. *Social Science Research*, *48*, 251–260. https://doi.org/10.1016/j.ssresearch.2014.06.008

Mendez, M. (2020). *Climate Change from the Streets: How Conflict and Collaboration Strengthen the Environmental Justice Movement*. Yale University Press. https://doi.org/10.2307/j.ctvt1sgmc

Miranda, M. L., Hastings, D. A., Aldy, J. E., & Schlesinger, W. H. (2011). The Environmental Justice Dimensions of Climate Change. *Environmental Justice*, *4*(1), 17–25. https://doi.org/10.1089/env.2009.0046

Mullins-Jaime, C., & Wachter, J. K. (2023). Motivating Personal Climate Action through a Safety and Health Risk Management Framework. *International Journal of Environmental Research and Public Health*, *20*(1), Article 1. https://doi.org/10.3390/ijerph20010007

Myers, T. A., Roser-Renouf, C., Leiserowitz, A., & Maibach, E. (2024). Emotional signatures of climate policy support. *PLOS Climate*, *3*(3), e0000381. https://doi.org/10.1371/journal.pclm.0000381

Nadeem, R. (2024, July 29). War in Ukraine: Wide Partisan Differences on U.S. Responsibility and Support. *Pew Research Center*. https://www.pewresearch.org/politics/2024/07/29/war-in-ukraine-wide-partisan-differences-on-u-s-responsibility-and-support/

Nelson, D. R. (2011). Adaptation and Resilience: Responding to a Changing Climate. *WIREs Climate Change*, *2*(1), 113–120. https://doi.org/10.1002/wcc.91

Ojala, M. (2015). Climate change skepticism among adolescents. *Journal of Youth Studies*, *18*(9), 1135–1153. https://doi.org/10.1080/13676261.2015.1020927

Orlove, B. (2022). The Concept of Adaptation. *Annual Review of Environment and Resources*, *47*(1), 535–581. https://doi.org/10.1146/annurev-environ-112320-095719

Palan, S., & Schitter, C. (2018). Prolific.ac—A Subject Pool for Online Experiments. *Journal of Behavioral and Experimental Finance*, *17*, 22–27. https://doi.org/10.1016/j.jbef.2017.12.004

Palm, R., & Bolsen, T. (2020). A Partisan and Polarized Issue in the United States. In R. Palm & T. Bolsen (Eds.), *Climate Change and Sea Level Rise in South Florida: The View of Coastal Residents* (pp. 15–40). Springer International Publishing. https://doi.org/10.1007/978-3-030-32602-9_3

Park, A. (2009). *Everybody's Movement*. Environmental Support Center. https://kresge.org/sites/default/files/Everybodys-movement-climate-social-justice.pdf

Pearson, A. R., & Schuldt, J. P. (2018). Climate Change and Intergroup Relations: Psychological Insights, Synergies, and Future Prospects. *Group Processes & Intergroup Relations, 21*(3), 373–388. https://doi.org/10.1177/1368430217747750

Peer, E., Rothschild, D., Gordon, A., Evernden, Z., & Damer, E. (2021). Data Quality of Platforms and Panels for Online Behavioral Research. *Behavior Research Methods, 54*(4), 1643–1662. https://doi.org/10.3758/s13428-021-01694-3

Perez, N., & Waldholz, R. (2025, January 21). Trump Is Withdrawing from the Paris Agreement (again), Reversing U.s. Climate Policy. *NPR*. https://www.npr.org/2025/01/21/nx-s1-5266207/trump-paris-agreement-biden-climate-change

Preston, B. L., Yuen, E. J., & Westaway, R. M. (2011). Putting Vulnerability to Climate Change on the Map: A Review of Approaches, Benefits, and Risks. *Sustainability Science, 6*(2), 177–202. https://doi.org/10.1007/s11625-011-0129-1

Revilla, M., & Höhne, J. K. (2020). How long do respondents think online surveys should be? New evidence from two online panels in Germany. *International Journal of Market Research*, *62*(5), 538–545. https://doi.org/10.1177/1470785320943049

Rhodes, E., Axsen, J., & Jaccard, M. (2017). Exploring Citizen Support for Different Types of Climate Policy. *Ecological Economics*, *137*, 56–69. https://doi.org/10.1016/j.ecolecon.2017.02.027

Rooney-Varga, J. N., Hensel, M., McCarthy, C., McNeal, K., Norfles, N., Rath, K., Schnell, A. H., & Sterman, J. D. (2021). Building Consensus for Ambitious Climate Action Through the World Climate Simulation. *Earth's Future*, *9*(12), e2021EF002283. https://doi.org/10.1029/2021EF002283

Rubio Juan, M., & Revilla, M. (2021). Support for mitigation and adaptation climate change policies: Effects of five attitudinal factors. *Mitigation and Adaptation Strategies for Global Change, 26*(6), 28. https://doi.org/10.1007/s11027-021-09964-3

Rushkoff, D. (2022). *Survival of the Richest: Escape Fantasies of the Tech Billionaires* (First edition.). W.W. Norton & Company, Inc.

Schuldt, J. P., Rickard, L. N., & Yang, Z. J. (2018). Does Reduced Psychological Distance Increase Climate Engagement? On the Limits of Localizing Climate Change. *Journal of Environmental Psychology*, *55*, 147–153. https://doi.org/10.1016/j.jenvp.2018.02.001

Schwaller, N. L., & BenDor, T. K. (2021). Differential Residential Perspectives on in Situ Protection and Retreat as Strategies for Climate Adaptation. *Climatic Change, 167*(3–4), 42. https://doi.org/10.1007/s10584-021-03055-7

Schwaller, N. L., Kelmenson, S., BenDor, T. K., & Spurlock, D. (2020). From Abstract Futures to Concrete Experiences: How Does Political Ideology Interact with Threat Perception to Affect Climate Adaptation Decisions? *Environmental Science & Policy*, *112*, 440–452. https://doi.org/10.1016/j.envsci.2020.07.001

Shwom, R., McCright, A., Brechin, S., Dunlap, R., Marquart-Pyatt, S., & Hamilton, L. (2015). *Public Opinion on Climate Change* (pp. 269–299). https://doi.org/10.1093/acprof:oso/9780199356102.003.0009

Smith, E. K., Bognar, M. J., & Mayer, A. P. (2024). Polarisation of Climate and Environmental Attitudes in the United States, 1973-2022. *Npj Climate Action*, *3*(1), 2. https://doi.org/10.1038/s44168-023-00074-1

Spence, A., Poortinga, W., & Pidgeon, N. (2012). The Psychological Distance of Climate Change: Psychological Distance of Climate Change. *Risk Analysis*, *32*(6), 957–972. https://doi.org/10.1111/j.1539-6924.2011.01695.x

Stern, P. C. (2020). Well-meaning discourses of climate delay. *Global Sustainability*, *3*, e35. https://doi.org/10.1017/sus.2020.31

Szasz, A. (2007). *Shopping Our Way to Safety: How We Changed from Protecting the Environment to Protecting Ourselves*. University of Minnesota Press.

Tajfel, H., Billig, M. G., Bundy, R. P., & Flament, C. (1971). Social Categorization and Intergroup Behaviour. *European Journal of Social Psychology*, *1*(2), 149–178. https://doi.org/10.1002/ejsp.2420010202

Tang, J., Birrell, E., & Lerner, A. (2022). *Replication: How Well Do My Results Generalize Now? The External Validity of Online Privacy and Security Surveys*. Eighteenth Symposium on Usable Privacy and Security (SOUPS 2022), Boston, MA. https://www.usenix.org/conference/soups2022/presentation/tang

Tang, Y.-T., & Chooi, W.-T. (2022). From Concern to Action: The Role of Psychological Distance in Attitude Towards Environmental Issues. *Current Psychology*. https://doi.org/10.1007/s12144-022-03774-9

Tyson, B. K. and A. (2024, December 9). How Americans View Climate Change and Policies to Address the Issue. *Pew Research Center*. https://www.pewresearch.org/science/2024/12/09/how-americans-view-climate-change-and-policies-to-address-the-issue/

Unsworth, K. L., & Fielding, K. S. (2014). It's Political: How the Salience of One's Political Identity Changes Climate Change Beliefs and Policy Support. *Global Environmental Change*, *27*, 131–137. https://doi.org/10.1016/j.gloenvcha.2014.05.002

U.S. Census Bureau QuickFacts: United States. (2021). U.S. Census Bureau. https://www.census.gov/quickfacts/fact/table/US/PST045221

Xiao, C., & Dunlap, R. E. (2007). Validating a Comprehensive Model of Environmental Concern Cross-Nationally: A U.S.-Canadian Comparison. *Social Science Quarterly*, *88*(2), 471–493. https://doi.org/10.1111/j.1540-6237.2007.00467.x

Xue, W., Hine, D. W., Marks, A. D. G., Phillips, W. J., & Zhao, S. (2016). Cultural worldviews and climate change: A view from C hina. *Asian Journal of Social Psychology*, *19*(2), 134–144. https://doi.org/10.1111/ajsp.12116

APPENDIX

APPENDIX A: REDUCING TOTAL SURVEY ERROR

The Four Sources of Survey Error

A strong understanding of survey error is essential for producing high-quality data and drawing reliable conclusions in sociological research. As outlined by Dillman et al. (2014), survey methodology is subject to four primary sources of error: sampling error, coverage error, nonresponse error, and measurement error. Each of these errors can distort findings in different ways, from excluding portions of the population to introducing biases through question-wording or respondent misinterpretation. Minimizing these errors reduces total survey error, increasing the likelihood that findings accurately represent the population to which they are generalized. This appendix provides a detailed discussion of each error type, demonstrating their significance and the methodological approaches available to mitigate their impact.

Sampling Error.

Sampling error occurs when only a sample of respondents is collected instead of a census. Because the findings from the sample data are meant to be generalized to the entire target population, some error will exist between the findings in the study and the true population mean. Designing a survey with calculated acceptable margins of survey sampling error is a key component of ensuring the findings offer a high degree of external validity and are generalizable to the target population.

The target population of this research project is the entire voting-age population in the U.S. because this is the population that can potentially vote for and support or oppose various climate change policies. Given the literal and practical constraints in resources, it is not possible

to survey the entire U.S. voting-age population of about 262 million (2023 estimates, Federal Register, 2024). Therefore, a sample of the target population needs to be collected.

To determine the sample size, it is important to specify the appropriate margin of error, confidence level, sample size, and how much variance the issues being measured have. This study will use the same margin of error and confidence level as is standard for most social science, with a margin of error of +-3 percentage points with a 95% confidence level. Lastly, the most conservative estimate for issue variance is a 50/50 split. Since it is not possible to know the variance for a number of the variables within this study, the most conservative issue variance split will be in this study.

Using the formula calculating the margin of error in a sample survey (Dillman et al., 2014) to generalize the findings to the entire U.S. voting population of 262 million, with a margin of error of +-3 percentage points at a 95% confidence level, a sample size of 1,067 completed responses is needed. The formula for calculating the sample size for large populations is shown in Equation 1:

Equation 1. Equation to Calculate Sample Size for a Large Target Population.

$$n = \frac{Z^2 \cdot p \cdot (1 - p)}{E^2}$$

Where:
n: The required sample size (number of survey completions necessary) for this study
Z: The z-score corresponding to the desired confidence level (e.g., 1.96 for 95%)
p: The estimated measured issue proportion or variability (0.5 for maximum variability)
E: The desired margin of error (in decimal form, e.g., 0.03 for 3%)

Given the polarized nature of climate change policy support (Smith, Bognar, and Mayer, 2024), a stratified sample was collected, stratifying by the two main political identity groups in the U.S.—Democrats and Republicans. The stratification of the sample meant that each group

would need 1067 respondents to be able to describe the group. This means that the total sample size for both the Democrat group and Republican group is 2,134.

Given the possibility of data attrition due to incomplete responses, dropout, or failure to pass built-in attention checks, the remaining available budget was used to oversample in anticipation of attrition. An oversampling of 122 participants was conducted, resulting in an initial sample of 2,256, 5.72% above the target. Two attention-check items were embedded within the survey's 22 policy questions in accordance with Prolific's policies. The attention checks were positioned after the sixth and 14th policy items. The first attention check asked, "Do you oppose or support the installation of solar panels on the sun's surface? This is an attention check, please select 'Strongly Oppose'." The second check asked, "Do you oppose or support mandatory pollution programs to reduce air quality across the country? This is an attention check, please select 'Strongly Oppose'." Participants failing both checks were excluded, leading to the removal of 181 respondents.

Additionally, 79 participants were excluded due to clustering in self-reported demographic data. Notably, 153 respondents (6.78% of the total) identified as U.S. residents born in Ghana, a figure far exceeding the expected seven (0.3% of the sample) based on U.S. Census information. Of these 153, 64 also failed the attention checks, further supporting their exclusion from the final dataset.

The 153 self-reported Ghana-born respondents in the dataset were isolated and subjected to further investigation to determine whether the anomaly was due to a data-coding error on Prolific's part or some other issue. Comparative analysis against demographic data from Ghana revealed that the religious affiliations within this group were broadly consistent with the religious composition of Ghana's population. Similarly, race and ethnicity data supported the

validity of the reported place of birth, with all Ghana-born respondents self-reporting being either black or of mixed race, suggesting that the clustering was not attributable to a data-coding error but rather reflected an actual concentration of Ghana-born individuals within the sample. The disproportionately large representation of Ghana-born respondents remains unexplained even after contacting the Prolific platform, as Prolific does not disclose details about its sample-selection methodologies. While Prolific is recognized for its rigorous vetting of users, this example of clustering underscores the importance of future researchers critically assessing and cross-referencing the demographic data provided by crowdsourcing platforms to identify and address any irregular patterns that may emerge.

The decision to exclude the clustered group was made to strengthen the generalizability of the study's findings to the U.S. population, as the inclusion of such a clustered subgroup could compromise the representativeness and validity of the sample. The results of this investigation justified the exclusion of these respondents from the final dataset. These anomalies prompted the exclusion from the dataset of 260 respondents (11.52% fail rate), resulting in 1,996 good responses from the first wave of data collection.

A second round of data collection was conducted two days later to replace the flagged respondents. This round recruited an additional 117 participants who passed both attention checks. While participants who failed the attention checks were compensated, they were not included in the final dataset. Notably, 10 of the 117 respondents in this second round identified as Ghana-born, representing a similar proportion to the first round of data collection (evidence that future researchers should be cautious and investigate the Prolific-supplied data on country-of-birth of its respondents). Among these 10 respondents, two were excluded from the final dataset for failing both attention checks.

After data cleaning, the final analytic sample comprised 2,113 participants, 21 fewer than the original goal of 2,134. It is not expected that this shortfall will significantly impact the validity or reliability of the findings, as the sample size remains sufficient for the intended analyses.

Coverage Error

The second source of total survey error is coverage error. This type of error occurs when not everyone in the target population has an equal chance of being included in the sample. In this study, the target population is voting-age U.S. adults.

Ideally, a probability sample using a national registered voter database would minimize coverage error, but no such database is publicly available. The closest alternative is a sampling frame based on all U.S. residential addresses, as provided by the United States Postal Service. However, this approach has limitations, such as excluding individuals experiencing temporary homelessness, recent movers, or those traveling during the survey period (Dillman et al., 2014).

Other issues may arise with a sample of U.S. households. For example, there is no guarantee that the respondent is a voting-age U.S. adult. There is no guarantee that the potential respondents will see their mail in time, or they may lack the technological tools needed to complete the survey online using a mail-to-web technique.

Given these challenges, this study relies on a non-probability sample from Prolific, an online research platform. While non-probability sampling introduces selection bias and limits generalizability (Elliot & Valliant, 2017), experimental research can still yield meaningful insights without a fully representative sample, as external validity depends largely on theoretical considerations (Lucas, 2003). Prolific was chosen over alternatives like MTurk because of its

stronger data quality controls, ethical treatment of participants, and more diverse respondent pool (Palan & Schitter, 2018). Studies have shown that Prolific respondents are more representative of the U.S. population in terms of gender and education compared to university subject pools (Eyal et al., 2021). Additionally, Prolific's identity verification system enhances confidence in the accuracy of demographic data, which can improve external validity.

To reduce coverage error, the sample was stratified by political identity, using Prolific's demographic pre-screening. Eligible participants included 19,807 Democrats and 9,999 Republicans, from which two separate samples were drawn to ensure an equal distribution. Each subgroup was targeted with a 'representative sample' feature, which aligns the sample with U.S. Census benchmarks on age, gender, and race (*Representative Samples*, 2024). While Prolific provides additional demographic data, such as country of birth and employment status, researchers should remain cautious when generalizing findings related to economic factors, as participants may be more likely to seek online research opportunities for financial reasons. However, there is little evidence suggesting that Prolific samples are systematically biased in terms of political representation.

Nonresponse Error

The third source of total survey error is nonresponse error. Unfortunately, it is not possible to estimate the response rate on a platform such as Prolific because it does not provide information on how many users were presented with the possibility of taking the survey. Hence, we do not know how many saw the study but chose not to take it. Furthermore, because Prolific only provides demographic information on respondents who completed the survey, it is also not possible to compare to see if there were meaningful differences between respondents who clicked on the study link and those who did not. Without knowing the exact nonresponse rate, the

only thing a researcher can do to minimize the error is to apply the principles of the total design method (TDM) and incorporate Social Exchange Theory in each aspect of the survey design (Dillman et al., 2014).

Social Exchange Theory emphasizes decreasing costs and increasing benefits while also highlighting aspects that can increase trust and the perception of authority to respondents. Emphasizing and increasing benefits can be accomplished by paying an acceptable and ethical pay rate. Benefits can also be highlighted by framing participating in the study as an opportunity to share their opinions on an important subject.

Reducing the cost to respondents can be achieved by making the survey experience as easy and seamless as possible, with clear instructions and well-worded questions that minimize cognitive strain and fatigue. Another way to lower the cost of participation is by ensuring that survey language remains objective, fair, and non-offensive. Additionally, keeping the survey as brief as possible reduces the burden on respondents by minimizing the time required to complete it. Research suggests that respondents generally prefer surveys to last between 10 and 15 minutes, with a maximum acceptable duration ranging from 20 to 28 minutes (Revilla & Höhne, 2020). In this study, the survey was designed to take 8 to 12 minutes, which is below the average length of online surveys, helping to reduce respondent burden further.

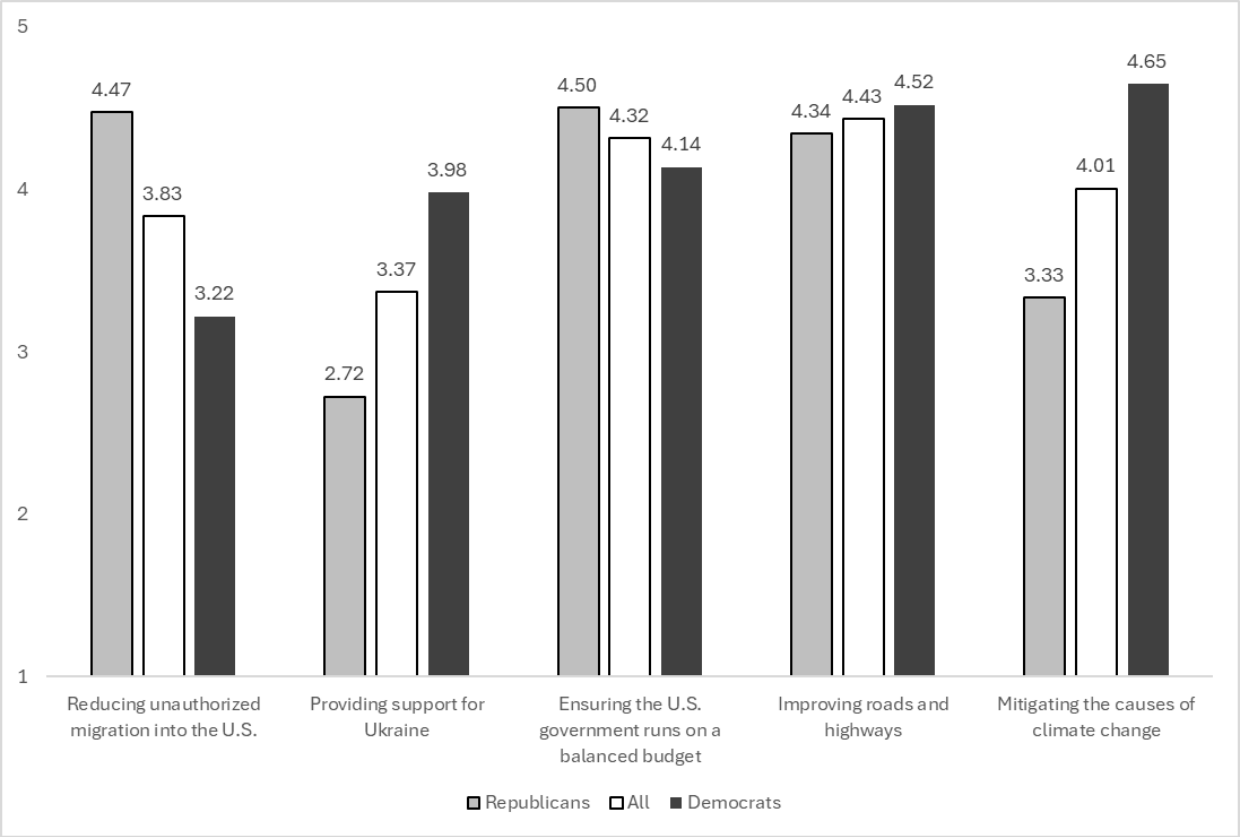
To further reduce the possibility of nonresponse error, the title of the study was designed in a way that did not frame it around the topic of climate change but rather around the desired goal of measuring opinions on support for government legislation. This framing is intended to minimize people self-selecting into or out of the study because of a specific topic. Given that climate change is a politically polarizing topic, it was critical to measure nonresponse error by determining whether there was some meaningful difference between the sample collected and

what we know about support for various government policies. Therefore, the first question in the survey instrument was a matrix of five questions aimed at assessing whether respondents' answers aligned with expected partisan patterns and whether self-identified Republicans showed support for so-called 'Republican issues' and Democrats for 'Democratic issues.' Respondents were asked to enter their level of support or opposition to the issues on a five-point scale, with 1 being equal to ‘Strongly Oppose’ and 5 equal to ‘Strongly Support.’ Questions gauged support for these five issues:

- “Reducing unauthorized migration into the U.S.”
- “Providing support for Ukraine”
- “Ensuring the U.S. government runs on a balanced budget”
- “Improving roads and highways”
- “Mitigating the causes of climate change”

Two issues that had the highest overall levels of bipartisan support were improving roads and highways and ensuring the U.S. government runs on a balanced budget. The issue with the lowest overall support was U.S. involvement in Ukraine. Although, key partisan differences can be observed, which will be examined in further detail below.

Figure 7.1 Support for Different Issues by Political Party



Analyzing support by political identity reveals clear partisan polarization on several issues (see Figure 7.1). Republicans showed the greatest support for ensuring a balanced budget—historically a Republican priority (see, e.g., Fisher, 2005)—and reducing unauthorized migration into the U.S. (see, e.g., Cerda, 2022; Deane, 2024). The issue with the least Republican support was providing support for Ukraine (see, e.g., Nadeem, 2024). In contrast, Democrats expressed the greatest support for improving roads and highways and mitigating the causes of climate change (Tyson, 2024) while showing the lowest support for reducing unauthorized migration into the U.S. These findings enhance confidence that there was minimal nonresponse error based on the subject matter of the subject, as well as increasing confidence in the internal and external validity of the data.

To further decrease nonresponse error, the survey was designed to increase trust and the perception of authority to respondents. This was done in several ways. First, in both the Prolific recruitment text (See Figure 7.2) as well as within the study itself, contact information such as names and emails of both Principal Investigators (PIs) and the Institutional Review Board (IRB) of Washington State University (WSU) were provided to respondents. The logo of WSU was prominently displayed in both the Prolific post and the survey. The consent form was also written in a clear and informative manner, describing the purpose of the study as well as the identity of the researchers. The desire to increase trust and the perception of authority is to effectively decrease the probability that a Prolific user who sees this study decides not to participate in the study.

Prolific Recruitment Text

Study name: Public Perspectives on National Legislation Support

Description of Study:

Figure 7.2 Prolific Recruitment Text

KEY INFORMATION ABOUT THIS STUDY:

- **Study Purpose**: My name is Azdren Coma, and I am a doctoral candidate at Washington State University. I am interested in understanding variations in public support on several national legislation policies. The data collected will be used in my dissertation.
- **Major Activities of Participation**: You will be asked to answer a series of questions on policy support, share a few of your attitudes and views, and answer several demographic questions.
- **Duration of Participation**: This study takes approximately between 8-12 minutes to complete.
- **Risks**: There are no significant risks associated with participating in this study.
- **Potential Benefits**: It will benefit the scientific community by increasing our understanding of people's attitudes and opinions on various topics.

PI: Dr. Jessica Goldberger, Professor, Department of Crop and Soil Sciences, (509) 335-8540, jgoldberger@wsu.edu

Co-PI: Azdren Coma, Ph.D. candidate, Department of Sociology, 509-335-4595, azdren.coma@wsu.edu

Thank you for your time and consideration.

Measurement Error

The fourth source of total survey error is measurement error. Measurement error occurs when survey responses are inaccurate because of question wording, respondent misunderstanding, and response biases, resulting in a difference between the value of something being measured and the true value. Lower measurement error means having higher internal validity of the survey instrument. To reduce measurement error as much as possible, the principles of question design were applied. Additionally, an extensive question design was developed collaboratively with the PIs of this study, notably Dr. Jessica Goldberger and Dr. Don Dillman.

The principles of question design outlined by Dillman et al. (2014) were systematically applied in developing the survey instrument and writing the questions in the survey instrument. These principles emphasize reducing sources of measurement error by minimizing social desirability bias, limiting acquiescence, and mitigating primacy and recency effects. Additionally, the survey avoids double-barreled questions, ensures technical accuracy, and uses complete sentences to enhance clarity and facilitate more reliable responses (Dillman et al., 2014).

Extensive pre-testing was conducted to aid in the process of reducing measurement error. Two rounds of pre-testing on the Prolific platform were conducted: once in March 2023 and once in November 2024. In the March 2023 pre-test, 50 Democrats and 50 Republicans were recruited. This pre-test checked for problems with survey design, question design, wording clarity or confusion, distribution of question stem responses, and substantive issues with the survey measurement. Respondents were invited to leave qualitative feedback at the end of the survey.

The pre-test that was conducted on Prolific in November of 2024 collected responses from 19 diverse respondents. This pre-test also measured potential issues with questions, wording, and instructions, as well as collected data on the amount of time the study took on average so that an ethical pay rate could be calculated when the full study was launched.

In addition to the two Prolific pre-tests, other instances of pre-testing were conducted with people within the network of the PIs, including pre-testing the survey with other sociologists, environmental scientists, economists, survey methodologists, family, and friends. The pretest respondents included lawyers, people with English as a second language, blue-collar and white-collar workers, and unemployed individuals. The goal was to have the survey pre-

tested with as wide a range of respondents as possible to reflect the study's target population of U.S. voting-age adults.

Other steps to reduce measurement error that was taken include using questions measuring policy, climate change beliefs, and demographics that were borrowed from previous studies published within the field. The use of standardized questions that have been previously refined contributes to reducing potential measurement error.

The five random policy test measures listed above were also a way to measure the potential presence of measurement error. Ensuring that the results of the test closely aligned with what we expected to find further increased the confidence that measurement error has been appropriately reduced. In addition, the measurement of other variables, such as the views on climate change aligning with previous findings, increases confidence in the internal validity of the survey instrument.

APPENDIX B: SURVEY POLICY ITEMS

Policy item #	Survey Q#	Focus	Questions - Do you support or oppose each of the following policies?	Source:	Justification for Exclusion
1	11	Mitigation	Reducing government subsidies on coal and other fossil fuels	self	
2	12	Mitigation	Implementing a “carbon tax” on coal and other fossil fuels	Bateman and O'Connor, 2016	
3	13	Mitigation	Government ban on all new fossil fuel development	Bugden, 2022	
4	14	Mitigation	Government investment in local and national public transportation systems such as buses and trains	Bugden, 2022	
5	15	Mitigation	Constructing bike paths and installing bike lanes on city streets.	Carman et al., 2022	
6	16	Mitigation	Purchase zero-emission delivery vehicles and to purchase, design, and install the requisite infrastructure to support zero-emission delivery vehicles at U.S. Postal Service facilities.	Inflation Reduction Act of 2022, 2022	
7	17	Mitigation	Installing solar panels on government buildings.	Inflation Reduction Act of 2022, 2022	
8	18	Mitigation	Tax deduction for energy efficiency improvements to commercial buildings, such as improvements to interior lighting; heating, cooling, ventilation, and hot	Inflation Reduction Act of 2022, 2022	

			water; weatherizing, and subsidizing high-efficiency windows.		
9	19	Mitigation	Tax credit for energy-efficiency improvements of residential homes, such as more efficient light bulbs and temperature control devices, natural skylights, building insulation, replacing old and inefficient furnaces, water heaters, air conditioners, windows, and insulation.	Inflation Reduction Act of 2022, 2022	
10	20	Mitigation	provide funding to monitor greenhouse gas emissions from significant sources	Inflation Reduction Act of 2022, 2022	
11	21	Adaptation	Funding research and development of drought-tolerant crops	Bateman and O'Connor, 2016	
12	22	Adaptation	Promote farm crop diversification and land management to reduce the impact of severe weather events	Masson-Delmotte, 2021	
13	23	Mitigation	Pay and support farmers to sequester carbon on their land	Bugden, 2022	
14	24	Mitigation	Support efforts to off-set society’s carbon footprint through reforestation with he goal of counteracting CO2 emissions.	Bateman and O'Connor, 2016	
15	25	Adaptation	Support measures to increase resilience to sea level rise and extreme weather events, such as building new levies, sea walls, and stormwater basins.	Bateman and O'Connor, 2016	

16	26	Adaptation	Subsidizing home insurance in high-risk areas (such as vulnerable coastal homes).	self	
17	27	Adaptation	Changing zoning rules to reduce new construction in vulnerable areas at greatest risk from extreme weather.	Carman et al., 2022	
18	28	Adaptation	Government purchasing land in vulnerable areas greatest at risk from extreme weather.	self	
19	29	Adaptation	Requiring electric utilities to relocate power lines underground to avoid outages from extreme weather.	Carman et al., 2022	
20	30	Adaptation	Implementing and funding a disaster risk management team to reduce disaster risks in the community.	Masson-Delmotte, 2021	
21	31	Adaptation	Increasing government social safety nets to adapt to extreme weather.	Masson-Delmotte, 2021	
22	32	Adaptation	Helping people relocate and resettle away from vulnerable areas.	Masson-Delmotte, 2021	
23		Mitigation	Subsidies for qualified nuclear power companies	Inflation Reduction Act of 2022, 2022	Too niche
24		Mitigation	Tax credit for solar and wind facilities placed in service in connection with low-Income communities	Inflation Reduction Act of 2022, 2022	It is similar to Q19, which asks about tax credits for energy-efficient improvements of residential homes. The

					focus on "low-income communities" added a dimension that would have made interpreting the findings more difficult.
25		Mitigation	Tax credit to companies and Industry to use cleaner energy sources such as wind and solar power, and other renewable sources	Bateman and O'Connor, 2016	Too similar to Q18
26		Mitigation	Tax credit to households who use cleaner energy sources such as wind and solar power, and other renewable sources	Bateman and O'Connor, 2016	Too similar to Q19, which asks about tax credits for energy-efficient improvements of residential homes.
27		Mitigation	Tax credit for alternative fuel vehicle refueling and charging property in low-income and rural areas.	Inflation Reduction Act of 2022, 2022	Too focused on "low-income and rural areas" would make interpreting the findings of the factor analysis more difficult.
28		Mitigation	Tax credit for alternative charging infrastructure for vehicles (e.g., electric cars, biofuel)	Bateman and O'Connor, 2016	Too similar to Q16, which already asks about installing the requisite infrastructure to support zero-emission vehicles
29		Mitigation	Establishing higher energy efficiency standards nationally	Bateman and O'Connor, 2016	Q18 and Q19 ask about support levels for incentives for

					improving energy efficiency in commercial and residential buildings.
30		Mitigation	Grants to states or units of local government to adopt updated building energy codes	Inflation Reduction Act of 2022, 2022	Too similar to Q18
31		Mitigation	Financial and technical assistance to tribes to increase the number of Tribal homes with zero-emission electricity.	Inflation Reduction Act of 2022, 2022	Too similar to Q19, with the additional variable of focusing on Tribal populations
32		Mitigation	Changing zoning rules to promote the construction of more energy-efficient buildings.	Carman et al., 2022	Inspiration for Q17
33		Mitigation	Tax credit for construction of new energy efficient homes.	Inflation Reduction Act of 2022, 2022	Similar to Q19
34		Mitigation	Financial assistance to states to develop and implement a program to provide training and education to contractors involved in the installation of home energy efficiency and electrification improvements.	Inflation Reduction Act of 2022, 2022	While education or training are important aspects of tackling the climate crisis, they are secondary and felt beyond the scope of support for climate change mitigation or adaptation policy support.
35		Mitigation	Guaranteed loan financing and grant funding to agricultural producers and small rural businesses for the	Inflation Reduction Act of 2022, 2022	Too niche or too difficult to clearly explain what the policy item is, removed

			use of underutilized renewable energy technologies.		for survey design constraints
36		Both	Managing tree species and forestry practices that are less vulnerable to storms and fires related to climate change	Bateman and O'Connor, 2016	
37		Both	Supporting climate alleviating projects like green rooftops, urban parks, and urban trees.	Inflation Reduction Act of 2022, 2022	
38		Adaptation	Promoting water conservation measures.	Bateman and O'Connor, 2016	"Indirect and beyond the immediate scope of the study. While public education on water conservation contributes to climate adaptation, the connection was too indirect to justify inclusion, given the limited survey space.
39		Adaptation	provide domestic water supplies to disadvantaged communities or households that do not have reliable access to domestic water supplies.	Inflation Reduction Act of 2022, 2022	It was not clear about climate change. While water access is exacerbated by climate change, this measure would have made it difficult to interpret whether support is for the social needs policy or about addressing climate change.

40		Adaptation	Fund near-term drought relief actions to mitigate drought impacts for Indian Tribes affected	Inflation Reduction Act of 2022, 2022	Similar to Q21, but also the focus on Indian Tribes
41		Adaptation	Support sustainable urban water management	Masson-Delmotte, 2021	Similar to Q25
42		Both	design, study, and implement government projects to cover canals with solar panels.	Inflation Reduction Act of 2022, 2022	
43		Adaptation	provide grants and technical assistance to improve community resilience to the impacts of climate change, including extreme heat and wildfire	Inflation Reduction Act of 2022, 2022	Similar to Q31
44		Adaptation	Supporting the changing of local Building codes that require constructing buildings more resistant to extreme weather damage.	Carman et al., 2022	had too many questions on extreme weather adaptation, needed to limit
45		Adaptation	Supporting human migration due to climate change	Masson-Delmotte, 2021	Similar to Q32
46		Both	Providing funding to prevent degradation of ecosystem and to restore ecosystems (such as wetlands, marshes, harbors, rivers, forests, and oceans).	Inflation Reduction Act of 2022, 2022	
47		Mitigation	Provide grants to Tribes, states, air pollution control agencies, and local governments to develop and implement plans for reducing	Inflation Reduction Act of 2022, 2022	Too specific/niche

			greenhouse gas emissions.		
48		Mitigation	Prosecute and hold responsible fossil fuel companies and executives for their impacts on climate change	Bugden, 2022	Too extreme may increase measurement error and nonresponse error.
49		Mitigation	award competitive grants to improve walkability and safety and provide affordable transportation access	Inflation Reduction Act of 2022, 2022	Similar to Q14
50		Mitigation	provide grants and technical assistance to community-based organizations to reduce indoor and outdoor air pollution, including greenhouse gases	Inflation Reduction Act of 2022, 2022	Not direct enough about CO2 emissions
51		Mitigation	Provides a tax credit for the purchase of residential clean energy equipment, including battery storage with capacity of at least 3 kWh.	Inflation Reduction Act of 2022, 2022	Similar to Q19
52		Mitigation	provide competitive grants to mobilize financing and leverage private capital for clean energy and climate projects that reduce greenhouse gas emissions	Inflation Reduction Act of 2022, 2022	Too vague
53		Mitigation	provide tax credits for biodiesel and renewable diesel	Inflation Reduction Act of 2022, 2022	Too niche
54		Mitigation	Provides a credit for carbon dioxide sequestration coupled with permitted end uses within the United States.	Inflation Reduction Act of 2022, 2022	Similar to Q23

55		Mitigation	provide funding for grants and other activities to monitor and reduce pollution and greenhouse gas emissions at schools in low-income and disadvantaged communities.	Inflation Reduction Act of 2022, 2022	Similar to Q20
56		Mitigation	provide funding for EPA to improve standardization and transparency of corporate climate action commitments and plans to reduce greenhouse gas emissions; to support corporate progress toward meeting such commitments and implementing such plans; and to enhance transparency regarding corporate progress.	Inflation Reduction Act of 2022, 2022	Too vague
57		Mitigation	award grants to state energy offices to develop a whole-house energy saving retrofits program that will provide rebates to homeowners and aggregators for whole-house energy saving retrofits.	Inflation Reduction Act of 2022, 2022	Similar to Q18
58		Adaptation	Setting aside land corridors to help species migrate	Bateman and O'Connor, 2016	Too niche
59		Mitigation	Implementing a sustainability plan that includes increasing renewable energy use.	Masson-Delmotte, 2021	Too vague
60		Both	Supporting the planting of new trees	Carman et al., 2022	

61		Mitigation	Encourage electric vehicle use by building charging infrastructure.	Masson-Delmotte, 2021	Similar to Q16
62		Mitigation	Efficient livestock systems	Masson-Delmotte, 2021	Not direct enough about CO2 emissions
63		Adaptation	Sustainable aquaculture and fisheries	Masson-Delmotte, 2021	Not direct enough about CO2 emissions
64		Both	Distribute aid to poorer countries to help them transition to renewable energy and adapt to climate change	Bugden, 2022	
65		Mitigation	Government subsidies for energy efficiency upgrades (e.g. replacing gas stoves, furnaces, home insulation)	Bugden, 2022	Similar to Q19
66		Mitigation	A carbon tax on energy companies and utilities that will raise the cost of using fossil fuels and incentivize use of renewable energy sources	Bugden, 2022	Similar to Q12
67		Adaptation	Government funding for low-income communities and communities of color to adapt to the impacts of climate change	Bugden, 2022	too vague policies while also still focusing on a specific community
68		Mitigation	Government sponsored job guarantees to hire people to build new energy-related infrastructure	Bugden, 2022	While employment of fossil fuel workers may be a concern that influences support for climate policies, they are secondary goals and are beyond the focus of support for

					climate change mitigation or adaptation policy support.
69		Mitigation	Retraining, unemployment benefits, and job guarantees for fossil fuel workers who lose their jobs	Bugden, 2022	While employment of fossil fuel workers may be a concern that influences support for climate policies, they are secondary goals and are beyond the focus of support for climate change mitigation or adaptation policy support.

APPENDIX C: THE SURVEY INSTRUMENT

QQ1 **Public Perspectives on National Legislation Support**

My name is Azdren Coma, and I am a doctoral candidate at Washington State University (WSU). I am interested in understanding variations in public support for proposed national legislation policies. The data collected will be used in my dissertation.

In this survey, you will be asked to answer a series of questions on policy support, share your attitudes and views, and answer demographic questions. The survey should take about 8-14 minutes to complete. There are no open-ended questions.

There are no significant risks associated with participating in this study. You don't have to answer any question you do not want to, and you can stop participating at any time.

All responses will be anonymized prior to analysis and stored in a secure location. Only the research team will have access to responses and personal identifiers. Reports written about this data will not identify your answers with any identifying information about you. This research has been certified exempt under 45 CFR 46.104 by the WSU Human Research Protection Program (HRPP).

If you have any questions, please do not hesitate to email me at azdren.coma@wsu.edu. Should you have any questions about your rights as a participant, you may contact irb@wsu.edu.

By clicking 'Yes' you acknowledge that you are a voting-age United States resident and agree to participate in this survey.

- ○ Yes
- ○ No

End of Block: Consent Form

Start of Block: Prolific ID

PID What is your Prolific ID?

Please note that this response should auto-fill with the correct ID

_____

End of Block: Prolific ID

Start of Block: support for government actions

Q1 Over the past year, the U.S. Senate and House of Representatives have extensively discussed several key topics

To what extent do you oppose or support the U.S. Senate and House of Representatives prioritizing the following issues?

	Strongly Oppose	Somewhat Oppose	Neither Oppose nor Support	Somewhat Support	Strongly Support
Reducing unauthorized migration into the U.S.	○	○	○	○	○
Providing support for Ukraine	○	○	○	○	○
Ensuring the U.S. government runs on a balanced budget	○	○	○	○	○
Improving roads and highways	○	○	○	○	○
Mitigating the causes of climate change	○	○	○	○	○

Page Break

QQ2 In the next few screens, you will be asked questions about **climate change**.

Climate change means long-term changes in weather, like more hotter days, more stronger storms, or more droughts.

Page Break

Q2 Based on what you know, **do you think that climate change *is* or *is not* happening**?

- Yes, climate change is happening
- No, the climate is not changing at all
- I don’t know

Q3 How *unsure* or *sure* are you that climate change is happening?

- Very Unsure
- Somewhat Unsure
- Somewhat Sure
- Very Sure

End of Block: support for government actions

Start of Block: CLIMATE CHANGE YES

Q4 Over the past 200 years, **to what extent do you think climate change has been caused by human activities, natural changes in the environment,** or some combination of both?

- ○ Mostly by **human activities**
- ○ Somewhat more by human activities than natural changes in the environment
- ○ Equally by human activities and natural changes in the environment
- ○ Somewhat more by natural changes in the environment than human activities
- ○ Mostly by **natural changes** in the environment

Page Break

Q4A You previously indicated that climate change is caused <u>equally</u> by human activities and natural changes in the environment.

If you had to choose one **primary** cause, which would you select?

- ○ Human activities
- ○ Natural changes in the environment

Page Break

Q5 The U.S. legislature may take different approaches to address climate change and its potential impacts.

- One approach focuses on reducing global temperature increases by **mitigating** or limiting the causes of climate change, mainly by pollution that traps heat in the atmosphere.

- While another approach focuses on **adapting** to living with the effects of higher global temperatures, which may include building levees, enhancing disaster preparedness, protecting ecosystems, or supporting community adaptation.

In your opinion, which approach should the U.S. government prioritize if it were to act on climate change?

- ○ Focus only on **reducing greenhouse gas emissions**
- ○ Focus mostly on reducing greenhouse gas emissions
- ○ Focus equally on reducing greenhouse gas emissions and adapting to living with higher temperatures
- ○ Focus mostly on adapting to living with higher temperatures
- ○ Focus only on **adapting to living with higher temperatures**

Page Break

Q5A You previously indicated that you believe that the U.S. government should focus equally on reducing greenhouse gas emissions and adapting to living with higher temperatures.

If you had to choose one **priority**, which would you select?

- ○ Reducing greenhouse gas emissions
- ○ Adapting to living with higher temperatures

Page Break

Q6 Do you disagree or agree that **it is possible for society to limit the rise of global temperatures**?

- ○ Strongly Disagree
- ○ Somewhat Disagree
- ○ Neither Disagree nor Agree
- ○ Somewhat Agree
- ○ Strongly Agree

Q7 Do you disagree or agree that **society can take effective measures to lessen people's suffering from extreme weather events, such as with big storms, heatwaves, or floods**?

- ○ Strongly Disagree
- ○ Somewhat Disagree
- ○ Neither Disagree nor Agree
- ○ Somewhat Agree
- ○ Strongly Agree

Page Break

Q8 How serious of a threat do you believe climate change is to the U.S.?

- ○ Not a threat at all
- ○ A minor threat
- ○ A moderate threat
- ○ A serious threat
- ○ An extremely serious threat

Q9 How unlikely or likely do you think **climate change will negatively affect you or your family in your lifetime**?

- ○ Very Unlikely
- ○ Somewhat Unlikely
- ○ Neither Unlikely nor Likely
- ○ Somewhat Likely
- ○ Very Likely

Q10 To what extent do you disagree or agree that you **have personally experienced the effects of extreme weather events?**

- ○ Strongly Disagree
- ○ Somewhat Disagree
- ○ Neither Disagree nor Agree
- ○ Somewhat Agree
- ○ Strongly Agree

End of Block: CLIMATE CHANGE YES

Start of Block: POLICY SUPPORT

QQ4 In the next few pages, you will be asked to indicate your opposition or support for 23 policy items.

Please read each question carefully and respond thoughtfully. This task is very important for this study.

Note: Supporting multiple policies does not mean that you support enacting them at the same time. Although multiple policies are presented, consider each one independently.

Page Break

Q11 Do you oppose or support **reducing the amount of money that the government is giving to support the fossil fuel energy sector**?

- Strongly Oppose
- Somewhat Oppose
- Neither Oppose nor Support
- Somewhat Support
- Strongly Support

Q12 Do you oppose or support **adding a special federal pollution "carbon" tax to coal, oil, and gas** to increase the cost of carbon-intensive activities and products?

- Strongly Oppose
- Somewhat Oppose
- Neither Oppose nor Support
- Somewhat Support
- Strongly Support

Q13 Do you oppose or support a **government ban on all new fossil fuel development**?

- Strongly Oppose
- Somewhat Oppose
- Neither Oppose nor Support
- Somewhat Support
- Strongly Support

Page Break

Q14 Do you oppose or support **government investment in local and national public transportation systems**, such as buses and trains?

- Strongly Oppose
- Somewhat Oppose
- Neither Oppose nor Support
- Somewhat Support
- Strongly Support

Q15 Do you oppose or support the **allocation of government funding for the construction of bike lanes on city streets throughout America**?

- Strongly Oppose
- Somewhat Oppose
- Neither Oppose nor Support
- Somewhat Support
- Strongly Support

Page Break

Q16 Do you oppose or support the **government's purchase of zero-emission vehicles for the U.S. Postal Service**?

- Strongly Oppose
- Somewhat Oppose
- Neither Oppose nor Support
- Somewhat Support
- Strongly Support

Q17 Do you oppose or support the **installation of solar panels on government buildings**?

- Strongly Oppose
- Somewhat Oppose
- Neither Oppose nor Support
- Somewhat Support
- Strongly Support

Page Break

Q18 Do you oppose or support **offering tax credits for energy-efficiency improvements to commercial buildings**?

- Strongly Oppose
- Somewhat Oppose
- Neither Oppose nor Support
- Somewhat Support
- Strongly Support

Q19 Do you oppose or support the **government providing tax credits for energy-efficiency improvements to residential homes**?

- Strongly Oppose
- Somewhat Oppose
- Neither Oppose nor Support
- Somewhat Support
- Strongly Support

Page Break

Q20 Do you oppose or support **providing funding to governmental agencies to monitor greenhouse gas emissions** in the United States?

- Strongly Oppose
- Somewhat Oppose
- Neither Oppose nor Support
- Somewhat Support
- Strongly Support

Q21 Do you oppose or support the **funding of research on and development of drought-tolerant crops**?

- Strongly Oppose
- Somewhat Oppose
- Neither Oppose nor Support
- Somewhat Support
- Strongly Support

Page Break

Q22 Do you oppose or support the **federal government promoting farm crop diversification and land management to reduce the impact of severe weather events**?

- Strongly Oppose
- Somewhat Oppose
- Neither Oppose nor Support
- Somewhat Support
- Strongly Support

Q23 Do you oppose or support a **government program that pays farmers to store carbon on their land**?

- Strongly Oppose
- Somewhat Oppose
- Neither Oppose nor Support
- Somewhat Support
- Strongly Support

Page Break

Q24 Do you oppose or support **national reforestation efforts** to counteract national carbon dioxide (CO2) emissions?

- Strongly Oppose
- Somewhat Oppose
- Neither Oppose nor Support
- Somewhat Support
- Strongly Support

Q25 Do you oppose or support **measures to increase resilience to possible sea level rise, such as building new levees, sea walls, dikes, and stormwater basins**?

- ○ Strongly Oppose
- ○ Somewhat Oppose
- ○ Neither Oppose nor Support
- ○ Somewhat Support
- ○ Strongly Support

Page Break

Q26 Do you oppose or support the **government subsidizing home insurance in high-risk areas most vulnerable to extreme weather**?

- ○ Strongly Oppose
- ○ Somewhat Oppose
- ○ Neither Oppose nor Support
- ○ Somewhat Support
- ○ Strongly Support

Q27 Do you oppose or support **changing "zoning" rules about where buildings can be built to discourage new construction in areas most vulnerable to extreme weather**?

- ○ Strongly Oppose
- ○ Somewhat Oppose
- ○ Neither Oppose nor Support
- ○ Somewhat Support
- ○ Strongly Support

Q28 Do you oppose or support the **government's purchase of private land in areas most vulnerable to extreme weather events**?

- ○ Strongly Oppose
- ○ Somewhat Oppose
- ○ Neither Oppose nor Support
- ○ Somewhat Support
- ○ Strongly Support

Page Break

Q29 Do you oppose or support the **requirement for electric utilities to relocate power lines underground to avoid outages from extreme weather events**?

- ○ Strongly Oppose
- ○ Somewhat Oppose
- ○ Neither Oppose nor Support
- ○ Somewhat Support
- ○ Strongly Support

Page Break

Q30 Do you oppose or support the **federal funding of disaster response teams**?

- ○ Strongly Oppose
- ○ Somewhat Oppose
- ○ Neither Oppose nor Support
- ○ Somewhat Support
- ○ Strongly Support

Page Break

Q31 Do you oppose or support **increasing government social safety nets aimed at helping people affected by extreme weather events**?

- Strongly Oppose
- Somewhat Oppose
- Neither Oppose nor Support
- Somewhat Support
- Strongly Support

Q32 Do you oppose or support the **government financially assisting Americans to move and resettle away from areas vulnerable to extreme weather**?

- Strongly Oppose
- Somewhat Oppose
- Neither Oppose nor Support
- Somewhat Support
- Strongly Support

End of Block: POLICY SUPPORT

Start of Block: INVERTED QUARANTINE

QQ5 Thank you for your answers so far.

The next few questions are meant to learn about your lifestyle.

Page Break

Q33 To what extent are you concerned about **being exposed to harmful substances in your drinking water, air, or food**?

- Not at all concerned
- Slightly concerned
- Somewhat concerned
- Very concerned

Page Break

Q34 Are you currently taking any of the following actions with the intention of reducing your exposure to harmful substances?

	Yes	No
Use a water filter	○	○
Buy bottled water	○	○
Buy organic food	○	○
Buy locally grown/raised food	○	○
Avoid certain types of food	○	○
Use an air filter in your home	○	○
Avoid outdoor activities in areas with poor air quality	○	○

Page Break

Q35 If cost were not a concern, would you consider taking any of the following actions with the intention of reducing your exposure to harmful substances?

	Yes	No
Use a water filter	○	○
Buy bottled water	○	○
Buy organic food	○	○
Buy locally grown/raised food	○	○
Avoid certain types of food	○	○
Use an air filter in your home	○	○
Avoid outdoor activities in areas with poor air quality	○	○

Page Break

Q36 Assuming that climate change is happening, to what extent do you disagree or agree with the following statements?

	Strongly Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Strongly Agree
I can protect myself against extreme weather events by taking effective protective measures.	○	○	○	○	○
If I need to move due to the personal impacts of extreme weather events, I will be able to move to a more suitable place.	○	○	○	○	○
It is possible to purchase technology and equipment to successfully adapt to the effects of extreme weather events.	○	○	○	○	○
The cost of mitigating climate change makes reversing climate change an unrealistic solution.	○	○	○	○	○

End of Block: INVERTED QUARANTINE

Start of Block: POLITICAL IDENTITY

Q37 The next set of questions will help us learn more about you.

Generally speaking, do you usually think of yourself as a Democrat, Republican, Independent, or something else?

- Democrat
- Republican
- Independent
- Something else

Page Break

Q37A Would you call yourself a strong Democrat or a moderate Democrat?

- Strong Democrat
- Moderate Democrat

Page Break

Q37B Would you call yourself a strong Republican or a moderate Republican?

- Strong Republican
- Moderate Republican

Page Break

Q37C Do you lean Democrat or Republican?

- ○ Lean Democrat
- ○ Lean Republican

Page Break

Q38 When it comes to politics, which of the following options best describes your views?

- ○ Very Liberal
- ○ Slightly Liberal
- ○ Moderate or middle-of-the-road
- ○ Slightly Conservative
- ○ Very Conservative

End of Block: POLITICAL IDENTITY

Start of Block: DEMOGRAPHIC QUESTIONS

Q39 Which of the following best describes your gender identity?

- ○ Man
- ○ Woman
- ○ Non-binary
- ○ I use a different term

Q40 In what year were you born?

_____

Q41 Which of the following categories best describes your racial/ethnic background? (Check all that apply.)

- ☐ White (not Spanish, Hispanic, or Latino)
- ☐ Spanish, Hispanic, or Latino
- ☐ Black or African American
- ☐ American Indian or Alaska Native
- ☐ Asian or Asian-American
- ☐ Other (please specify): _____

Q42 What is the highest level of formal education that you have completed?

- ○ Some high school or less
- ○ High school diploma or equivalent
- ○ Associate’s degree
- ○ Some college, but no degree
- ○ Bachelor's degree
- ○ Some graduate school but no degree
- ○ Graduate degree

Q43 Do you currently live in a property that you own or rent?

- ○ Own
- ○ Rent
- ○ Occupy without payment of rent (e.g., live in relative's house)
- ○ Other (please specify): _____

Q44 What is your state of residence?

Select your state

▼ AL - Alabama ... VI - U.S. Virgin Islands

Q45 What is the total amount of money your household family makes in a year before taxes?

- ○ Less than $25,000
- ○ $25,000 - $34,999
- ○ $35,000 - $49,999
- ○ $50,000 - $74,999
- ○ $75,000 - $99,999
- ○ $100,000 - $149,999
- ○ $150,000 or more

Q46 What is your religion?

- ○ Protestant
- ○ Catholic
- ○ Jewish
- ○ Muslim
- ○ Hindu
- ○ Buddhist
- ○ Other Eastern religion
- ○ Orthodox-Christian
- ○ Native American
- ○ Inter-nondenominational
- ○ None
- ○ Other (please specify): _____

End of Block: DEMOGRAPHIC QUESTIONS

Start of Block: Debriefing

QQ6 Your participation in this survey is greatly appreciated!

Thank you,

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End of Block: Debriefing
