An Analysis of the influence of Political Identity, Economic Ideology and Anti-intellectualism on Climate Change Attitudes in the USA

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AFFIDAVIT

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ABSTRACT

This quantitative study aims to examine the effect of political identity, economic ideology and anti-intellectualism on climate change perception and attitudes toward climate action in the USA. The starting point of this work was a literature search on the cultural and political factors that contribute to climate change perceptions. A brief overview of the climate change debate since the 1980's provides details of the political and economic history in the USA. Theories from political and social psychology, particularly the elite cue hypothesis and the Treadmill of Production theory were incorporated to gain a deeper understanding of the strategies employed by the Climate Change Counter-Movement (CCCM) in the USA to change public opinion about the existence of anthropgenic climate change (ACC). A subsequent quantitative analysis was performed using the 2020 American National Election Survey. An ordinal logistic regression was performed using SPSS to examine the connection between political identity, economic ideology and anti-intellectualism on climate change attitudesin the USA. The analysis found that all tested independent variables were significant predictors of climate change attitudes. Economic ideology, in particular was the strongest predictor. These results contribute to the literature on the influence of economic ideology and anti-intellectualism on climate change attitudes, two variables that have been observed to be lacking in the literature. These results help to develop a deeper understanding of the multiple drivers behind climate change perception and attitudes toward climate action.

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LIST OF ABBREVIATIONS

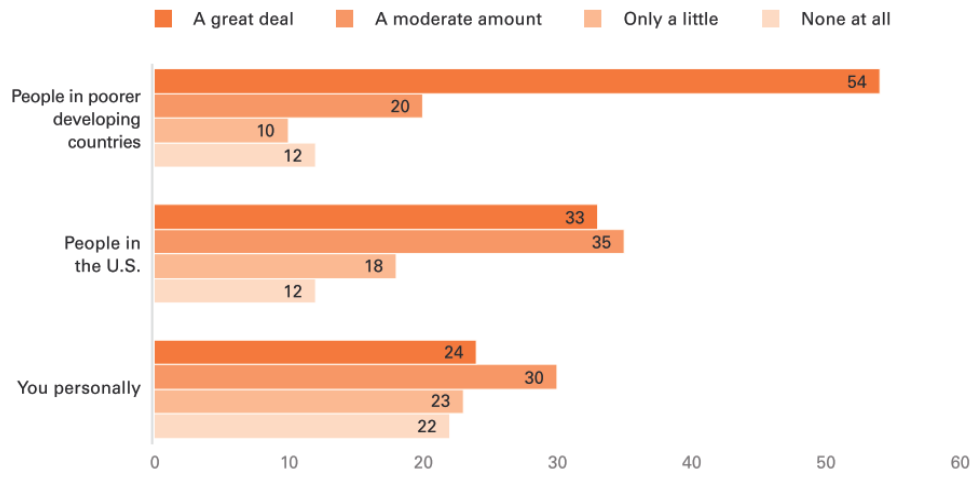
ACC	Anthropocentric Climate Change
CCCM	Climate Change Counter Movement
EII	Economic Ideology Index
EPA	Environmental Protection Agency
GHG	Greenhouse gas
IPCC	Intergovernment Panel on Climate Change
OECD	Organization for Economic Cooperation and Development
PCA	Principle Components Analysis
TOP	Treadmill of Production
SDO	Social Dominance Orientation
USA	United States of America

1 INTRODUCTION

1.1 Problem Statement

Climate change is an issue of growing global concern and is manifesting in increasingly extreme weather events around the world (Ott, 2001). The Intergovernmental Panel on Climate Change (IPCC) defines climate change broadly as "any change in climate over time whether due to natural variability or as a result of human activity" (IPCC, 2007 p 78). On August 9th 2021, the IPCC released its Sixth Assessment Report on the Physical Science Basis for Climate Change. The report found that each of the last four decades has been progressively warmer than the decade before it. Further, atmospheric concentrations of CO2 were higher than at any time in at least 2 million years and concentrations of CH4 and N2O were higher than at any time in at least 800,000 years (IPCC, 2021). The report concludes that unless CO2 and other greenhouse gas emissions are drastically reduced in the coming decades, global warming of 1.5°C and 2°C will be exceeded in the twenty-first century (IPCC, 2021). An average temperature increase of 2°C is expected to further exacerbate environmental crises including biodiversity loss (Hulme, 2005), water shortages (McCarl, 2006), heatwaves (Patz et al., 2005) and extreme weather events. Climate change, along with the COVID-19 pandemicis currently exacerbating the public health crises, particularly in the global south due to difficulties in acquiring necessary equipment and resources to address (Moyimane et al., 2017)To avoid catastrophic environmental degradation and surpassing crucial tipping points, drastic and immediate climate change legislation must be enacted (Anderson, 2015; Czech, 2006). Literature notes that delaying action on ecosystem restoration could result in irreparable damage to ecosystems and increases in GHG emissions (Glenk et al., 2021). However, citizens in countries with high levels of industrialization, such as the USA, tend to believe that negative health, agricultural, and cultural consequences are more likely to affect others than themselves, and that climate change is a problem that will occur in the future (Maibach et al., 2015; Smith et al., 2014). Figure 1 showcases Americans' perceptions of how climate change will impact different groups. Figure 1.1 shows that study participants saw that climate change will affect people in developing countries much more than people in the US, and even less to them personally (54%, 33%, 24%).

Figure 1.1 Americans' Perceptions of How Climate Change will Impact different groups



Source: (Jones et al. 2014)

The USA's position as the world's largest economy and largest per capita emitter of GHG (Stevens, 2019; Ritchie & Roser, 2020))has global implications and illustrates the necessity for climate legislation. The USA under the Trump administration notoriously withdrew from the Paris Climate agreement and repealed over 100 environmental rules (Popovich et al., 2020). Literature shows that the passage of climate legislation is influenced by a combination of global variables, such as treaty responsibilities, and domestic factors, for instance institutional context and energy-economic circumstances (Bernstein & Cashore, 2012). Moreover, global climate policy is expected to develop an international accord based on countries' domestic commitments instead of a mandatory international treaty (Fankhauser et al., 2015). Thus, climate change mitigation efforts country to country will only be as ambitious as what is politically feasible.

A 2013 analysis of 12,000 peer-reviewed publications that formed the core of the IPCC report found that 97.1 percent of the papers supported human-caused warming (Cook, 2013). However, there is a significant divide between the scientific establishment and the general population in the USA about the existence of human induced, or anthropogenic climate change (ACC). This can be attributed to the increasing politicization in climate change discourses in the USA reproducing an increasing polarization of political parties in modern American politics (McCright, 2010; McCright and Dunlap, 2011; Hamilton et al., 2015, Carmichael et al., 2017). This poses a serious roadblock in passing climate

legislation in the USA. Climate skepticism is not confined to the USA. Researchers have observed similar phenomenon throughout Europe (Plehwe, 2014), including Norway (Norgaard, 2006b), and Australia (McKewon, 2012). However, the two party dichotonomy in the USA makes it unique among other highly developed nations. Further, climate change denial groups in Europe have been linked to the USA based Climate Change Counter-Movement (CCCM) (Almiron et al., 2020).

A unique aspect of the issue of climate change in the USA was the election of Donald J. Trump in 2016. From early on in his presidential tenure, the Trump administration reversed numerous Environmental Protection Agency (EPA) regulations on pollution. Prior to his presidency, Donald Trump repeatedly voiced skepticism about climate change, referring to global warming as "a concept created by and for the Chinese in order to make U.S. manufacturing non-competitive". Within months of his inauguration, Donald Trump had sent over 100 Twitter messages claiming that global warming is a hoax (Matthews, 2017). On June 1st, 2017, Trump announced his intention to withdraw from the 2015 Paris Climate agreement on climate change. Due to the withdrawal clause in Article 28.1 of the Paris agreement, the USA was not permitted to formally withdraw before November 2019, three years from the date that the agreement was entered into force by former President Obama. On November 4th, 2019, the Trump administration gave formal notice of intention to withdraw, which then took effect one calendar year later on November 4th, 2020. To date, the USA is the first and only nation to withdraw from the agreement. The decision received widespread condemnation by the United States Democratic party, environmental groups, business, and global leaders. Conversely, the Republican party along with fossil fuel advocacy groups such as the American Coalition for Clean Coal Electricity (ACCCE) and Peabody Energy praised the decision. Peabody Energy, the largest private sector company in the world, has repeatedly promoted climate change skepticism, the supposed benefits of carbon dioxide and has financed numerous climate denial action such as the American Legislative Exchange Council. These events present an example of the connection between the Republican party/political conservatives and fossil fuel interests, using anti-science, and anti-intellectual language to spread distrust in climate science and belief in ACC.

1.2 Significance of the study

Understanding the drivers behind climate change perceptions is an important step in pushing climate change action to the forefront of the public policy agenda (Arbuckle, 2016) and for the use of effective framing in messaging to policy makers and stakeholders (Bolsen et al., 2019). Research shows that political orientation has a considerable impact on perceived scientific consensus, global warming beliefs, and support for government action (McCright et al., 2013). Additionally, political conservatives generally hold more favorable opinions toward capitalism (Jost et al., 2003). Support for free-market ideology has also been indicated to exert an influence on climate change attitudes (Longo & Baker, 2014; Heath & Gifford, 2006). Kilburn (2014) notes the gap in literature linking political and economic ideologies and anti-intellectualism on formation of attitudes towards climate change and the environment. Further, the literature notes the benefit of incorporating a broader range of factors (i.e. social, psychological) that are shown to be relevant. Such work helps to understand the myriad factors that contribute to climate skepticism (Veldman et al., 2020).

1.3 Research goals and objectives

This study aims to contribute to the literature by examining the influence of political ideology, economic ideology and anti-intellectualism on climate change perceptions andattitudes toward climate change action among voters in the USA. This will be accomplished by expanding on and drawing on connections between these phenomena using Gifford's Dragons of inaction framework, particularly the dragon of ideology; including worldviews; operationalized as political conservatism, system justification; operationalized as support for free-market capitalism. The dragon of discredence, particularly mistrust and denial are operationalized as distrust of experts. This will result in deeper understanding of the main drivers of climate change perceptions among American voters. The main research questions are as follows: (1) To what extent does political ideology influence climate change perceptions and attitudes toward climate action in the USA? (2) To what extent does economic ideology influence climate change perceptions and attitudes toward climate action in the USA? (3) To what extent does anti-intellectualism or distrust in experts influence climate change perceptions and attitudes toward climate action in the USA? The results of these research questions will help to better understand the myriad factors that influence climate change perceptions.

1.4 Structure of Thesis

This thesis begins with a brief introduction about climate change, including its definitions and implications for the environment and society. Chapter two provides the theoretical framework upon which the research questions and hypotheses are formed. The theoretical framework encompasses institutional and cognitive phenomena ranging from environmental sociology and environmental politics to political and social psychology as they relate to climate change perceptions. Chapter three consists of a brief review of the literature provides an overview of the history of environmental and climate change attitudes through the lens of religious, political, economic and socio-demographic factors. Chapter four details the research methodology used to analyze the data, how the methodology was selected and describes the dependent and indepdent variables analyzed in this study. Chapter five showcases the results of the statistical analyses conducted for this study, including descriptive statistics and crosstabulation of the data followed by the results of the ordinal logistic regression analysis. Chapter six provides a summary to conclude the thesis as well as future research and study limitations.

1.5 Hypothesis

Figure 1.2 shows the 9 hypotheses chosen for this study. The hypotheses for this study are as follows:

H1.(a) Political Conservatism is negatively correlated with (a) the belief that climate change affects severe weather and temperature in the U.S (b) personal importance of climate change (c) support for regulations and taxes on business that emit large amounts of GHG.

H2. A score of 3 out of 5 or higher on the Economic Ideology Index (EII), an index developed in this study to measure support for free-market ideology, is negatively correlated with (a) the belief that climate change affects severe weather and temperature in the U.S (b) personal importance of climate change (c) support for regulations and taxes on business that emit large amounts of GHG.

H3. Distrust of experts (anti-intellectualism) is negatively correlated with (a) the belief that climate change affects severe weather and temperature in the U.S (b) personal importance of climate change (c) support for regulations and taxes on business that emit large amounts of GHG.

Figure 1.2 Hypotheses

H1 Political Conservatism negatively correlated with
a. belief in climate change
b. Personal importance of climate change
c. Support for GHG regulations on business

H2. Support for free-market ideology negatively correlated with
a. belief in climate change
b. Personal importance of climate change
c. Support for GHG regulations on business

H3. Anti-intellectualism negatively correlated with
a. belief in climate change
b. Personal importance of climate change
c. Support for GHG regulations on business

2 THEORETICAL FRAMEWORK

2.1 Introduction

This section provides a theoretical framework to help analyze and interpret the forthcoming literature review. This framework borrows from Gifford's *Dragons of Inaction,*which gave a broad overview of the psychological factors behind climate inaction. Gifford (2011) identifies seven primary psychological barriers: limited cognition, ideologies, comparison with others, sunk costs, discredence, perceived risks, and limited behaviors. This framework will focus specifically on the dragons of ideology, particularly the subtypes *worldviews, suprahuman powers* and *system justification*,operationalized as political ideology and economic ideology. The dragon of discredence and its subtypes *mistrust* and *denial*, operationalized as anti-intellectualism, will also be explored. Though suprahuman powers (religion) is omitted from the statistical analysis, the early influence of Judeo-Christian religions will be reviewed ending with the connection between religious affiliation and political ideology. The concept of political ideology, also referred to as the liberal-conservative placement, will be detailed as well as the psychological differences between liberals and conservatives. Economic ideology will be explained and explored through the lens of neoliberal and free-market ideology in the USA. Last, anti-intellectualism will be defined and explored based on the work of Hofstadter (1965). To conclude the theoretical framework, a diagram will be drawn connecting the dragons of inaction to the theories used in this study all of which lays the foundation for the research question and hypotheses.

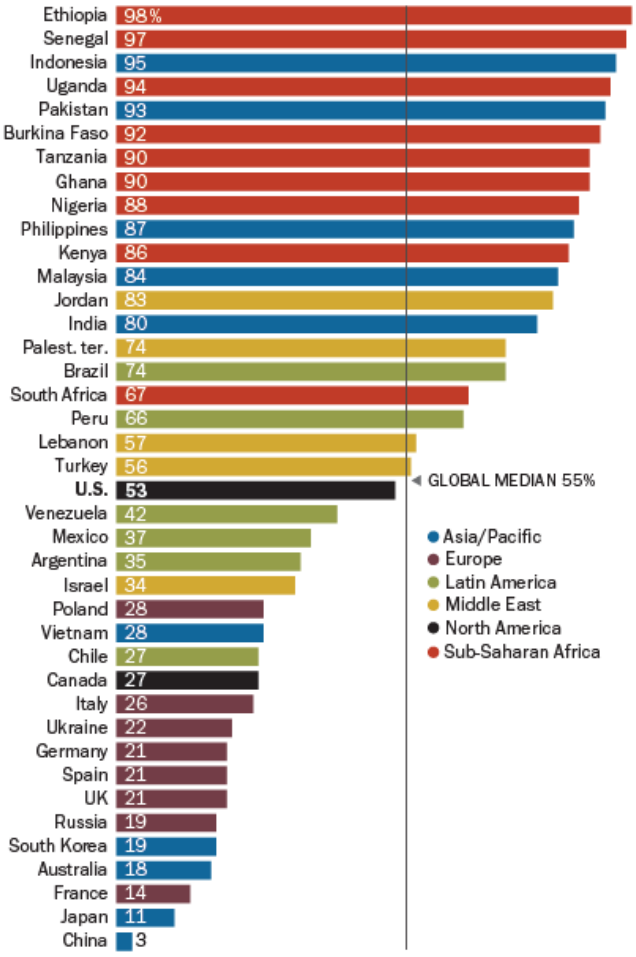
2.2 Ideology

2.2.1.1 Supra-human Power/Religion

Research shows that religion is significantly more important to Americans that citizens of other industrialized countries. Figure 2.1, developed by Pew Research Centre, shows the results of a 2015 Global attitudes study, which found that 53% of Americans sampled say that religion is "very important in their lives" compared to sample respondents in Germany, Spain and the United Kingdom (21%) and France (14%) (Pew Research Center, 2015). Pew Research Center is a nonpartisan research institution that compiles survey and polling data and disseminates information pertaining to a range of issues in

the USA and in other countries. Pew Research Center is a subsidiary of The Pew Charitable Trusts, which is the organizations primary funder.

Figure 2.1 Percentage of people who say that religion is very important in their lives



Source: Pew Research Center (2015)

Religiousness is associated with reverence for tradition and authority (MacDonald, 2000; Saucier & Skrzypinska, 2006). As will be examined in the next section, political conservatism has a nearly identical definition. A recent literature review examining environmental attitudes among various religious denominations in the USA concluded that the main drivers were political and theological; particularly dominion over nature (see White, 1967) and end-time beliefs (Veldman, 2020). According to end-times believers, the second coming of Jesus will result in the biblical Armageddon; the final battle between the forces of good and evil. Although the concept has been examined in the literature (Guth et al., 1995), the only researchers to have examined end-time beliefs directly

are Barker and Bearce (2012); their results found that belief that Jesus would return to earth someday reduced support for government climate action by 12 to 20%. Biblical literalism serves as a proxy for end-times beliefs, in which the coming catastrophe of climate change is perceived as a symbol for the desired second coming of Christ (Guthet al. 1995). Due to the static nature of biblical beliefs, the impact of biblical literalism on climate change attitudes is likely to increase in the future (Kilburn, 2014). The often cited "Lynn White Thesis" theorized that anthropocentric religious beliefs among Judeo-Christian religions, particularly man's dominion over nature, are key in explaining Christian's lack of concern for the environment (White, 1967). White notes important differences in concepts of time between Judeo-Christian theology, which conceived of time as linear and non-repetitive, and Greco-Roman mythology and Eastern religions which conceived of time as cyclical in nature. White further details how the Judeo-Christian story of creation of Adam and Eve differs markedly from the Greco-Roman mythos, which lacked a coherent starting point. White posits that anthropocentric themes in Judeo-Christian scripture led to followers seeing themselves as divine, and having dominion over nature. This is in contrast to pagan religious practices which conceived of nature as divine. These points led him to assert that Christianity "was the most anthropocentric religion in human history" (White, 1967). A number of researchers have raised doubts about White's thesis and how it has been implemented in social science research (Djupe & Hunt, 2009; Minteer & Manning, 2005; Whitney, 2017). White expresses doubt that ecological problems can be solved by more science and technology, which he claims have grown out Christian attitudes toward man's relation to nature. White states that "what people do about their ecology depends on what they think about themselves in relation to things around them (White, 1967)". Though recent research has emerged that shows that political affiliation and ideology are much stronger predictors of apathy toward the environment (Arbuckle, 2015), religion remains an important variable of study. Aversion to collective action, anti-science and anti-intellectual attitudes among evangelical Christians were identified as possible drivers of apathy toward the environment but this has not yet been explored quantitatively (Veldman, 2020).

Research conducted by the Public Religion Research Institute (PRRI is presented in Figure 2.2 and shows the following: Among religious groups, only 17% of white evangelical protestants and 18% of white Catholics were very concerned about climate change compared to 29% of all Americans, Hispanic Catholics (43%), individuals who are unaffiliated to any religion (38%) and Black Protestants (37%). On the other hand White Catholics(28%) and White Evangelical Protestants (30%) showed the highest amount of respondents that were "very unconcerned" about climate change. These figures detail the lower incidence of concen of climate change among various religious in the USA. People who identify as religious are more likely to be politically conservative, which will be the topic of the next section. At present, conservatives continue to revere religious traditions more than liberals (Jost et al., 2008b).

Figure 2.2 Climate Change Concern Index by Religious Affiliation

2.2.1.2 Worldview: Political Ideology

Ideology is a set of doctrines or beliefs that are shared by the members of a social group or that form the basis of a political, economic or other system. In many instances, societies are divided into two ideological groups; those that seek change (liberals) and those that seek to preserve tradition (conservatives) (Jost, 2006). Dating back many centuries, political conservatives were ardent apologists of the church and ruling monarchies, while liberals, along with progressives and other dissidents sought to oppose the authority of such institutions (Jost et al., 2008).

Differences in moral principles and cultural meanings tend to contribute to the rift between liberals and conservatives. Thus, a liberal or conservative identity is largely dependent on ones worldview. Worldviews can be described as a core set of beliefs, values and concepts that allow individuals to develop their personal identity, interpret reality, and give meaning to life experiences (Golec de Zavala & Van Bergh, 2007).

Liberals tend to be motivated by moral principles such as compassion and fairness, whereas conservatives tend to be motivated by values such as loyalty, authority, and purity. Prior research examining the psychological differences between conservatives and liberals have focused primarily on personality characteristics (Carney et al.,

2008)Conservatism has been shown to be positively correlated to uncertainty avoidance, encompassing social dominance orientation (SDO), dogmatism and intolerance for ambiguity (Jost, 2010).Conservatives tend to perceive the world as more dangerous and threatening, on average, than do liberals (Altemeyer, 1998; Duckitt, 2001). The perception of a dangerous world is consistently related to the endorsement of right-wing ideologies (Jost et al. 2003a), especially among those who are high in political knowledge or expertise (Federico et al. 2009). Although there are over 200 political parties in the USA, there are two major political parties; the Democratic party and the Republican party. Democrats are more likely to identify as liberals, while Republicans are more likely to identify as conservatives (Levendusky, 2010). In the USA, conservative politicians represent corporate interest to a much greater extent than moderates and liberals. (Brulle et al., 2012; McCright & Dunlap, 2011). Additionally, conservatives generally hold more favorable opinions toward capitalism (Jost et al., 2003). This relationship of political conservatism and support for capitalism will be explored in the next subsection on economic ideology.

2.2.1.3 Worldview & System Justification: Economic Ideology

Economic ideology, as it is used in this study, entails opinions toward the governments role in economic and social affairs. Supporters of the free-markets economics, market liberalism (Longo & Baker, 2016), free-enterprise system (Friedman) and in more recent times, neoliberalism (Harvey, 2005) assert that governance should be based on free market principles, which prioritize individual liberties over those of the public. Harvey (2005) asserts that neoliberalism political economic approach that contends that human progress is best promoted by freeing individuals to pursue entrepreneurial activities without restrictions from the state. This occurs within an institutional framework that places emphasis on private property rights and deregulation of markets. Harvey describes the rise of neoliberalism beginning in 1980 under the Reagan administration in the USA, and the Thatcher administration in the U.K. After the oil price shocks in the 1970's, advocates of free-market capitalism blamed the economic stagnation on New Deal and Keynesian economic policies (Useem et al., 1977). The 1971 Powell memo would stoke the alliance between the Christian right and pro-capitalist business interest, which ran on a platform promoting free-market economic ideology and was strongly against social liberalism (Brulle, 2013). This is in agreement with the core beliefs of political conservatism, which is that government regulations are bad for business

and should be avoided. Though the free-market ideology has advocates in both parties, the Republican party has been more ambitious towards respective policies than the Democratic party. Free-market economic policies are exemplified by decreases in funding for institutions such as public education, social programs and health care. Neoliberal economic policies aimed at privatization have resulted in imminent domain, and media consolidation (Sassaman, 2021). Anti-environmentalism has been a key principle of neoliberal antiregulatory politics since its inception (Brulle, 2013). Brulle notes how neoliberals developed a network of think tanks aimed at promoting tax cuts, deregulation and privatization of public goods in order to restore corporate profits (Ferguson & Rogers, 1986; Stefancic & Delgado, 1996). Continued support for deregulation and privatization has become a key trait of the Republican party and conservative identity. This messaging often appeals to the Judeo-Christian belief in Earth's abundant resources, which often coincide with and likely reinforce reduced concern for the environment. Deceptive messaging can also take the forms of cornucopian and techno-optimistic positions (Anderson, 2015; Hoffman, 2001). Hofstadter (1965) details the history of conspiracy theories and countermovement's in American political history targeting various groups. Hofstadter summarized the core elements of mid 20th century right-wing ideology into three conspiratorial beliefs. First, the belief in a vast conspiracy to undermine free-market capitalism in order for the economy to come under control by the federal government which would then lead to socialism and communism. Second, belief in a vast infiltration of top government leadership by communists. Third, a belief in an underlying communist network that has infiltrated the institutions of education, religion and mass media.

Hofstadter's assertions are corroborated by recent research which has identified the connection between political conservatism and conspiratorial mindset (Linden et al., 2020; Hornsey et al., 2018). The religious commitment to free-market capitalism espoused by evangelical leaders as part of the broader anti-environmentalist movement shows a troubling development of the marriage of fossil fuel and corporate interest and the religious right; the incorporation of free-market capitalism as part of the conservative Christian identity. The preceding sections on ideology drew the connections between belief in supra-human powers, political conservatism and support for free-market ideology. In the next section, I will describe how these phenomenon are related to the concept of the Treadmill of Production theory (Schnaiberg & Gould, 1994).

2.3 Treadmill of Production

The Treadmill of Production theory (TOP) is a theory that explains the role of private capital, labor and political elites in the promotion of economic growth (Schnaiberg & Gould, 1994). TOP is a product of environmental sociology, a sub-discipline which differentiates itself from mainstream sociology due to its focus on environmental destruction as a biophysical variable (Buttel, 2004). Proponents of TOP assert that the profit motive leads business interests to externalize costs onto laborers and the environment, an observation corroborated by economists of the heterodox tradition (Kapp, 1971; O'Connor 1994; Schnaiberg & Gould, 1994). One of the clearest examples of TOP in action are conservative think-tanks and foundations (Dunlap & Jacques, 2013). The next section will detail the activities of conservative think-tanks, government, news media and other actors and their impact on public opinion on climate change and the environment.

2.3.1 The Climate Change Counter-Movement (CCCM) and Anti-Environmentalism movement

The Climate Change Counter Movement (CCCM) appeared in 1989 in the wake of the creation of the Intergovernmental Panel on Climate Change (IPCC) (Antonio & Brulle, 2011). The CCCM's objectives have been to protect the frame that rationalizes unrestricted use of fossil fuels by sowing doubt about the evidence that supports the need for compulsory limits on carbon emissions. Austin (2002) describes anti-environmentalism as a combination of political and market strategies practices aimed at promoting continued environmental exploitation, developing and advancing environmental legislation favorable to corporations and unfavorable to public health and natural ecosystems, and seeking to block or stimy policies that limit resource depletion and negative externalities. The CCCM and parallel anti-environmentalism movement are in essence a group of numerous conservative foundations and think tanks operating to discredit climate science and the reality of anthropogenic climate change (ACC). A significant amount of funding for CCCM organizations cannot be traced. This secret funding, referred to as "Dark Money" (Meyer, 2012) conceals the CCCM structure and resources. Anthropogenic climate change (ACC) denial activism and lobbying against climate legislation by extractive industries increased significantly with the election of Barack Obama and a Democratic congress in 2008. The rise of the conservative and anti-environmental Tea

Party movement in 2009-10 effectively quashed Republican support for climate legislation (McCright and Dunlap 2011b; Pooley 2010). Tea party leadership threatened to lend financial support to opposing candidates of Republican politicians who supported environmental legislation (Kroll, 2016). Discrediting ACC entails not just outright denial, but also downplaying its severity (Austin, 2002). Conservative foundations have waged a campaign to discredit academia, which they have accused of increasingly left-liberal orientation. Conservative think tank's primary activities are to serve as a public relations for the business interests, and to persuade the understanding of public and private sector elites to defend accumulation and to convince the public to support free-market principles (Weller et al., 1997). Previous research and investigative reporting highlight the close relationship between conservative foundations and corporate interests, particularly the fossil fuel industry, and their efforts to block environmental legislation. (McCright & Dunlap, 2000, 2003; Pilkey & Pilkey, 2011). Through the development of conservative foundations and think-tanks, the fossil fuel and other extractive industries have generally avoided the conventional method to knowledge generation (Almiron & Triadú, 2020;McKewon, 2012). These activities lend an air of legitimacy to pro-capitalist propaganda, giving credence to the assertions of the business community of the beneficial and relatively benign nature of their activities (Schnaiberg & Gould, 1994). The treadmill of production theory details the myriad forces that seek to sway public opinion on climate change through affective polarization. The TOP along with the Dragon subtype system justification form the theoretical foundation for hypotheses H2a, H2b and H2c.

2.4 Anti-intellectualism

This section reviews the literature related to anti-intellectualism and its relation to climate change attitudes with a particular emphasis on the USA. Previous research points to the successful use of anti-intellectualism to appeal to key voter segments as early as the Eisenhower administration and later becoming a mainstay of Republican presidents Nixon, Reagan, Bush Sr., Bush Jr (Shogan, 2007) and most recently Trump. Mistrust of scientist and experts along with mistrust of the mass media that communicates scientific worldviews have increased among conservatives since the 1980's (Motta, 2018). The same effect was not observed among liberals. Liberals, but not Conservatives, have been found to find ivy league educated politicians to be more qualified than those who are not (Gift & Lastra-Anadón, 2018). Further, Conservatives, but not Liberals find elite

educated politicians to be less relatable, and not any more qualified than non-elite educated. Research conducted using General Social Survey (GSS) data found that anti-intellectualism is associated with the rejection of policy-relevant matters of scientific consensus but support for political movements and politicians who are vocal in their distrust of experts (Motta, 2018). Motta notes that "anti-intellectual attitude endorsement has been growing in the mass public for decades, especially on the ideological right". Jacoby in American Age of Unreason (2008) asserts that popular anti-rationalism and anti-intellectualism have become indistinguishable (Jacoby, 2008). Anti-intellectualism among political and economic conservatives has been observed throughout the 20th century. In *Anti-intellectualism in American Life,* Hofstadter (1965) prefaces his discourse on the unpopularity of intellect by distinguishing intelligence from intellect. Hofstadter defines intelligence as "an excellence of mind that is employed within a fairly narrow and immediate range" which aims to "grasp, manipulate, re-order and adjust". He then defines intellect as "the critical, creative and contemplative side of mind" which "examines, ponders, wonders, theorizes, criticizes and imagines" (Hofstadter, 1963 pg. 25). Rigney (1991) critiques Hofstadter description of anti-intellectualism due to the difficulty in defining intellect. Hofstadter identifies three specific types of anti-intellectualism: anti-rationalism, populist anti-elitism, and unreflective instrumentalism. Rigney (1991) notes that anti-rational sentiments are predominantly linked to religion, particularly in the evangelical Protestant tradition. Populist anti-elitism pertains to distrust of formally educated individuals and experts whose academic credentials entail superior knowledge or wisdom on various subjects. Unreflective Instrumentalism is aptly defined as "the devaluation of forms of thought that do not promise relatively immediate practical payoffs" (Rigney, 1991). Hofstadter identifies such attitudes as a distinct element of the economic ethos of American capitalism (1963, pp. 233-271). Further, unreflective instrumentalism is characterized by generally positive attitudes toward scientific research on the grounds that it results in increases in technical efficiency, economic productivity and growth. Rigney (1991) describes this pragmatic-centric approach as the "efficient pursuit of unexamined ends". The advent of scientific management and the broader Efficiency movement in the late 19th and early 20th century gave credence to the criticisms of intellect and further bolstered the pragmatic attitudes espoused by influential managers such as Frederick Taylor. The eponymously named Taylorism, which aimed to standardize work to achieve the utmost efficiency is often used interchangeably with scientific management due to his influence (Uddin & Hossain, 2015). Hofstadter's analysis has been criticized by left-

populists for its elitist overtones (Rigney,1991) and for not acknowledging the role that intellectual class snobbery plays in provoking anti-intellectual responses (De-Mott, 1963). Elites in this case are not limited to experts in the field and politicians, but also include advocacy groups, religious leaders, media personalities and celebrities.

2.5 Elite Cue hypothesis

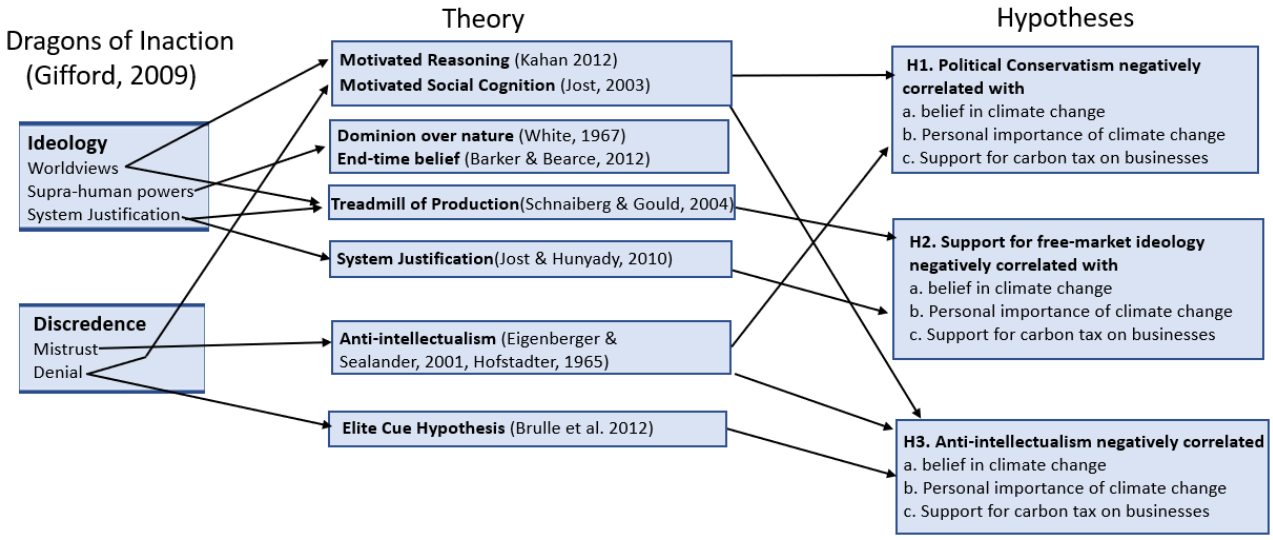
A major factor influencing public opinion about climate change is the influence of political discourse, which takes the form of elite cues that shape media coverage. The elite cues hypothesis states that voters await signals from elite political leaders to filter this information (McCright & Dunlap, 2011). Krosnick (2000) found that in the case of heated debates on global warming between politicians and policy experts, voters tend to take cues from their most trusted political leaders. Due to dependence on elite cues, the American public has become increasingly divided on climate change. This is exemplified by growing division among the Democratic and Republican parties that has been steadily developing since the 1990s (Shipan & Lowry, 2001; Guber, 2013). The use of time-saving shortcuts, or heuristics, is well documented in the literature (Tversky & Kahneman, 1974). To become well informed on a diverse range of policy issues is a time and resource intensive pursuit and is often out of reach for many working-class individuals. Heuristics allow an individual to quickly make decisions without expending significant mental energy. However, use of heuristics can lead to a skewing of perceptions, which can cause an individual to underestimate the impact of events that occur over a long period of time and overestimate the impact of events that occur over a short period of time. Petty and Cacioppo (1986) seminal study on cue-based decision making makes the distinction between two routes to persuasion, peripheral and central. The central route to persuasion is typified by logically analyzing content based on its substance. The peripheral route is unrelated to the soundness of an argument, rather the credibility and attractiveness of a message source. Central route processing is more time intensive and carries a heavier cognitive load than peripheral route processing. The distinction is more clearly seen when juxtaposed with easy and hard issues. Decision makers are more likely to use central route processing for easy issues that require smaller time commitments to understand and peripheral route processing for more complex issues such as climate change. Petty and Cacioppo (1986) note that peripheral route is capable of producing attitude change without any active thinking about the actual characteristics of the issue. Considering that most

Americans are unaware of the overwhelming consensus among scientists about the causes and impacts of climate change (Maibach et al. 2008), it is expected that they would defer to the cues of their preferred political elite to inform them on what position to hold on issues of which they are not well informed (Zaller, 1992).

Based on the arguments of Jost (2003), McCright and Dunlap (2010), I hypothesize that political conservatism will have a negative effect on belief in the impact of climate change on weather and temperature (H1a), personal importance of climate change (H1b), and support for regulations on businesses that emit large amounts of GHG (H1c). Based on the findings of Longo and Baker (2014), which are built on Treadmill of Production (Schaniberg & Gould, 2008;1994), as well as Heath & Gifford (2006), I hypothesize that support for free-market ideology will have a negative effect on belief in the impact of climate change on weather and temperature (H2a), personal importance of climate change (H2b), and support for regulations on businesses that emit large amounts of GHG (H2c). Lastly, based on the Dragon of Discredence and its subtypes, mistrust and denial, along with the arguments of Hofstadter (1965), Eigenberger and Sealander (2001) and Motta (2018), I hypothesize that anti-intellectualism, specifically populist anti-elitism attitudes will have a negative effect on belief in the impact of climate change on weather and temperature (H3a), personal importance of climate change (H3b), and support for regulations on businesses that emit large amounts of GHG (H3c). Figure 2.3 shows how the Dragons of Inaction and subtypes connect to this theoretical framework. First, worldviews are shown to be related to the theoretical concepts of motivated reasoning (Kahan, 2012) , motivated social cognition (Jost, 2003) and the treadmill of production theory (Schaniberg & Gould, 1994). Motivated reasoning and motivated social cognition then provide the theoretical grounding for H1a, H1b and H1c and to a lesser extent to hypotheses H3a, H3b and H3c. Next, the diagram shows that belief in supra-human powers is connected to the religious theories of negative environmental attitudes dominion over nature (White, 1967) and end-time beliefs (Barker & Bearce, 2012). The dragon subtype system justification is connected to the eponymously named theory proposed by Jost and Hunyady (2010) and the treadmill of production. These theories are shown to support hypotheses H2a, H2b and H2c. The dragon of discredence and its subtypes mistrust is shown in the diagram to be connected to anti-intellectualism. Further, the subtype denial is shown to be connected to the elite cue hypothesis

(Brulle et al. 2012). These theories are the foundation for hypotheses H3a, H3b and H3c.

Figure 2.3 Theoretical connection to hypotheses



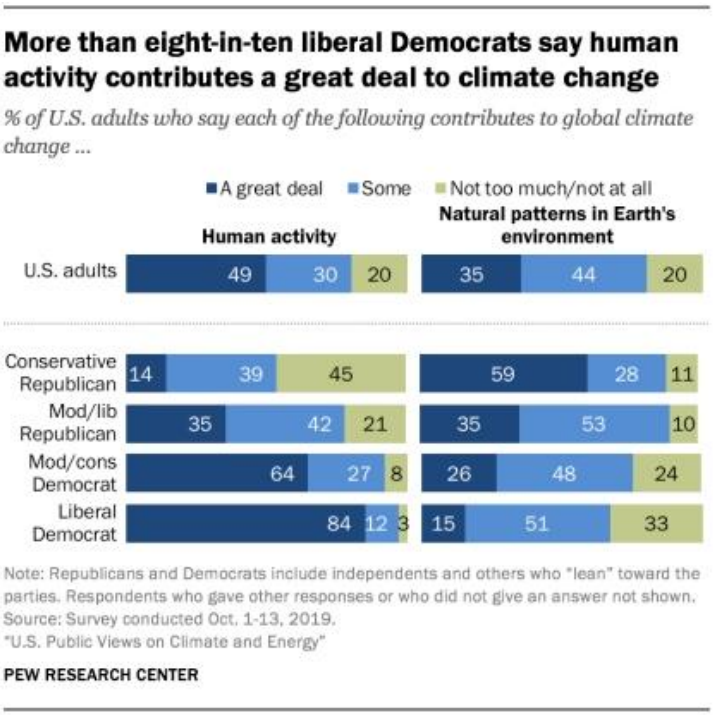
2.6 Summary & Conclusion Chapter 2

This theoretical framework introduced relevant theories from various disciplines. The section began with a description of Gifford's *Dragons of Inaction* (2009), beginning with Ideology and its subtypes, suprahuman powers, worldviews and system justification. Suprahuman powers were detailed through the lens of Judeo-Christian religious observance and its connection to environmental attitudes. Next, the relation to suprahuman power and worldviews were detailed using the example of Judeo-Christian religion and its connection to political conservatism. Jost (2003) political ideology as motivated social cognition showed the distinct cognitive and moral differences between liberals and conservatives. Next, the economic ideology and attitudes towards government intervention in the economy was explored through the lens of political ideology. Free-market ideology is defined and explained. Anti-intellectualism, or distrust of experts is defined and explained in relation to political and economic ideology. Based on these theories I draw a connection between religiosity, political conservatism, free-market capitalism, anti-intellectual attitudes. Promotion of free-market capitalism ties these theories together to show the cognitive, political and psychological basis of climate change skepticism in the USA.

3 LITERATURE REVIEW

For this literature review, the term environmental concern is used broadly and encompasses belief in the reality of climate change as well as climate change perceptions and attitudes toward government action. Previous literature on environmental concern has extensively examined the influence of religion, namely Christianity (Konisky, 2017a; Ecklund et al., 2016; Arbuckle & Konisky, 2015; Kilburn, 2014; Djupe & Hunt, 2009; Eckberg & Blocker, 1989), political ideology (Dunlap & McCright, 2008; Dunlap et al., 2001; Dunlap, 1975) and the interaction of religion and political ideology (Arbuckle, 2016) which found that political ideology and partisan identification exert the strongest influences on climate change beliefs (Arbuckle, 2016). Figure 3.1 shows the results of a 2019 study that examined beliefs in the causes of climate change among adults in the USA. Among conservative Republicans, only 14% said that human activity contributes "a great deal" to climate change, compared to 84% of liberal Democrats. Further, 45 % of conservative Republicans said that human activity contributed "not too much/ not at all" to climate change, compared to 3% of liberal Democrats. These results show that partisanship has a significant impact on perceptions on the cause of climate change among Americans. Belief in anthropocentric climate change appears to increase as political conservatism decreases and vice versa. However, some research has shown that moral framing that appeals to conservatives moral disposition (ex. ingroup loyalty, respect for authority) increased pro-recycling attitudes and habits in conservatives (Kidwell et al. 2013). The framing of climate change action in popular media is mired by the either-or fallacy and the "environment versus jobs" dichotomy (Longo & Baker, 2014). The influence of corporations not only on the media, but also a broad range of factors connected to personal views and beliefs, can lead to the undermining of established knowledge (van der Linden et al., 2017). Media consumption has been demonstrated to be a primary source of anti-climate change beliefs. Studies examining the effect of media consumption on people's attitudes toward climate change have found that consumption of conservative news media content is linked to climate change denial (Hmielowski et. al., 2014).

Figure 3.1 USA adults views on causes of global climate change by political affiliation



Source: Pew Research Center (2019)

Economic views have also been examined as a possible reason for denying or downplaing the severity of climate change. A number of studies have found that periods of economic recession are associated with lower concern and belief in climate change (Kahn & Kotchen, 2011; Scruggs & Benegal, 2012; Carmichael & Brulle 2017). However, research shows that no other countries apart from the US that have suffered comparable economic downturn show the same breakdown of public opinion about climate change (Benegal, 2018). The impact of economic ideology on environmental attitudes and climate change perceptions is a relatively under-researched area which has only been examined by Longo and Baker (2014). However, that study looked at perceived threats of eco-catastrophe rather than climate change attitudes. McCright and Dunlap (2011, 2013), found that white conservative males are considerably more likely than members of all other categories to embrace climate change denial and may perceive environmental action as posing a threat to their position in society. Policies geared toward climate action and environmental protection are widely supported by the Democratic party, whereas the Republican party has in recent years sought to stifle progressive

climate legislation (Antonio & Brulle, 2011). Dating back to 2010 when Republicans reclaimed the House of Representatives, Republicans who promote climate skepticism and denialist messages have been appointed to key committees dealing with climate policies and legislation (Germain et al. 2013). Van der Linden et. al (2020) found evidence that conservatives are more likely to endorse conspiracy theories about climate change and in general, and have lower levels of trust in mainstream media, scientists and government. Oreskes and Conway (2010) note that disputing and discrediting the existence of scientific agreement on ACC is a core strategy employed by Republican leadership and serves as a litmus test of conservative ideological purity (Johnson, 2010; Dunlap & McCright, 2010). Discrediting ACC entails not just outright denial, but also downplaying its severity (Austin, 2002). Right-wing intellectuals have waged a campaign to discredit academia, which they have accused of increasingly left-liberal orientation. Dunlap (2014) notes the success of the ACC denial activists and the broader CCCM to create confusion and doubt about the existence of scientific consensus about ACC. Members of the Republican party have increasingly intensified their efforts to discredit climate science and the seriousness of climate change since the mid 2000's. (Dunlap and McCright 2010; Oreskes and Conway 2010; Powell 2011).

4 METHODOLOGY

4.1 Introduction

This section of the thesis contains all relevant methodological information and strategies that have been applied. To better understand the tools used, the following paragraph will briefly explain the selected research approach. In this study I use the 2020 American National Election Survey (ANES) questionnaire which includes new data on the topics of climate change, distrust of experts, anti-science/misinformation and attitudes toward government intervention in the economy. This new data allows for a quantitative analysis of distrust of experts and economic ideology that were not possible in previous editions. The survey boasts a significant sample size of 8,280. The study population is American adult voters over the age of 18. Prior research on environmental attitudes has used the ANES dataset to measure the influence of education (Ehret, 2016), racial resentment (Benegal, 2018), biblical literalism and church attendance (Kilburn, 2014). Thus far, the ANES data has not been used to examine the influence of economic ideology and anti-intellectualism on climate change attitudes. The ANES was established and is currently funded by the U.S. National Science Foundation. All respondents of ANES questionnaire were assigned to interviews by one of three mode groups—by web, video, or telephone. The study has a total of 8,280 pre-election interviews and 7,449 post-election re-interviews (ANES, ibid.). The 2020 ANES survey used a contactless, mixed-mode design that was created in response to challenges related to the COVID-19 pandemic. Selected addresses were sent a series of letters to recruit one household member to go online to complete a survey. The invitation letter included $10 in cash and promised $40 for completing a survey online. Household members following the invitation link were taken to a screening instrument to randomly select one person from among the adult U.S. citizens living at the address to complete the ANES questionnaire. Upon completion of the screener, the selected respondent was invited to complete the survey based upon the mode of their assigned group. All web-only respondents completed the survey online. Mixed web respondents were offered web, and non-respondents and refusals received offers to complete the survey by phone. Mixed video respondents were offered live video interviewing via Zoom; non-respondents were offered web and later, phone. Among all groups of the fresh cross-sectional

sample, non-responding households were offered escalated incentives of $100 later in the field period.

4.2 Selection of methodology

Previous research has used ordinal logistic regression (OLR) analysis to examine environmental attitudes (Smith & Veldman, 2020; Konisky, 2017a; Arbuckle, 2016; Arbuckle & Konisky, 2015; Borick & Rabe, 2010) anti-intellectualism (Motta, 2017) and economic ideology (Longo & Baker, 2014). OLR is used to predict an ordinal dependent variable given one or more independent variables. OLR also allows the use of interactions between independent variables to predict the dependent variable. Principal component analysis (PCA) and factor analysis was also employed, which highlighted patterns in the data and to identify similarities and differences

4.3 Data Analysis

SPSS version 27 and 28 were used as the primary statistical program for analysis. First, frequencies and descriptive statistics were reported to obtain a general understanding of the data set and study area as a whole. An ordinal logit (logistic) regression was performed to understand the relationship between political identity, economic ideology and distrust of experts to climate change attitudes. Ordinal regression analysis was chosen for this study due to the ordered nature of the three dependent variables.

Table 4.1 List of all variables used in this study

Variable Name	Description	Type	Coding
Dependent Variables			
CC Affect Severe Weather	How much do you think climate change is currently affecting severe weather events or temperature patterns in the US?	Ordinal	1. Not at all - 5. A great deal
CC Personal Importance	How important is the issue of climate change to you personally?	Ordinal	1. Not at all important – 5. Extremely important
Gov. Regulation on Bu**sinesses**	Do you favor, oppose, or neither increased government regulation on businesses that produce a great deal of greenhouse emissions linked to climate change?	Ordinal	1. Oppose a great deal 7. Favor a great deal
Independent Variables			
Liberal-Conservative	Where would you place yourself on this scale?	Ordinal	1. Extremely Liberal 7. Extremely Conservative

Party Identity	Is Republican, Democrat or Independent?	Nominal	1. Strong Democrat 7. Strong Republican
Economic Ideology Index		Ordinal	
Trust Ordinary People or Experts	When it comes to public policy decisions, whom do you tend to trust more: ordinary people, experts, or trust both the same?	Ordinal	1. Trust ordinary people much more 5. Trust experts much more
Help from Experts	How much do you need the help of experts to understand complicated things like science and health?	Ordinal	1. Not at all 5. A great deal
Income		Scale	1. 0-34,999$ 2. 35,000-64,999$ 3. 65,000-99,999$ 4. 100,000-149,000$ 5. 150,000$+
Age	How old is the respondent?	Scale	18-80+
Sex	Is the respondent male or female?	Nominal	1. Male 2. Female
Education	What is the highest level of Education of the Respondent?	Nominal	1. High school diploma 2. Some college 3. Bachelor's degree 4. Master's degree 5. Doctorate degree
Rural	Do you currently live in a rural area, small town, suburb, or a city?	Nominal	1. Rural area 2. Small town 3. Suburb 4. City

4.3.1 Dependent Variables

Table 1.1 details the three dependent variables used in this study. The first dependent variable measures personal importance of climate change. Respondents were asked "*How* important is climate change to you?" Respondents were given the options 1. Not at all important, 2. a little important, 3. moderately important, 4. very important, or 5. extremely important. This variable corresponds to Hypothesis 1a, 1b and 1c. The second dependent variable asks respondents "How much is climate change affecting severe weather/temperatures in US?". Respondents could reply Not at all, a little, a moderate amount, a lot, or a great deal / A great deal, a lot, a moderate amount, a little, or not at all. This variable corresponds to Hypothesis 1b, 2b, and 3b. The third dependent variable asks respondents "Do you favor, oppose, or neither favor nor oppose increased government regulation on businesses that produce a great deal of greenhouse emissions linked to climate change? Respondents were given the options 1. Favor a great deal 2. Favor a moderate amount 3. Favor a little 4. Neither favor nor oppose 5. oppose a little, 6. oppose a moderate amount 7. oppose a great deal. This variable corresponds to Hypothesis 1c, 2c, and 3c.

4.3.2 Independent Variables

The primary independent variables of interest in this study are political ideology, economic ideology and anti-intellectualism. Political ideology, referred to in the ANES survey as "liberal-conservative self placement", is one of the most studied research variables in the literature on climate change and environmental attitudes (Arbuckle, 2016 ;McCright & Dunlap, 2011; Dunlap et al., 2001).

Political Ideology

Political ideology is measured using the liberal-conservative self placement, (Jost & Amodio, 2011; Gromet et al., 2013) It is measured on a 7-point scale ranging from extremely liberal (1) liberal (4) moderate and extremely conservative (7). Party affiliation is measured on a 7-point scale ranging from strong democrat (1) to independent (4) and strong republican (7).

Economic Ideology

Economic ideology can be described as views toward government intervention in the economy and the development of social programs ranging from little to no government intervention, a free-market ideology, to extensive government intervention, a socialist democratic ideology. For this study, I created an additive index of economic ideology modeled after the index used by Longo and Baker (2014). Longo and Baker's economic index produced a single factor with an Eigenvalue of 1.84 and each item loading at ≥ 0.754 with a Cronbach's α of 0.685. The Economic Ideology Index (EII) used in this study is a composite variable comprised of five variables (see Table 4.2 for details below). For the first three variables, respondents are asked to place themselves on a 7-point scale which reads "*Where would you place yourself on this scale, or haven't you thought much about this?"* The first item is known in the literature as "environment-business tradeoff" or the "economy versus environment" argument (Longo and Baker, 2014). Responses range from (1) Tougher regulations on business needed to protect environment to (7) Regulations to protect the environment are already too much a burden on business. The second item asks respondents whether they support a government medical insurance plan or private medical insurance. The scale ranges from 1) Government insurance plan to 7) Private insurance plan. The third variable asks respondents whether they support guaranteed jobs from the government or not. The scale ranges from 1. Government should see to jobs and standard of living to. 7. Government should let each person get ahead on own. The fourth variable is measured on 5-point scale

and asks respondent *"Should federal spending on welfare programs be increased, decreased, or kept the same*?" Answers ranged from 1. Increased a lot 2. Increased a little 3. Kept the same 4. Decreased a little 5. Decreased a lot . The fifth variable is measured on a 5-point scale and asks respondent *'Should federal spending on aid to the poor be increased, decreased, or kept the same?".* Answers ranged from 1. Increased a lot 2. Increased a little 3. Kept the same 4. Decreased a little 5. Decreased a lot.

Table 4.2 Economic Ideology Index (EII)

#	Variable Name	Description	Type	Coding
1	Federal Budget Spending: Welfare Programs	Should federal spending on welfare programs be increased, decreased, or kept the same?)	Ordinal	1. Increased a lot 2. Increased a little 3. Kept the same 4. Decreased a little 5. Decreased a lot
2	Federal Budget Spending:Aid to the Poor	(Should federal spending on aid to the poor be increased, decreased, or kept the same?)	Ordinal	1. Increased a lot 2. Increased a little 3. Kept the same 4. Decreased a little 5. Decreased a lot
3	Guaranteed Job-Income Scale	Where would you place yourself on this scale, or haven't you thought much about this?	Ordinal	1. Government should see to jobs and standard of living. 7. Government should let each person get ahead on own
4	Government-Private Medical Insurance	Where would you place yourself on this scale, or haven't you thought much about this?	Ordinal	1. Government medical insurance 7. Private Medical insurance
5	Environment Business Tradeoff	Where would you place yourself on this scale, or haven't you thought much about this?	Ordinal	1. Tougher regulations on business needed to protect environment. 7. Regulations to protect environment already too much a burden on business

A reliability analysis was conducted on the five items which measure attitudes toward government role in the economy and providing social services. Lower scores indicate support for government intervention in the economy to provide a social safety net whereas higher scores indicate support for free-market economic policies that include defunding social programs. A reliability analysis yielded a Cronbach's α of 0.864, with items loading from 0.774 to 0.828 . These results indicate that the items have high internal consistency and are suitable to be included in a single scale (Cronbach, 1951). Figure 1 shows the results of a Principal Components Analysis produced a single factor for the five items with an Eigenvalue of 3.22 and a KMO and Bartletts test results of .836, a meritorious result (Kaiser, 1974). My results show a comparable index to the one used by Longo and Baker (2014) to measure economic ideology impact on climate catastrophe.

Table 4.3 Principle Components Analysis

	Total Variance Explained		
Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	3.221	64.424	64.424
2	0.682	13.635	78.059
3	0.398	7.968	86.027
4	0.368	7.359	93.386
5	0.331	6.614	100.000
Extraction: Principle Component			

Anti-intellectualism

Previous research has measured anti-intellectualism in various ways. Motta (2017) respondents were asked to denote how much confidence they have in the scientific community. Motta notes the possible misidentification of anti-intellectualism for other related phenomena such as anti-establishment and general populist attitudes (Motta, 2017). In the ANES 2020 survey, Anti-intellectualism was measured using two variables categorized as distrust of experts. Due to anti-intellectualism reflecting public distrust of experts on policy issues related to expert consensus (Motta, 2017), the following variables were chosen to represent anti-intellectualism in this study. The first variable measures level of trust in experts and ordinary people for public policy decisions. "*When it comes to public policy decisions, whom do you tend to trust more: ordinary people, experts, or trust both the same?"* 1. Trust ordinary people much more 2. Trust ordinary people somewhat more 3. Trust both the same 4. Trust experts somewhat more 5. Trust experts much more. The second variable asks respondents "*How much do ordinary people need the help of experts to understand complicated things like science and health?"* 1. Not at all 2. a little 3. a moderate amount 4. a lot 5. A great deal.

Socio-demographic Variables

Past studies have shown that certain social and demographic variables exert an influence over results. Educational attainment has been shown to be a strong and positive predictor of environmental attitudes (Boyd, 1999; Wolkomir 1997). Educational attainment was measured using a 7-point scale ranging from less than eighth grade completed

(1) to a graduate or professional degree (7). Annual household income was measured using five categories: 0-$34,999(1); $35,000-64,999(2); $65,000-99,999 (3); $100,000-149,999 (4); $150,000 or more (5). Additional variables include gender (1 is female, and 0 is male), and age. Compared to males, females (McCright, 2010) were found to have stronger beliefs about the reality of climate change and support passing legislation in the USA.When evaluating age, young people have been found to show more concern for the environment than older people (Kellstedt et al., 2008; Krosnick, 2006). Past research has shown that perceptions about the environment vary by region and place of residence within the USA (Hamilton & Keim, 2009; Borick & Rabe 2010). Notably residents of Southern U.S. states, have been shown to value the environment considerably less than residents from other states (Kanagy and Nelsen, 1995). Place of residence was further assessed with respect to the sice of dwellings where people live. This was done using four categories: large city (1), suburb near a large city (2), small town or city (3), and rural area (4).

5 RESULTS AND DISCUSSION

5.1 Descriptive Statistics

In order to understand the demographic and ideological makeup of the study area in more detail, descriptive statistics were completed. In table 5.1 we see the descriptive statistics for all variables included in this study. The table begins with the three dependent variables, followed by the independent variables : political ideology (liberal-conservative self-placement), political party affiliation, Economic Ideology Index (EII),. Lastly, socio-demographic variables measuring income, education, sex, age and residence. Most notably, the EII has the lowest number of respondents compared to the other measured variables. This is due to a large amount of invalid responses on questions concerning economic views.

Table 5.1. Descriptive Statistics for all variables

Variable	N	Minimum	Maximum	Mean	Std. Deviation
How much is climate change affecting severe weather/temperatures in US	7263	1	5	3.51	1.35
How important is issue of climate change	7265	1	5	3.31	1.35
Favor/oppose increased regulation on business greenhouse emissions	7248	1	7	2.87	1.88
Liberal-conservative self-placement	6842	1	7	4.16	1.65
Party ID	8251	1	7	3.91	2.25
Economic Ideology Index	6331	1	5	2.95	1.40
Trust ordinary people/experts for public policy	7235	1	5	3.31	1.12
How much do people need help from experts to understand science	7255	1	5	3.52	1.05
Total (family) income	7699	1	5	3.03	1.43
Level of education	8147	1	5	3.08	1.15
Sex	8226	1	2	1.52	0.50
Age	7957	18	80	48.39	17.74
Rural residence	7264	1	4	2.74	1.06

Table 5.2 shows the frequency distribution for the liberal-conservative self placement. What is noticeable is that conservatives outnumber liberals 2741 to 2497, or 39% to 35% in the sample. There appears to be a small representation of hyper-partisans in the sample, with partipicants who identify as extremely liberal and extremely conservative comprising 5.2% and 6.1% of the same respectively. Moderates, unsurprisingly were the most well represented group among political leanings with a frequency of 1818 and comprising 25.8% of the sample.

Table 5.2 Frequency Statistics Liberal-Conservative Self Placement

Liberal-Conservative Self Placement				
	Frequency	Percent	Valid Percent	Cumulative Percent
1. Extremely Liberal	369	4.5	5.2	5.2
2. Liberal	1210	14.6	17.1	22.4
3. Slightly Liberal	918	11.1	13.0	35.4
4. Moderate; Middle of the road	1818	22.0	25.8	61.2
5. Slightly Conservative	821	9.9	11.6	72.8
6. Conservative	1492	18.0	21.1	93.9
7. Extremely Conservative	428	5.2	6.1	100.0
Total	7056	85.2	100.0	

Table 5.3 shows the descriptive statistics for the EII. Each variable included differs in sample size, due to participants choosing invalid responses such as "haven't thought much about this". Due to lower response rates for environment-business tradeoff, the EII's sample size decreased from 8200 to 6905. The final sample size is further decreased to 6331, as shown below in table 5.4. Table 5.4 shows an even distribution of scores of roughly 20 percent per category. An EII score of 5 out of 5 shows the highest amount of respondents, indicating a certain preference for free-market ideology in the sample. Scores below 3 out of 5 indicate support for a democratic socialist policy platform.

Table 5.3 Descriptive Statistics Economic Ideology Index

	N	Minimum	Maximum	Mean	Std. Deviation
Federal Budget Spending: welfare programs	8225	1	5	3.01	1.24
Federal Budget Spending: aid to the poor	8237	1	5	2.32	1.12
Gov-private medical insurance scale	7183	1	7	3.77	2.13
Guaranteed job-income scale	7206	1	7	4.16	1.97
Environment-business tradeoff	6905	1	7	3.12	1.99

Table 5.4 Frequency table Economic Ideology Index

Economic Ideology Index (EII)				
	Frequency	Percent	Valid Percent	Cumulative Percent
EII 1	1223	14.8	19.3	19.3
EII 2	1200	14.5	19.0	38.3
EII 3	1206	14.6	19.0	57.3
EII 4	1293	15.6	20.4	77.7
EII 5	1409	17.0	22.3	100.0
Total	6331	76.5	100.0	

Table 5.5 summarizes the results from crosstabulation of the EII and political ideology (liberal-conservative) frequency tables. Results show that liberals and conservatives exhibit drastically different attitudes toward economic policy. Within the sample, 81% of extreme liberals scored 1 out of 5 on the EII, indicating a near universal support for social democratic economic policies. Conversely, 78% of extreme conservatives scored 5 out of 5 on the EII, indicating near universal support for free-market economic policies. Along the ideological spectrum, support for free-market policy increases the farther to the right one is positioned politically. Moderates showed a relatively even distribution across the EII from scores 1 through 4, however, scores of 5 out of 5 were low (9.3%) significantly lower than slight conservatives (27.7%) and conservatives (59.6).

Table 5.5 Crosstabulation of Economic Ideology Index and Political Ideology

		Liberal-conservative self-placement														Total	
		1. Extremely liberal		2. Liberal		3. Slightly liberal		4. Moderate; middle of the road		5. Slightly conservative		6. Conservative		7. Extremely conservative			
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
EII	1.00	267	80.9%	500	46.3%	155	19.8%	254	13.8%	25	3.7%	17	1.4%	2	0.6%	1220	19.3%
	2.00	31	9.4%	390	36.1%	283	36.2%	404	21.9%	53	7.8%	32	2.5%	6	1.7%	1199	19.0%
	3.00	17	5.2%	137	12.7%	251	32.1%	567	30.8%	141	20.8%	91	7.3%	2	0.6%	1206	19.1%
	4.00	5	1.5%	48	4.4%	87	11.1%	445	24.2%	271	40.0%	367	29.2%	68	19.2%	1291	20.4%
	5.00	10	3.0%	5	0.5%	5	0.6%	172	9.3%	188	27.7%	748	59.6%	277	78.0%	1405	22.2%
Total		330	100.0%	1080	100.0%	781	100.0%	1842	100.0%	678	100.0%	1255	100.0%	355	100.0%	6321	100.0%

Table 5.6 summarizes the results of the crosstabulation of political ideology and trust in experts. Extreme liberals (40.4%) were more likely to trust experts much more than liberals (38.5%), slight liberals (33.4%) , moderates (19.4%), slight conservatives (15.6%) conservatives (7.3%) and extreme conservatives (4%). Converseley, extreme conservatives were more likely to trust ordinary people much more (18.7%) than conservatives (14.1%) slight conservatives (6.8%), moderates (4.4%), slight liberals and liberals showed identical (2.1%) results, which were lower than for extreme liberals (5.7%). These results show a clear positive relationship between political conservatism and distrust of experts for public policy decisions.

Table 5.6. Cross tabulation of Political ideology and Anti-intellectualism

	Liberal-conservative self-placement														Total	
	1. Extremely Liberal		2. Liberal		3. Slightly Liberal		4. Moderate; Middle of the road		5. Slightly Conservative		6. Conservative		7. Extremely Conservative			
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
1. Ordinary people much more	19	5.7%	23	2.1%	17	2.1%	72	4.4%	50	6.8%	185	14.1%	70	18.7%	436	6.9%
2. Ordinary people somewhat more	16	4.8%	51	4.6%	42	5.1%	147	9.1%	81	11.0%	222	16.9%	72	19.2%	631	10.0%
3. Both the same	103	30.8%	328	29.4%	272	33.1%	748	46.2%	328	44.5%	627	47.6%	193	51.5%	2599	41.1%
4. Experts somwhat more	61	18.3%	283	25.4%	216	26.3%	338	20.9%	163	22.1%	186	14.1%	25	6.7%	1272	20.1%
5. Experts much more	135	40.4%	429	38.5%	274	33.4%	314	19.4%	115	15.6%	96	7.3%	15	4.0%	1378	21.8%
Total	334	100.0%	1114	100.0%	821	100.0%	1619	100.0%	737	100.0%	1316	100.0%	375	100.0%	6316	100.0%

5.2 Ordinal Regression

In this section I present the results of the ordinal logistic regression analysis. It is important to determine if there is multicollinearity prior to conducting the regression analysis.. Multicollinearity occurs when there are two or more independent variables that are highly correlated with each other. Additionally, it is necessary to test for proportional odds.The assumption of proportional odds is a key assumption in ordinal regression, which indicates that an independent variable has a proportional effect across all splits within the dependent variable (O'Connell, 2006). In SPSS, the assumption of proportional odds is verified via the test of parallel lines, in which the presence of a significant p value ($p < 0.05$) means that the proportional odds assumption of the regression has been violated. The odds ratio in ordinal regression determines the probability of moving into a higher category of the dependent variable. Due to a number of invalid responses from respondents from various items, the sample size reduced from 8,280 to 5,174.

The Pearson goodness-of-fit test indicated that the model was a good fit to the observed data, $\chi^2(272) = 19269.828$, $p = .935$. Similarly, the deviance goodness-of-fit test also indicated that the model was a good fit to the observed data, $\chi^2(272) = 12507.358$, $p = .607$The Pearson and Deviance goodness-of-fit tests tend to give unreliable results if there are many cells with zero and/or small expected frequencies. However, due to the size of the ANES dataset (N >5,000), the model has high expected cell frequencies and thus can be used. The results should not be statistically significant to indicate a good model.

Table 5.7 Test of Model Effects

source	Chi-Square	df	Sig.
political ideology	129.66	6	0.001
political affiliation	109.57	6	0.001
EII	429.32	4	0.001
Trust experts	32.81	4	0.001
Need help from experts	82.94	4	0.001
Sex	4.88	1	0.027
Age	7.36	1	0.007
Education	7.03	4	0.134
Income	3.023	6	0.806
Rural/Urban	6.83	3	0.077

The test of model effects shows the sociodemographic variables sex and age were statistically significant, $\chi^2(1) = 8.437$, p = .027, and $\chi^2(1) = 7.360$, p = .007 respectively. Surprisingly, sociodemographic variables level of education, total household income and rural or urban area were not significant predictors of climate change attitudes and were excluded from the results section. The analysis confirms the literature and identifies political ideology as a significant predictor of climate change attitudes. These findings suggest a positive and linear relationship between progressive economic ideology and belief that climate change impacts severe weather and temperatures in the US.

The results of the three ordinal regressions are summarized in Table 5.8. What stands out is that the variables political ideology, party identification, EII, and the two anti-intellectualism variables all proved to be highly significant predictors.

Table 5.8. Results of Ordinal Logistic Regression

	DV #1		DV #2		DV#3	
	Sig.		Sig.		Sig.	
Political Ideology		Odds		Odds		Odds
Extremely Liberal	0.01**	6.28	0.01**	10.15	0.01**	7.52
Liberal	0.01**	4.67	0.01**	5.04	0.01**	4.77
Slightly Liberal	0.01**	3.79	0.01**	4.38	0.01**	3.36
Moderate; Middle of the road	0.01**	3.24	0.01**	3.52	0.01**	2.62
Slightly Conservative	0.01**	2.43	0.01**	2.87	0.01**	2.33
Conservative	0.01**	1.50	0.01**	1.92	0.01**	1.52
Extremely Conservative	0.01**	1.00		1.00		1.00
Party Identification	0.01**					
Strong Democrat	0.01**	4.24	0.01**	3.38	0.01**	1.87
Not so strong Democrat	0.01**	2.88	0.01**	2.15	0.02*	1.36
Independent Democrat	0.01**	3.22	0.01**	2.58	0.01**	1.78
Independent	0.01**	1.98	0.01**	1.89	0.50	1.09
Independent Republican	0.01**	1.27	0.05*	1.22	0.37*	0.91
Not so strong Republican	0.01**	1.41	0.01**	1.33	0.01**	1.35
Strong Republican	0.01**	1.00		1.00		
Economic Ideology Index	0.01**					
EII Score 1 (Democratic-Socialism)	0.01**	9.86	0.01**	12.09	0.01**	14.20
EII Score 2	0.01**	8.15	0.01**	8.92	0.01**	9.84
EII Score 3	0.01**	4.72	0.01**	5.12	0.01**	5.42
EII Score 4	0.01**	3.04	0.01**	3.14	0.01**	3.11

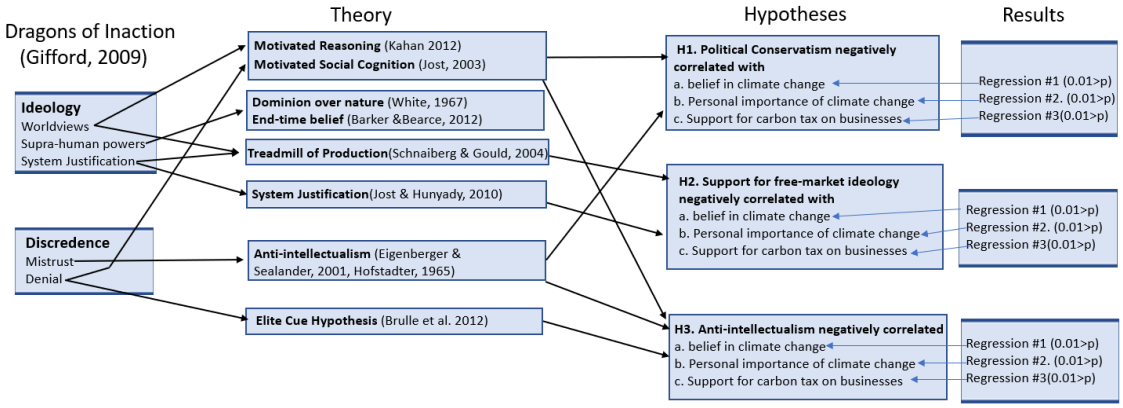
EII Score 5 (Free-Market		1.00			0.01**	1.00
Anti intellectualism						
Trust ordinary people/experts for public policy						
Trust ordinary people much more	0.01**	0.60	0.01**	0.57	0.01**	0.39
Trust ordinary people somewhat more	0.01**	0.60	0.01**	0.56	0.01**	0.48
Trust both the same	0.01**	0.81	0.01**	0.75	0.01**	0.59
Trust experts somehwat more	0.10	0.86	0.01**	0.81	0.01**	0.75
Trust experts much more		1.00		1.00		1.00
Need help from experts to understand science						
Not at all	0.01**	0.24	0.01**	0.37	0.01**	0.37
A little	0.01**	0.34	0.01**	0.42	0.01**	0.43
A moderate amount	0.01**	0.47	0.01**	0.60	0.01**	0.52
A lot	0.01**	0.60	0.01**	0.68	0.01**	0.71
A great deal		1.00		1.00		1.00

*p<.05, **p<.01

DV#1 "How much do you think climate change is currently affecting severe weather events or temperature patterns in the US?" DV#2 "How important is the issue of climate change to you personally?" DV #3 Do you favor, oppose, or neither increased government regulation on businesses that produce a great deal of greenhouse emissions linked to climate change?

Figure 5.1 shows the full diagram connecting the Dragons of inaction, the theoretical framework used, the hypotheses formulated and the results of the regression analysis. All hypotheses were confirmed in this study. Hypotheses H1a, H2a and H3a were confirmed in Regression #1 (0.01**,0.01**,0.01**) hypotheses H1b, H2b and H3b were confirmed in regression #2 (0.01**,0.01**,0.01**) and hypotheses H1c, H2c and H3c were confirmed in regression #3 (0.01**,0.01**,0.01**).

Figure 5.1 Theory, hypotheses, results

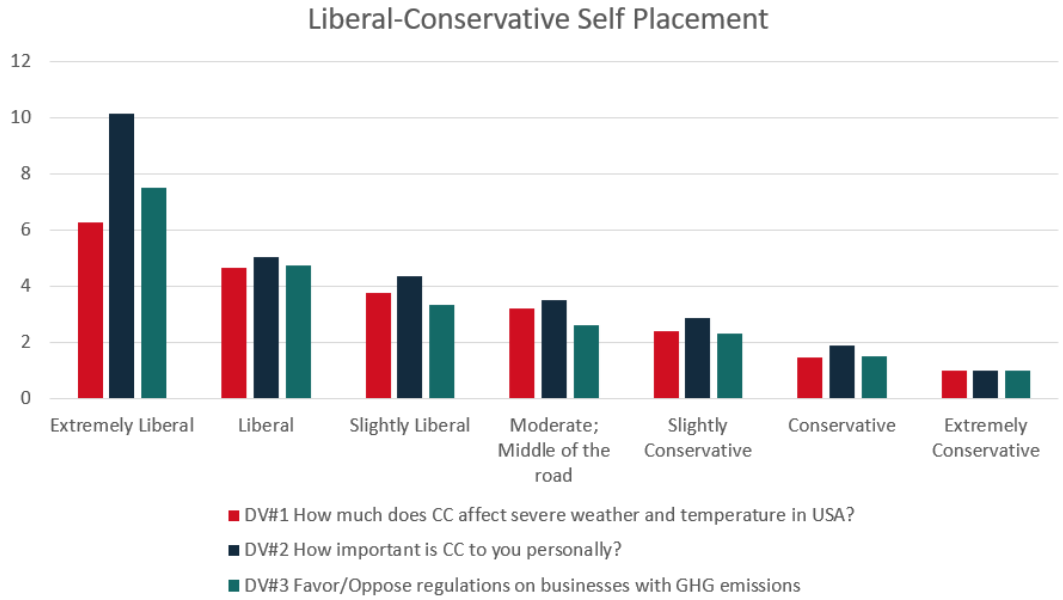


5.2.1 Political Ideology

The results indicate a strong negative correlation between political conservatism and the dependent variables. Extreme liberals were six times more likely to believe that climate change was impacting severe weather and temperature in the US, ten times more likely to express high personal importance of climate change, and seven times more likely to favor regulations on businesses that emit large amounts of GHG than extreme conservatives. For DV #1, extreme liberals (6.28) liberal (4.67), slightly liberal (3.79), moderate(3.24), slightly conservative(2.43) and conservative (1.5)

For DV #2, extreme liberals (10.15), liberals (5.04), slight liberals (4.38) moderates (3.52) slight conservatives (2.87), and conservatives (2.87) For DV #3, extreme liberals (7.52), liberals (4.77), and slight liberals(3.36), moderates (2.62), slight conservatives (2.33), conservatives (1.52)

Figure 5.2 Regression results for political ideology



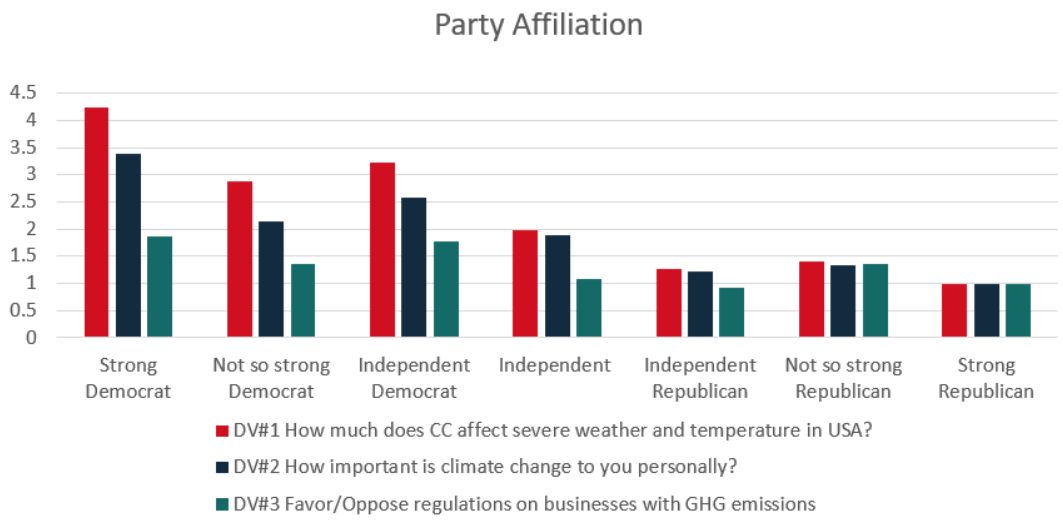
These results confirm hypothesis 1, that political conservatism is negatively correlated to the belief that climate change impacts severe weather and temperature in the US(H1a), personal importance of climate change (H1b), and support for a tax on businesses with high GHG emissions (H1c). These results confirm the literature that finds that political conservatism is linked to negative attitudes toward the environment (Arbuckle, 2016 McCright et al., 2014).

Party affiliation

Party affiliation all showed significant predictors, however, party affiliation was not as strong as political ideology. For the first dependent variable, which asked "How much do you think climate change is currently affecting severe weather events or temperature patterns in the US?" strong Democrats were 4.24 times more likely than extreme conservatives to answer " a great deal", followed by independent Democrats (3.22), not so strong Democrats (2.88), Independent (1.98), not so strong Republican (1.41) independent Republican (1.27). For the second dependent variable, which asked "How important is the issue of climate change to you personally?" strong Democrats were 3.38 times more likely to answer "extremely important" than extreme conservatives, followed by independent Democrats (2.58), not so strong Democrats (2.15), Independent (1.89), not so strong Republican (1.33) independent Republican (1.22). For the third dependent

variable, strong Democrats were 1.87 times more likely than extreme conservatives to answer " favor a great deal", followed by independent Democrats (1.78), not so strong Democrats (1.36), not so strong Republican (1.35) Independent (1.09). Independent Republican (0.91) were less likely than the control group, an observation that will be expanded on in the following discussion section. These findings corroborate literature on party affiliation that suggests that Republicans tend to be more climate skeptic than Democrats (Jones et al. 2014; Dunlap & McCright, 2008).

Figure 5.3 Regression results for Party Affiliation



5.2.2 Economic Ideology

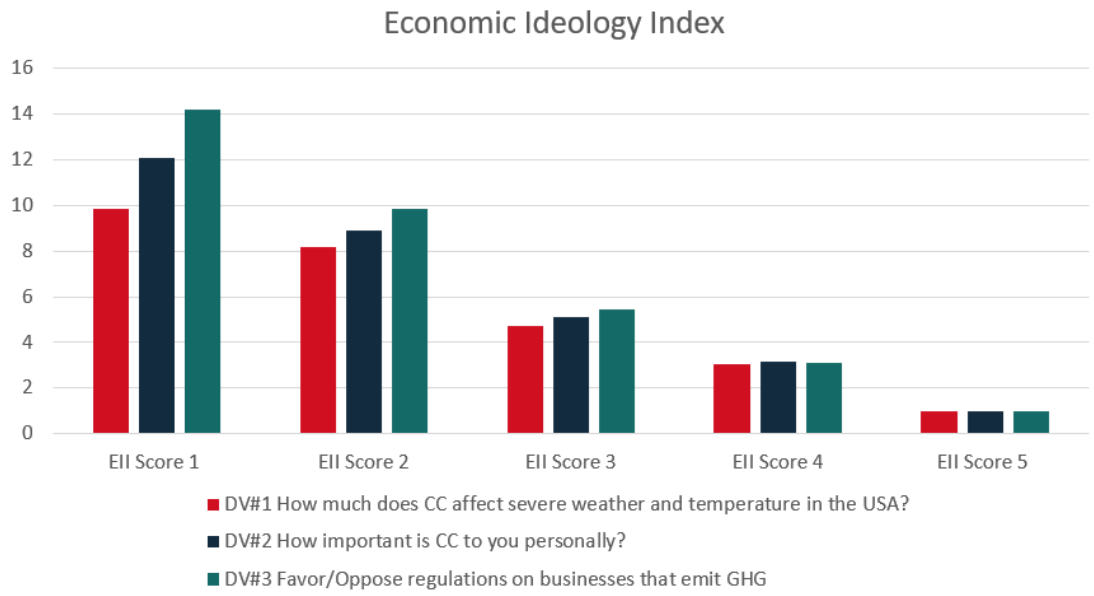
The results on economic ideology showed that a high score on the Economic Ideology Index (EII), which indicates support for free-market economic policy, was the strongest predictor among all independent variables tested in this study.

For the first dependent variable, respondents that scored 1 out of 5 on the EII were 9.86 times more likely to answer " a great deal" than the reference group (EII score of 5), followed EII score 2/5 (8.15), EII score 3/5 (4.72), EII score 4/5(3.04.

For the second dependent variable, respondents with an EII score 1/5 were 12 times more likely to respond "extremely important" than the reference group, followed by EII score 2/5 (8.92), EII score 3/5 (5.12), EII score 4/5 (3.14).

For the third dependent variable, respondents with an EII score of 1/5 were 14.2 times more likely than the reference group to respond "favor a great deal" followed by EII score 2/5 (9.84), EII score 3/5 (5.42), EII score 4/5 (3.11).

Figure 5.4 Regression results for Economic Ideology



These results confirm hypothesis 2, that support for free-market ideology measured by EII is negatively correlated to the belief that climate change impacts severe weather and temperature in the US(H2a), personal importance of climate change (H2b), and support for a tax on businesses with high GHG emissions (H2c). These results confirm the literature that suggests support for free-market capitalism is correlated to negative environmental attitudes (Heath & Gifford, 2006; Gould et al., 2010; Longo & Baker, 2014)

5.2.3 Anti-intellectualism

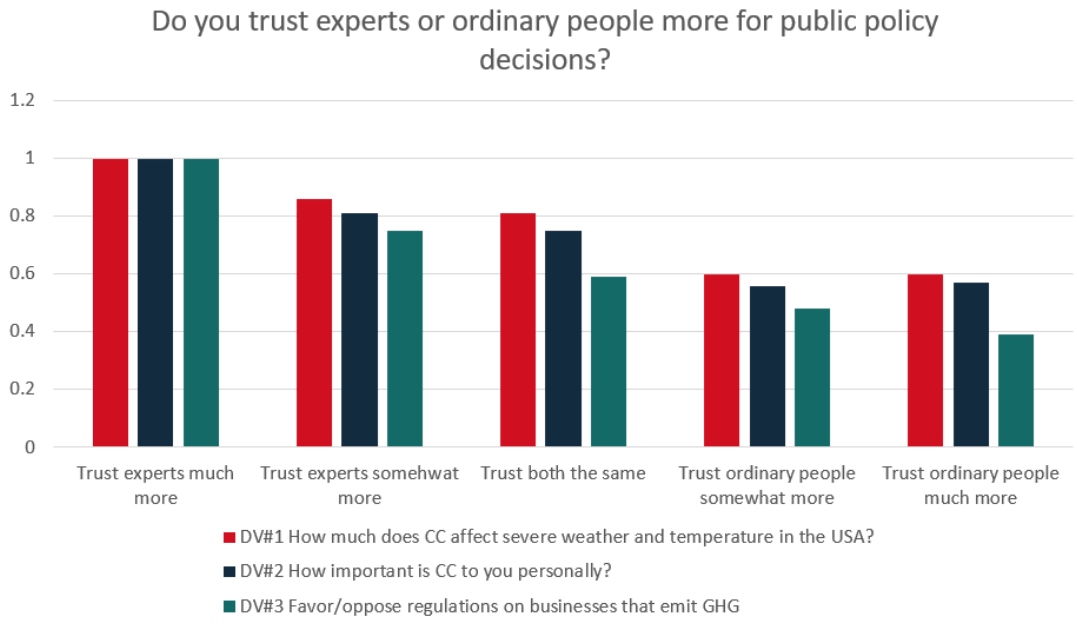
Anti-intellectualism, measured by two variables was found to be a significant predictor, but was the weakest predictor of the variables analyzed in this study.

5.2.3.1 Trust ordinary people or experts more

For the first anti-intellectualism variable, which asked participants "When it comes to public policy decisions, whom do you tend to trust more: ordinary people, experts, or trust both the same?" participants who responded "trust ordinary people much more" were

only 60% as likely, or 40% less likely than the reference group to answer "a great deal", participants who responded "trust ordinary people more" (0.60) showed the same 40% less likelihood, followed by "trust both the same" (0.81) and "trust experts more" (0.86) which indicate 19% and 14% less likely respectively. For DV# 2, participants who responded "trust ordinary people much more" (0.57) were 43% less likely than the reference group to respond "extremely important", followed by "trust ordinary people more" (0.56), "trust both the same" (0.75), "trust experts more" (0.81). For DV# 3, participants who responded "trust ordinary people much more" (0.39) were 61% less likely to answer "favor a great deal" than the reference group, followed by "trust ordinary people more" (0.48), "trust both the same" (0.59), "trust experts more" (0.75).

Figure 5.5 Regression results for anti-intellectualism/trust experts or ordinary people

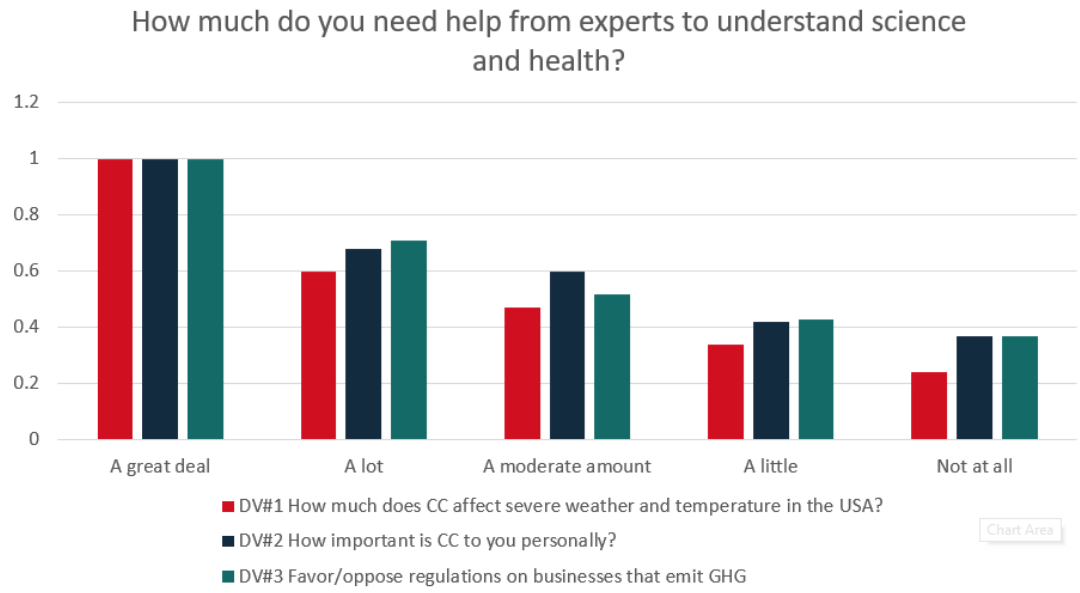


5.2.3.2 Need help from experts to understand science

For the second anti-intellectualism variable, which asked "How much do ordinary people need the help of experts to understand complicated things like science and health", participants that responded "not at all" (0.24) were 76% less likely than the reference group to answer "a great deal", followed by "a little" (0.34), "a moderate amount" (0.47), "a lot" (0.60). For DV #2, participants that responded "not at all" (0.37) were 63% less likely than the reference group to answer "a great deal", followed by "a little" (0.43), "a

moderate amount" (0.52), "a lot" (0.71). For DV #3, participants that responded "not at all" (0.37) were 63% less likely than the reference group to answer "a great deal", followed by "a little" (0.42), "a moderate amount" (0.60), "a lot" (0.68).

Figure 5.6 Regression results for anti-intellectualism/need help from experts



These results confirm hypothesis 3, that anti-intellectualism is negatively correlated to the belief that climate change impacts severe weather and temperature in the US(H3a), personal importance of climate change (H3b), and support for a tax on businesses with high GHG emissions (H3c). Though the strength of the correlation is weaker than that for political and economic ideology, the variable of anti-intellectualism proves to be significant predictor of climate change attitudes. These results corroborate the literature that suggests distrust of experts leads to opposition toward science based public policy decisions (Motta, 2017; Shogan, 2007;Eigenberger & Sealander, 2001)

5.3 `Discussion

An interesting observation is that respondents who identified as "independent democrat" were slightly more likely than "not so strong democrats" to believe that climate change was affecting severe weather and temperatures in the US.

Democrats that identify as independent typically show more support for spending on social programs and other progressive policies than mainline democrats. This suggests

that democrats that identify more as Independent than solely with the Democratic party are more progressive towards climate action than mainline Democrats. Republicans that identify as independent, though not confirmed in the study, likely harbor more libertarian views. Libertarians are generally guided foremost by concepts of individual liberty and are more socially liberal than political conservatives (Iyer et al., 2012)., "independent republicans" were slightly less likely than 'not so strong republican" to believe that climate change was affecting severe weather and temperatures in the US. This finding suggests a difference in effects of political ideology between Republicans and Democrats, with independent republicans showing more conservative attitudes than "not so strong republicans" and independent democrats showing more liberal and progressive attitudes than "not so strong democrats".

The 2020 election and ensuing aftermath saw the Republican party become more overt in their opposition to climate legislation but also showcased Democrats inability to push legislation through (Renshaw et al., 2021).This has been described as "legislative gridlock" (Binder, 1999; Jones, 2001)) and was a roadblock in passing climate legislation during the Obama administration (Veldman, 2020; Skocpol, 2013)Real issues like climate legislation and the green new deal are being dismissed as a partisan political stance by Republicans in the House and Senate (Gardner, 2019). This coincides with increases in affective polarization that have been observed in the 2016 presidential election cycle (Banda & Cluverius, 2018). Bachelor and graduate school educated comprised nearly 50% of the sample and respondents working in the science, technology, engineering and mathematics (STEM) field might cite their education as a reason why they require less help from experts to make sense of science and health. Another explanation has been the framing or debate of climate change in the news media. Right-leaning news outlet coverage of climate change often feature CCCM and anti-environmentalist leaders, lending legitimacy to climate skeptic and denialist perspectives (Boykoff, 2011). According to a 2021 report from the National Oceanic and Atmospheric Association (NOAA), June 2021 was the warmest in the contigiuous US (NOAA, 2021). The USA experienced numerous natural disasters including wildfires in California, multiple instances of large scale flooding, blizzards, hurricanes and drought (NOAA, 2021). As more and more Americans experience the severe weather attributed to climate change, it is possible that public opinion will be begin to change in the mind of climate skeptics. However, ever increasing political polarization is likely to continue to be a problem in setting the policy agenda. As mentioned earlier, future climate change legislation will

be determined by national domestic commitments. During the Trump administration from 2016 to January 2021, the EPA rolled back and reversed numerous environmental standards. The results of this thesis showcase evidence of extreme polarization of public opinion on climate change along political and economic lines. This suggests that impactful legislation will be at risk of being repealed or reversed based on two and four year election cycles, as seen during the Obama administration from 2008 to 2016 (Veldman, 2020). The current president, Joe Biden, has repeatedly voiced the urgency for climate action and has proposed progressive policies intended to address the climate crisis (cite). However, elections in 2022 and the next presidential election in 2024 will likely impact the degree to which policies are implemented. In the event that the Republican party takes a majority in congress in 2022, or that a Republican president is elected in 2024, progressive environmental legislation would likely be blocked, weakened or repealed. The COVID-19 pandemic has taken immediate precedence over climate change mitigation, and will likely be an ongoing public health issue for years to come.

6 CONCLUSION

6.1 Summary

In this study I examined the influence of political ideology, economic ideology and anti-intellectualism on climate change perceptions through the lens of Gifford's Dragons of Inaction (2009) Ideology and Discredence and their subtypes, suprahuman power, worldviews, system justification, distrust and denial. Second, I conducted literature review on the history of environmental attitudes and the climate change debate in the USA. I developed a theoretical framework encompassing the field of social and political psychology, environmental sociology to foster a deeper understanding of the political ecology of climate change perceptions. In this quantitative study I conduct ordinal logistic regressions on SPSS using the ANES 2020 survey. The results show that all primary independent variables were significant predictors of attitudes toward climate change. The Economic Ideology Index (EII), which I developed for this dataset, was the strongest predictor of climate change perceptions and attitudes toward climate action.

6.2 Contribution to knowledge

This research contributes to knowledge about the impact of economic ideology and anti-intellectual attitudes on climate change attitudes. The results suggest that anti-intellectualism predicts negative attitudes toward climate change are influenced by political ideology and party affiliation.

6.3 Future Research

Due to data restrictions, race and religion were not included in this study. Understanding the interaction of political affiliation, economic ideology, race and religion in relation to environmental attitudes is a research area that of critical importance. Veldman (2020) notes that climate researchers have focused almost exclusively on white evangelicals, ignoring evangelicals of other racial and ethnic backgrounds (EOC). Green (2014, pp. 144, 141) discovered that younger, more racially and ethnically diverse swaths of the evangelical community care more about the environment than their older white counterparts. Using data from the National Surveys on Energy and Environment, Veldman finds that EOC were consistently more likely to accept scientific consensus on climate change than their white counterparts. Latinos are the fastest-growing segment of

American evangelicalism and along with Black Evangelicals comprise a growing share of the evangelical tradition. The observed demographic change among evangelicals is an important factor. Due to ever increasing political polarization, the Trump presidency and COVID-19 pandemic, future research can investigate the change in EOC attitudes toward environmental policy. An additional independent variable measuring approval of former President Donald Trump is being considered due to his historic climate promotion of climate change skepticism and other conspiracy theories, as well as his actions during the COVID-19 pandemic. Additionally, future research should examine the influence of political ideology and anti-intellectualism on attitudes toward the COVID-19 pandemic; namely attitudes towards vaccines, masking and lockdowns. Considering the global social, economic, and cognitive impacts of the COVID-19 pandemic, this research will prove valuable across multiple areas of study encompassing the social and natural sciences.

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6.4 Limitations

I began data analysis using the preliminary release of the ANES data, and conducted a subsequent analysis using the full release which became available on July 19th 2021. Due to data restrictions, race and religion were not included in this study. The majority of variables from the ANES 2020 Survey are available for public use. However, certain variables are restricted to protect the privacy of survey participants. Restricted data include geographic details about where the respondent lives along with personal information such as birthdate, occupation and religious denomination. These data are available by following the procedures for special access. However, the application process required to access the restricted-use data proved to be too complicated and would have delayed the completion of my thesis. I decided to use cross-sectional data from the 2020 ANES Survey primarily due to the inconsistency in the way questions about the environment and climate change are worded in previous releases. The 2020 release featured new information on economic views and anti-intellectualism that were not available in previous releases.

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APPENDICES

Appendices contain material that is too large for inclusion in the text or would interrupt the flow of the presentation if it were to be cited in detail. Such texts include the minutes of a meeting, questionnaires, interview outlines and records and the like. References to material in the appendix are indicated by the word appendix and a capital letter beginning with A in the reference sequence in the text. Each appendix begins on a new sheet.

Appendix 1: Information sheet