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Hungry from Change: Framing Food Insecurity as a Climate Issue

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## ABSTRACT

In this thesis, I explore two political issues that persist in the United States: food insecurity and climate change. Critically, these issues exist in tandem, as climate change poses an undeniable threat to global food security, the effects of which are already being observed (Myers et. al 2017; Wheeler & Braun 2013). Previous efforts to appeal to the mass public about the pervasiveness of food insecurity rely on emotional narratives about individuals enduring undeserved suffering. Instead, this study emphasizes a more structural frame of food insecurity by highlighting the undeniable connection between climate and the four components of food insecurity: access, availability, utilization, and sustainability. Using a nationally representative survey experiment, I investigate how individuals respond to framing food insecurity as a direct result of climate change. The findings mainly reveal that partisanship and age consistently affect how individuals perceive the importance of food insecurity, not its connection to climate change. However, when controlling for these and other demographic factors, climate change proves an effective means of altering perceived importance of food insecurity compared to other salient concerns. These findings imply that the climate change frame does not produce a universally appealing lens through which public attention to food insecurity increases, yet it does increase the relative importance for this issue for some social groups. Therefore, political elites may want to address systemic causes of food insecurity, though they may not want to draw attention to a polarizing issue like climate change when attempting to raise awareness.

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## Chapter 1 Introduction

In May of 2020, as the Coronavirus tightened its grip on America, and lines for food banks grew longer each day, fresh food was destroyed at rates unseen since the Great Depression. Closures of schools and restaurants, along with frightening unemployment rates and low job security, left farmers without buyers, causing massive food waste at the same time as the number of Americans lacking consistent access to food, the so-called food insecure, increased (Corkery & Yaffe-Bellany 2020). In addition to exacerbating food insecurity rates, the COVID-19 pandemic blatantly exposes the pervasive food insecurity that always has afflicted Americans since the country's founding. During the Great Depression, similar economic turmoil combined with agricultural surpluses led to the creation of a preliminary food stamps system to address this fundamental crisis. Programs for nutrition assistance have endured as an attempt to mitigate the difficulties of putting food on the table in times of hardship, though they have spurred a number of political debates regarding their necessity and effectiveness.

While the intentions behind federal food subsidies have remained constant, stereotypes surrounding beneficiaries of these programs have evolved over time. Critically, during the Reagan administration, the “welfare queen” rhetoric that described beneficiaries as taking advantage of the system contributed to negative stereotypes of the poor, portraying them as “lazy”, “cheating”, or “deviant” (Baumgartner & Rose 1993; Poppendieck 1995). Media outlets have reinforced these images over time, increasing public exposure to this rhetoric (Baumgartner

& Rose 2013; Poppendieck 1995). Thus, public opinion of the poor and food insecure directly reflects these stereotypes.

Cases of well-intentioned initiatives that desire to raise awareness of food insecurity and poverty tend to promote merely episodic appeals, focusing on specific people and their personally undeserved hardship (Gross 2008). By focusing on individual deservingness of food security at the expense of the structural causes, these ads and appeals fail to elicit effective policy solutions. Nevertheless, many aid organizations present food insecurity to the public via emotional narratives of individual struggle (e.g. UNICEF commercials). Regardless of the intentions behind these efforts, food insecurity is *not* an individual-level problem that simply requires organizations to supply meals to specific people. These popular portrayals only serve to complicate food insecurity, politicizing it in a way that requires the major parties to adopt conflicting perceptions of the severity of the issue and disparate policies designed to address it (Democratic Party 2020; Fallin, Barrasso & Foxx 2016).

In this thesis, I argue that a structural frame of food insecurity may increase its perceived importance among Americans. A modest literature of food insecurity typification and response exists (Poppendieck 1995), but it ultimately fails to offer effective means of eliciting active policy responses. Outside the scope of food insecurity, climate change frames have served as successful methods of inspiring changes in opinion (Spence et. al 2014; Hart 2011; Wiest et. al 2015). However, political elites in office and the media rarely mention the explicit connection between food and climate change despite the fact that climate change will exacerbate food insecurity in all facets (Schmidhuber & Tubiello 2007; Wheeler & Braun 2013; Myers et. al 2017). However, this study seeks to fill this gap with an original survey experiment designed to



determine whether framing food insecurity as a direct result of climate change will increase its perceived importance in the mass public.

If a climate change frame functions as a universally appealing lens through which public attention to food insecurity increases, this contextualization may also apply to food security initiatives to inform future policy. In turn, this frame may present an innovative approach to addressing two persisting American problems in tandem. Politicians may also develop an incentive to incorporate this structural language into their campaign rhetoric to broaden their appeal to constituents and potential supporters from both sides of the aisle. This study is unique in that it investigates how simultaneously occurring issues function as a frame.

The findings from this study reveal that climate change does serve as an effective frame of food insecurity in certain conditions. However, partisanship and age consistently affect how individuals perceive the importance of food insecurity. First, I find that Democrats are more likely to ascribe more importance to food insecurity than Republicans. Specifically, as Democratic identity strength increases, perceived importance of food insecurity also increases. Within the treatment group, the strength of the frame in increasing perceived importance of food insecurity increases with a respondent's Democratic identity strength. As a respondent in the treatment group's Republican identity strength increases, the importance of food insecurity decreases. Also, as a person ages, they are less concerned with their candidate sharing their views on food insecurity. While party identity and age moderate opinions on food insecurity, when controlling for them and other demographic factors, climate change proves an effective means of altering perceived importance, as individuals who are exposed to this frame rank food insecurity as more important than other issues.

## Food Insecurity - An Overview

Although nutrition assistance programs have existed for almost one hundred years, 13.7 million U.S. households experienced food insecurity in 2019 (Economic Research Service 2020). Food insecurity clearly is not a new issue in the United States, nor is it globally. The Food and Agricultural Organization's goal to "eradicate hunger by 2030" is unlikely to occur, especially as the population continues to climb, the climate situation worsens, and COVID-19 surges. While food insecurity was declining globally until 2015, progress halted and reversed course from 2016 to 2018 (FAO & UNICEF 2019). Prosekov and Ivanova (2018) remark on the lack of global policy consensus for food insecurity, positing that the global food supply needs to increase significantly, and nutritional value requirements must replace caloric requirements in assistance programs if global food insecurity numbers are to fall again.

Prior to presenting my investigation into the relationship between framing and perceptions of food insecurity, an introduction of the scope and status of food insecurity in the United States is essential. In the United States, food security is defined as "access by all people at all times to enough food for an active, healthy life" (Economic Research Service 2020), and is measured on a scale at the household level. *High food security* is characterized by a lack of food access problems. *Marginal food security* is characterized by anxiety over food access, but with little change to diet or intake. *Low food security* is characterized by reduced quality, variety, desirability of the diet, but not reduced intake. *Very low food security* is characterized by major

changes to the diet and reduced intake (Economic Research Service 2020). This household level metric exists separately from hunger, which is the individual feeling that results from food insecurity.

Food insecurity has declined yearly in the United States since 2011, when the USDA claims that the Great Recession no longer contributed to food insecurity rates (Economic Research Service 2019). Still, at 10.5% (13.7 million) of the U.S. households in 2019 prior to the pandemic, food insecurity tormented the American public on a large scale (Economic Research Service 2020). Further, the COVID-19 pandemic and climate change continue to wreak havoc on all walks of life, increasing these rates each day. Thus, emphasizing a frame that incorporates the structural components of this crisis is essential to increasing its perceived importance.

## **Chapter 2 Literature Review**

### **U.S. Food Insecurity in the 20<sup>th</sup> Century**

Public attention to food insecurity fluctuates the U.S. Poppendieck (1995) notes periods of “rediscovery” for domestic hunger and food insecurity. In the 1930s, “a paradox of want amidst plenty”, or “a bread line knee deep in wheat” characterized domestic food insecurity, as farmers with gigantic surpluses went bankrupt, and citizens had no purchasing power for food. In the 1960s, extreme poverty in the Mississippi Delta revealed the overall failure of food assistance programs put in place in response to the Great Depression. The public saw food insecurity as a failure of the government, and the system was reformed as Great Society policies were put in place. In the 1980s, backlash against these programs as a waste of taxpayers’ money and a way to create dependency led to yet another shift in public opinion about domestic food

insecurity (Poppendieck 1995). The government widely cut Great Society welfare programs by millions of dollars during an ongoing recession. Food insecurity rose while funding for assistance programs decreased, leaving local and state level leaders forced to request “emergency food assistance” in the form of food pantries and soup kitchens from the federal government.

These trends occurred during three distinct time periods, yet they center around one problem. Illustrating the multitude of ways to frame food insecurity, which are often negative, the frame of food insecurity differed during each rise in public attention that Poppendieck (1995) notes, and policy response differed as well. The above evaluation of these disparate frames and respective policy responses exemplifies the effects of framing on public opinion, and further legitimizes the need for a structural frame of food insecurity, such as climate change, to gain public support for the issue.

### **Climate Change**

Similar to food insecurity, climate change is an issue that fluctuates in public attention; even further than food insecurity, climate change also fluctuates in public acceptance. Media attention to climate change escalated greatly in recent years, exemplified by TIME Magazine naming young climate activist Greta Thunberg 2019 Person of the Year for starting a global climate movement at the age of 16 (Alter, Haynes & Worland 2019). Trumbo (1996), hypothesized that climate change would increase in political salience after losing media attention, as well as that the issue would transform in the public eye from a scientific debate to a political one. His predictions were overwhelmingly correct. To borrow from Poppendieck’s terminology, this “rediscovery” of climate change in recent years has shifted the topic from an issue to be framed to a frame through which other issues can be presented (Spence, et. al 2014).

Across the geopolitical landscape of the United States, climate change plays a role in many parts of government and society, including regulations, policy, and elections.

Because the effects of climate change are so pervasive, they naturally influence levels of food insecurity. Thus, climate change presents another opportunity to re-frame, or “rediscover” food insecurity in the United States outside of Poppendieck’s (1995) examples. The two topics are not exclusive, as climate determines how, where, when, if, and which food is grown. The impact of climate change on food insecurity will likely be observed soon in all facets: availability, access, stability, and utilization (Schmidhuber & Tubiello 2007). A lack of policy response to food insecurity at the hands of climate change will exacerbate global undernutrition and malnutrition levels exponentially, as staple food prices are projected to increase 30-106% by 2050 due to climate variability and population increase (Wheeler & Braun 2013; Myers et. al 2017). The poorest regions with the highest instability will be affected the most by this climate change driven food insecurity (Prosekov & Ivanova 2018). Studies of framing, climate change and food insecurity have existed for decades, yet scholars have not isolated climate change as a frame of food insecurity explicitly and studied whether its presence will affect the perceived importance of food insecurity to the individual.

### **Framing**

The pressing need to address climate change in order to curb crucial future impacts on food insecurity motivates the question: does framing food insecurity through a climate change frame change the state of public opinion about food insecurity in the United States? This section first introduces the concept of framing to inform the theoretical explanation, then notes observations from the literature that use climate change as a frame, although not in the context of

public opinion, to note its merits as a potential frame that alters the perceived importance of food insecurity.

Framing is a powerful tool utilized by elites and the media to emphasize a particular dimension of a complex issue; small changes in how an issue is presented can lead to large scale changes in opinion about that issue. Frames in communication are what speakers emphasize as important about the issue. Frames in thought are what audience members believe to be the most salient aspect of the issue (Chong & Druckman 2007b). An effective frame is understandable, accessible, and applicable to its audience. Framing effects are moderated by individuals' values, knowledge, the credibility of sources, and availability of other information on the subject (Chong & Druckman 2007a). In Poppendieck's three examples, the frame of food insecurity changed in each period of increased public attention. Political frames often intentionally evoke particular emotions, largely for partisan purposes. For example, Ronald Reagan's "welfare queen" rhetoric directly contributed to the demonization of nutrition assistance programs and inspired the 1980s spike in public attention noted above (Poppendieck 1995). Poppendieck's (1995) examples clearly illustrate that issue framing influences public opinion.

Although political scientists recognize framing as an important factor in opinion formation, not all types of frames have the same effect or work the same way for all individuals. Different types of frames elicit different responses based on the situations in which they are employed. Episodic frames focus on one case study or example in order to shape opinions, while thematic frames focus on a broader context (Gross 2008). Episodic frames are more susceptible to moderation by respondents' values and opinions pertaining to the case used. For example, a story about a "down on her luck" mother of three kids with two jobs that cannot manage to put food enough on the table evokes powerful emotions. This is an episodic frame, and emotions

could be in reaction to the mother's situation, or the description of her (Gross 2008). A thematic frame of food insecurity would report the overall state of food insecurity in a certain town, state, region, or country. Thematic frames include facts and figures rather than narratives and anecdotes.

Emphasis frames on the same issue use separate aspects of that issue for the purposes of contextualization. One source may emphasize food insecurity as a distinctly American issue, while another could emphasize it as a widespread global issue. These are two separate emphasis frames. Equivalency frames, on the other hand, offer the same information, but in either a negative or positive light (Druckman 2011). For example, the frame of food insecurity as a distinctly American issue could be presented positively in the sense that there are policy avenues that could help those in need. Conversely, food insecurity as a distinctly American issue could be framed negatively as it reflects persistent poverty within a country of immense wealth and power. In political situations, emphasis framing is much more common (Druckman 2011) because emphasis frames often allow candidates to blame one aspect of an issue as the "cause" with an appropriate and logical policy solution for their platform.

Perceptions of frame strength vary across individuals. Individuals' opinions on the subject, their level of openness, their overall need to evaluate, and their knowledge levels shape the effectiveness of a particular frame (Nisbet et. al 2013; Druckman & Nelson 2003).

Individuals presented with a frame that is homogenous with their current views on the issue are likely to use the frame as an affirmation of those opinions. Those presented with a frame that is not homogenous with their current opinions will interpret the frame depending on their open or closed mindedness and overall need to evaluate (Nisbet et. al 2013; Druckman & Nelson 2003).

Open-minded individuals are more likely to consider frames that compete with their current

understanding of the issue than closed-minded individuals (Nisbet 2013). A respondent with a high need to evaluate uses a steady flow of information to form opinions, rather than the most recent salient information, whereas a respondent with a low need to evaluate uses the most recent information available for recall to make judgements (Druckman & Nelson 2003). More knowledgeable individuals are more likely to evaluate frames based on their strength and credibility of the information, while less knowledgeable individuals evaluate frames based on their repetition (Chong & Druckman 2007a).

These insights by previous scholars into the mechanics of framing have already been applied to climate change outside of the realm of food insecurity. Hart (2011) finds that participants exposed to a thematic frame supported policies that address climate change more than participants exposed to episodic frames. This climate change frame aims to shift the emphasis of food security from a narrative of struggle and poverty to an inescapable effect of climate change. Effective frames are understandable, accessible, and applicable to the audience (Chong & Druckman 2007a). In the context of climate change, Wiest et. al (2015) find that local frames are most understandable, accessible, and applicable, and that they increase the perceived severity of climate change and increase support for local policy action. This finding varied with partisanship, although local frames changed the behavioral intentions of Republicans and Independents.

Including partisanship, there are demographic factors that should mitigate the effects of this frame on individuals' perceived importance of food insecurity. Age, income, education, gender, and race should all play a role in shaping the effectiveness of the climate change frame.

### **Partisanship**



While the scientific consensus on the contributing source of climate change grows stronger each day, some partisans ignore this consensus as a result of preexisting political opinions (Pew Research Center 2016). According to Social Identity Theory, humans see the world in “us” vs. “them” terms based on their identification with various social groups (Tajfel & Turner 1979). This theory applies to American party identity and leads individuals to use their partisan identities as a lens through which they process incoming political information. They distinguish their partisan ingroup from their opponent, the partisan outgroup, and they compete for political power, always wanting to benefit their own copartisans at the expense of the partisan outgroup (Greene et. al 1999). This effect is larger in strong partisans compared to weak or leaning ones, and often salient political issues, such as climate change, elicit polarized responses from partisans who see the issue as either beneficial or harmful to their group goals (Greene et. al 1999).

Climate change epitomizes a clear partisan issue that will activate this identity (Wiest et. al 2015). While Congressional Republicans typically do not offer plans for environmental policy compared to Congressional Democrats, this difference in behavior has been exacerbated beyond recognition since 2008 (Dunlap et. al 2016; Benegal 2018). The 2020 Democratic Party Platform dedicates six pages to assessing and tackling the “climate crisis”, whereas the 2016 Republican Party Platform maintains that “the environment is improving” (the Republican Party did not update its platform in 2020) (Democratic Party 2020; Fallin, Barrasso & Foxx 2016). The widened partisan gap is clear: in 2016 when asked whether changes in the Earth’s temperature over the past century are due to human activities, 80% of Democratic respondents said “Yes” compared to 43% of Republican respondents. When asked whether the seriousness of global warming was exaggerated in the news, 88% of Democratic respondents said “No” compared to

40% of Republican respondents. When asked if they personally worry about global warming, 53% of Democratic respondents said “Yes” compared to 18% of Republican respondents (Dunlap et. al 2016). These differences are statistically significant and reflect large gaps between the two parties’ positions on climate change. Partisanship’s impact on opinions about climate change is pervasive.

### **Income, Education & Partisanship**

As Americans grow wealthier, access to quality education and therefore exposure to the literature of climate change increases. In general, more educated people are more likely to recognize that climate change is a human caused problem (Pearson et. al 2020). However, their perception of the risk of climate change decreases. Overall, Americans making less than \$50,000 per year are more likely to believe that climate change is a very serious problem than those making more than \$50,000 per year (Pearson et. al 2020). Partisanship can determine the directionality of climate change opinions in terms of income as well. For Republicans, increased income predicts an increased probability of diminishing the dangers of climate change when compared to Democrats and Independents. For Democrats, increased income predicts an increased probability of ranking climate change as the most important environmental problem facing the United States in comparison to Republicans and Independents (Bohr 2014). Clearly, the effects of income are important, but partisanship ultimately serves as a better predictor in this relationship.

Partisanship also plays a strong role in the relationship between education and climate change beliefs. Democrats that are highly educated are less likely to believe that the media exaggerates climate change news, whereas Republicans that are highly educated are more likely to believe that the media exaggerates climate change news (Pearson et. al 2020). While a high

level of education appears to solidify the scientific consensus that climate change is caused by humans, it does not mitigate the role that partisanship plays in opinion formation. However, partisanship and opinions about climate change are not entirely mutually exclusive.

An important note relevant to this frame is that poverty directly contributes to food insecurity. Those with low incomes are more likely to be uneducated and food insecure than those with high incomes. As Americans grow wealthier, their experience with food insecurity grows less personal. The poor are historically framed in damaging and divisive ways (Baumgartner & Rose 2013; Poppendieck 1995). Rhetoric that frames those who rely on government assistance in all forms as “lazy”, “cheaters”, or “taking advantage” of programs meant to get American families back on their feet creates tension between the “haves” and “have-nots”, creating groups with different social identities (Baumgartner & Rose 2013; Greene et. al 1999) and opinions about food insecurity.

### **Age**

In this paper, I argue that age is likely to be a strong predictor of opinions about climate change, and that its effects are separate from partisanship. Young adults agree most with scientific findings regarding climate change compared to older adults (Dunlap et. al 2016). The age group of 18-34 years old are also the most likely to report worry due to climate change, and that they understand the concept fairly well (Tiseo 2019). Younger people have come of age in a period where climate change is emphasized far more than it was previously, which informs this relationship.

Previous research indicates that age is sometimes found to predict environmental concern, and sometimes found statistically insignificant in the face of partisanship (Bohr 2014; McCright & Dunlap 2011). Even if the relationship between age and opinions about climate

change is separate from that of partisanship, it is still important to measure in terms of this frame's success. Young people are more likely to ascribe to the Democratic Party, and older people are more likely to ascribe to the Republican Party. However, a difference in opinion between members of the same party that mirrors differences in age is extremely likely given recent events such as Greta Thunberg's publicity. The state of national polls, increasing consensus in scientific literature, regularly taught climate science in academia, and global youth led green programs indicate that age is likely currently be a determinant of climate opinion that is important to measure in the context of this experiment.

### **Gender Identity**

Women are found to have a greater scientific knowledge of climate change than men (McCright 2010). Additionally, women express a slightly higher level of concern about climate change than do men (Finucane et. al 2000). These observed differences between women and men are strongest when specific to localized problems (episodic), and weakest when applied to general environmental issues (thematic) (Pearson et. al 2020; Gross 2008).

### **Race**

2008 was not just the year that climate tensions between Democrats and Republicans exacerbated; it was also the year that the first Black President of the United States was elected. Following Barack Obama's election, racial identification became increasingly correlated with concern about climate change (Benegal 2018). Non-white minorities in the United States express consistently higher levels of concern about climate change than whites do; this may be because the environmental risks of climate change are distributed more acutely in non-white communities than in white ones (Pearson et. al 2017). Since 2008, white Americans have experienced a decline in public concern about climate change at much higher rates than non-whites (Benegal

2018). Additionally, higher levels of racial resentment are strongly correlated with reduced agreement with the scientific consensus on climate change (Benegal 2018). Thus, racial identities and biases should moderate the effectiveness of a climate change frame.

## **Conclusion**

Food insecurity and the poor have been framed differently, and often negatively, throughout American history (Baumgartner & Rose 2013; Poppendieck 1995). When positive, these frames are often centered around an episodic and emotional narrative of human struggle. In contrast to the traditional strategy of framing food insecurity, the frame of climate change offers a more universal reason for concern. Climate change frames have been used effectively outside of food insecurity (Spence et. al 2014; Hart 2011; Wiest et. al 2015), and should be applied to the subject given their intimate relationship. The success of a frame that showcases the relationship between climate change and food insecurity will be mitigated by a slew of other factors. A respondent's current beliefs, partisanship, and age will likely moderate the effectiveness of the climate change frame in altering individuals' perceptions of food insecurity.

## **Chapter 3 Theory**

Because of climate change's increasing importance in the minds of the public and its natural relationship with food insecurity, I explore how framing food insecurity as a direct result of climate change can shape public opinion.

As evidenced in the previous chapter, individuals likely possess opinions about both food insecurity and climate change before exposure to a climate change frame, so these previously held opinions may contribute to the effectiveness of the climate change frame in altering the perceived importance of food insecurity. Emphasizing the natural relationship between the topics of food and climate creates a frame centered on climate change that appeals to some individuals more than others as a result of their prior beliefs and social identities. In addition to investigating the power of a climate change frame, I explain how existing differences in opinions on the issues of food insecurity and climate change may moderate this effect. Specifically, I measure the implications of differences in existing characteristics such as partisanship and age on the ability of this frame to increase perceived importance of food insecurity.

### **Framing Food Insecurity as a Result of Climate Change**

Previous studies demonstrate that climate change functions as a politically salient frame (Hart 2011; Wiest et. al 2015); however, none directly use it to contextualize food insecurity and study how it shapes opinion on this issue. Common accounts of food insecurity in the media emphasize struggle and its effects on undeserving individuals to elicit an emotional response (e.g., UNICEF commercials and canvassing initiatives); most do not emphasize the structural conditions that lead to food insecurity. However, a climate change frame highlights the natural relationship between food insecurity and climate change, compelling individuals to consider how climate change will undoubtedly exacerbate food insecurity for society as a whole. While narratives of struggle and want are often dismissed by without personal connection to the situation, there is no distance between the human condition and climate change. They are inextricably linked despite the unwillingness of some to recognize this relationship (Wiest et. al

2015). Therefore, this climate change frame broadens the scope of individuals concerned about food insecurity by appealing to those concerned about climate change and its structural implications. Evidence that issue frames can mobilize different policy responses to the problem of food insecurity (Poppendieck 1995; Baumgartner & Rose 2013) combined with the impending consequences of climate change form the basis of this theoretical explanation.

The interdependent realms of global climate and food supply overlap, yet no previous studies isolate this relationship as an issue frame that attempts to alter the perceived importance of food insecurity. Climate factors such as temperature, moisture, and wind patterns, alter how, where, when, which, and if foods are grown. Studies show that climate change will influence availability, access, stability and, utilization of food everywhere without exception (Scmidhuber & Tubiello 2007). Americans recognize climate change as a risk; forty two percent of adults in 2016 agreed that climate change would affect forests and plant life, and the number of Americans who believe that climate change is caused by human activity has risen about 10% since 2010 (Pew Research 2016). Despite this undeniable relationship, the average American voter may not consider food insecurity when they hear the phrase “climate change.” Indeed, despite increasing acceptance of this issue as a pressing concern, only a slim majority recognizes it as such (Pew Research 2016).

Climate change functions as a politically salient issue that may alter the importance of food insecurity compared to previous elite framing attempts (i.e. individual narratives that emphasize deservingness rather than structural change (Wakefield et. al 2012)). Presenting food insecurity through a climate change frame should create a difference in opinion about the perceived importance of food insecurity to individuals. Specifically, the presence of a climate

change frame should increase the overall perceived importance of food insecurity. These expectations motivate the following hypotheses:

H1A: Framing food insecurity as a direct consequence of climate change is likely to create differences in opinion about the perceived importance of food insecurity.

H1B: Specifically, exposure to a climate change frame is likely to increase perceived importance of food insecurity.

### **Partisanship**

The connection between a political party's issue agendas and the social characteristics of a party's supporters is especially strong in the United States (Petrocik 1996). This link is recursive: a group selects a political party whose platform most closely comports with their interests, while the party promotes this particular platform because it anticipates supporters from specific social groups. The Democratic and Republican Parties have sociologically distinct constituencies (Petrocik 1996) that are often at odds with each other on issue positions. These constituencies likely possess distinct opinions on both food insecurity and climate change, which should influence the effectiveness of the climate change frame on the importance they place on food insecurity.

Policies that target both food insecurity and climate change include structural changes that require a strong federal presence in economic affairs. Partisans differ in terms of how much government interference they prefer in the economy. Democrats prefer increased government involvement in the economy to assist citizens' hardships (Miller & Schofield 2008). The 2020 Democratic Party Platform explicitly states that "Democrats will increase funding for food



assistance programs, including SNAP, WIC and school meals” (Democratic Party 2020).

Conversely, Republicans prefer less government involvement in the economy. The 2016 Party Platform does not explicitly name any nutrition assistance programs or state any changes to their budget (note that the Republican Party Platform was not updated in 2020). However, in reference to social safety net programs, the Republican Party agenda is to “make welfare a benefit instead of an entitlement” and “propose [...] work requirements, where opportunity takes the place of a handout” because “poverty is winning” (Fallin, Barrasso & Fox 2016: 32). These nutrition assistance issue positions are constructed in part from the distinct opinions that groups from each constituency likely hold.

Based on Petrocik’s (1996) issue ownership framework, I expect Democrats possess generally positive perceptions of food assistance programs, while their Republican counterparts likely view food assistance programs in a negative light. Pew’s 2017 report confirms this expectation. It reveals that Republican and Republican-leaning individuals were more likely to support cuts to funding of assistance programs to the needy in America than Democrats by 31% (Gramlich 2017). Moreover, Democrats “own” social welfare programs (Petrocik 1996), which implies that specific programs like food stamps fall under their area of expertise, so I predict Democratic respondents will report a higher perceived importance of food insecurity than Republicans *regardless of frame presence*. Thus, I purport the following hypothesis:

Hypothesis 2A: Democrats will be more likely to perceive food insecurity as a more important issue than Republicans, regardless of climate change frame presence.

Partisanship is also a strong indicator of one’s position and opinions on climate change. There are stark differences in the parties’ stances on environmental policy; six pages of the

Democratic Party Platform offer proposals to combat the climate crisis, while the Republican Party Platform maintains that the environment is improving (Democratic Party 2020; Fallin, Barrasso & Foxx 2016). This divide is apparent through political action as well; the Trump Administration rolled back several landmark environmental policies from the Obama Administration that focused on ameliorating the effects of human-caused climate change (Hejny 2018). Upon entering office, President Joe Biden re-committed the United States to most of these environmental policies (NYT). In addition, Congressional Republicans consistently expressed less concern, understanding, and belief in climate change than Congressional Democrats by wide margins, despite the scientific consensus (Dunlap et. al 2016). Clearly, strong differences regarding climate change exist along party lines.

Partisanship functions as a chronically salient social identity in a political context, so it should influence how people think about food insecurity and climate change both separately and in tandem (Greene, 1999; Tajfel and Turner, 1979). Greene et. al (1999) notes that stronger partisans embrace the “us vs. them” mentality more forcefully than their peers with weaker partisan identities. When presented with an issue such as food insecurity through a climate change frame, I expect that Democrats will report a higher perceived importance than Republicans. Critically, the Democratic Party’s official stance on the issue is consistent with the climate change frame’s message (Druckman & Nelson 2003). I expect the effects of a climate change frame to be larger for strong partisans than individuals with weak partisan identities. Thus, I propose the following hypotheses regarding partisan identity strength.

Hypothesis 2B: As Democratic Party identity increases, the frame’s impact on opinions about food insecurity is more likely to increase.

Hypothesis 2C: As Republican Party identity increases, the frame's impact on opinions about food insecurity is more likely to decrease.

## Age

Decades ago, significantly less research centered on environmental issues, whereas in present day schools and institutions, more people accept the science behind climate change and often propose policies to ameliorate its effects. This increase in focus during recent years suggests division in opinions about climate change may vary by age. Indeed, the planet is far more populated, polluted, and educated than in the mid-20th century, and climate scientists devote considerable effort to document the effects of these changes. Recent developments by these scientists motivate increased discussion of climate change, the increased advertising of eco-friendly products, and increased attention to a changing climate in schools, thus exposing the nation's youth to this issue in more direct and meaningful ways than the older population. As a result of this consistent exposure, I expect younger respondents to allot more importance to the issues of climate change and food insecurity than older respondents *regardless of frame presence*.

Young adults are also the most likely to report worry due to climate change, and that they understand climate change fairly well compared to older adults (Tiseo 2019). This age gap in opinion crosses party lines, as 57% of Republican and Republican leaning millennials believe that there is solid evidence that climate change is caused by human activity compared to 43% of Congressional Republicans overall that agree (Dunlap et. al 2016). However, young people are also more likely to ascribe to the Democratic Party, and older people are more likely to ascribe to the Republican Party, so existing partisan identity is still important to this relationship. As noted

above, the two parties have different core constituencies as well as starkly different views on both climate change and food insecurity. While younger people have a higher propensity to align with the Democratic Party and have likely had consistent exposure to the threat of climate change through institutions, I still expect to observe a higher effectiveness of the frame on younger respondents compared to older ones.

Whether it be during education or while establishing themselves in the professional world, young people often experience food insecurity. Typically earning less income and faced with more instability, young people often experience some degree of food insecurity that is normalized as “the college diet” or “just starting out”. Millennials are known for working multiple gig jobs to make ends meet (Campbell & Mathias 2020), but these opportunities to supplement income all but disappeared when the March lockdown began. The events of 2020, especially the coronavirus pandemic, may have effects that increase the salience of food insecurity in its own right. Globally, Covid-19 pushed an additional 17 million individuals into extreme poverty (United Nations 2020). America witnessed food banks pushed to their limits, the loss of family members, jobs, homes, and livelihoods. This devastation is especially notable among those with unstable, low paying occupations, thus the pandemic is increasing food insecurity generally, and particularly among young people.

H3A: Younger respondents (age 18-38) will be more likely to generally regard food insecurity as more important than older respondents (age 38+).

H3B: Younger respondents (age 18-38) exposed to the climate change frame will be more likely to report a higher perceived importance of food insecurity than older respondents (age 38+).

Given the current political and public health context, people are evaluating their views on these two major issues, which offers the opportunity to investigate whether addressing them in tandem can shift the perceived importance of food insecurity. While contextualizing food insecurity in the realm of climate change likely broadens the scope of its importance, the individual factors discussed in this section likely moderate the effects of this frame's potential to alter perceived importance. Previous work notes that these variables to play a role in the effectiveness of a climate change frame outside the context of food insecurity (Hart 2011; Wiest et. al 2011; Tiseo 2019), however none apply a climate change frame to food insecurity and measure perceived importance. Despite these individual differences, I maintain that this frame should increase perceived importance. Using original survey data, I investigate the relationships outlined in this section to assess the ultimate strength of the climate change frame.

## **Chapter 4 Methods**

Using an original survey experiment, I assess how the use of a climate change frame affects the importance individuals ascribe to food insecurity. The experiment was administered using Qualtrics, an online survey software company. The survey was distributed in February 2021, to a national sample (N=288) and is representative of the population with respect to age and sex. In addition, the survey was pretested on two distinct student pools at a large public university in order to assess the strength of original survey questions designed to test my hypotheses.

In this analysis, I analyze the impact of a climate change frame on individual perceptions of food insecurity, as well as how partisanship and age shape opinions and frame effectiveness.

The key dependent variable is the importance that individuals ascribe to food insecurity. I operationalize this concept by asking respondents to assess how important it is that their candidate shares their views on food insecurity, as well as by asking respondents whether, in their view, beneficiaries of the Supplemental Nutrition Assistance Program (SNAP) are genuinely in need of help or taking advantage of the system. Additionally, I ask respondents to rank ten salient issues facing the United States today, including food insecurity, in order of importance.

Response options to the survey question regarding shared views ranged from 1-5, with 1 being “Extremely Important” and 5 being “Not at all important.” Response options for the position question are either 0 or 1, with 0 as “genuinely in need of help” and 1 as “taking advantage of the system.” Response options for the Most Important Problem questions range from 1-10, with 1 signifying most important issue facing the country, and 10 signifying least important issue facing the country. In an effort to better understand the trends within responses to the Most Important Problem ranking activity, I condense the categories and create a new variable so that a rank of food insecurity as the most important problem, 1 = “1”, a rank of high importance but not the most important, 2, 3, 4 = “2”, a rank of 5, 6, 7 = “3”, and a rank of 8, 9, 10 = “4”. The frequency table in Appendix A describes the distribution of this new variable.

I compare responses to the aforementioned questions between the treatment and control groups, and I also explore the differences between Democrats and Republicans, as well as younger and older respondents. Each of the survey questions used in this analysis is shown in Appendix B. Evaluating the degree of similarity between respondents and political candidates suggests that a potential political behavior, vote choice, results from their views on food insecurity. The question regarding SNAP requires respondents to take a stance, either in support

or opposition, on a well-known policy that directly attempts to ameliorate the effects of food insecurity (Poppendieck 1995). In addition, ranking food insecurity among other salient issues reveals the relative importance of food insecurity compared to other issues facing the nation.

### **Experimental Design**

The respondents were randomly assigned to either a treatment or control group. Each group read a short paragraph that detailed a fictional vignette about food insecurity. Respondents in the treatment group received a statement about food insecurity and its relationship to climate change. The statement shown below identifies climate change as a direct cause of food insecurity:

“A recent Associated Press article reports that food insecurity is increasing because of climate change. Studies cited in this article observe a decrease in protein and other nutrients found in grains, rice, and potatoes due to a rise in CO<sub>2</sub> levels as a result of climate change. A lack of nutritional value harms food quality, which is essential to maintain a food secure population.”

The control group read a similar statement that did not include any mention of climate change or its effects on carbon dioxide levels. Critically, this anecdote also includes a sentence regarding the broad scope of food insecurity, yet it does not provide any explanation of its causes. The control article reads as follows:

“A recent Associated Press article reports that food insecurity is increasing. Studies cited in this article observe a decrease in protein and other nutrients found in grains, rice, and potatoes. A lack of nutritional value harms food quality, which is essential to maintain a food secure population.”

To test the hypotheses related to the effects of the experimental manipulation, Hypotheses 1A and 1B, I conducted a t-test that evaluates the differences in average levels of

importance that the treatment and control groups accord to food insecurity. Results of this t-test display whether a statistically significant difference in the levels of importance exists between the treatment group who received the climate change frame and the control group who did not.

In addition to analyzing the differences between the treatment and control groups, I also assessed partisan differences in perception of the importance of food insecurity. To test Hypothesis 2A, I collapsed responses from the American National Election Survey (ANES) 7-point partisanship scale into two categories, Democrat and Republican. In this classification, I categorized respondents who identified themselves as “Independent but lean Democrat” as Democrats, and I categorized respondents who identified themselves as “Independent but lean Republican” as Republicans. I omitted respondents who identified as “Independent.” I grouped the “leaners” with the partisans because previous studies demonstrate that they behave the same as partisans on surveys, and their opinions are quite similar (Pew Research Center, 2015). I then calculated a t-test to assess whether Democrats or Republicans are more likely to perceive food insecurity as an important issue by comparing responses to the same dependent variable questions concerning shared views, opinions on SNAP, and the most important problem.

After looking at simple partisan differences in opinions about food insecurity for all respondents, I explore the relationship between partisan identity strength and perceptions of food insecurity for the respondents who received the climate change frame. To test the hypotheses regarding the influence of partisan identity strength on the frame’s effectiveness (hypotheses 2B and 2C), I used the full 7-point ANES measure. The 7-point ANES measure of partisanship allows me to measure the impact of partisan identity strength on the frame’s effectiveness as a continuum of identity rather than a dichotomous grouping. Because this variable along with the three dependent variable measures are ordinal, I am able to calculate the Pearson’s R Correlation



Test. This test indicates if a statistically significant correlation exists between party identity strength and perceptions of food insecurity among respondents who received the climate change frame. If the p-value is less than .05, I can reject the null hypothesis and evaluate the Pearson's R Correlation Coefficient, which will reveal if partisan differences exist within the treatment, suggesting that this identity affects how individuals respond to the climate change frame.

Following the analysis of partisanship, I evaluate how another crucial demographic variable, age, affects respondents' views on food insecurity. I test the hypothesis regarding the impact of age on general perceptions of food insecurity (hypothesis 3A) also using a Pearson's Correlation Test. This test indicates if a statistically significant correlation exists between age and perceptions of food insecurity. If the p-value is less than .05, I can observe the substantive strength of the relationship with the Pearson's R Correlation Coefficient. The results from this test reveal if age variation influences how people responded to the food insecurity questions.

Like partisanship, I posit hypotheses regarding the ability of age to influence how respondents react to the experimental treatment. Thus, I test the hypothesis regarding the impact of age on perceptions of food insecurity *within the treatment group* also using a Pearson's Correlation Test (hypothesis 3B). The results of this test indicate whether there is a statistically significant correlation between age and perceptions of food insecurity when I randomly expose respondents to the climate change frame.

## **Chapter 5 Results & Discussion**

The prototypical survey respondent is an employed 35-49-year-old white woman living in the suburbs that earns \$35,000-50,000 per year, is Independent, and has a high-school diploma

or equivalent. For an extensive description of the demographics of the respondents, please see the Appendix.

Table 1 below displays the effects of the frame on opinions regarding the importance of food insecurity. The results from the t-test were insignificant for all measures of the dependent variable. Based on these findings, I fail to reject the null hypothesis that no relationship exists between exposure to a climate change frame and perceived importance of food insecurity.

**Table 1 The Relationship between Experimental Conditions and Perceived Importance of Food Insecurity**

DV Measure	Group	Mean	p-value
Shared Views	Control	2.287	0.204
	Treatment	2.133	
Position Question	Control	1.226	0.291
	Treatment	1.176	
Most Important Problem	Control	2.637	0.114
	Treatment	2.796	

### The Effects of Partisanship

Table 2 displays the results from the t-test used to evaluate Hypothesis 2A. When I operationalize perceptions of food insecurity using the collapsed measure of the ranking question, I do not observe a statistically significant relationship. However, the findings reveal that a statistically significant difference in perceptions of food insecurity exists between Democrats and Republicans for both the shared views and SNAP position questions. These findings allow me to reject the null hypotheses that no relationship exists between partisanship and perceived importance of food insecurity, as Democrats are more likely to ascribe more importance to food insecurity than Republicans.

**Table 2 The Relationship between Partisanship and Perceived Importance of Food Insecurity**

DV Measure	Group	Mean	p-value
Shared Views	Republican	2.400	0.002*
	Democrat	1.943	
Position Question	Republican	1.233	0.066**
	Democrat	1.135	
Most Important Problem	Republican	2.756	0.574
	Democrat	2.688	

While general partisan differences regarding perceptions of food insecurity are observed, this study attempts to understand how those partisan differences may moderate the effects of the experimental conditions. To test hypotheses 2B and 2C, I run a series of Pearson's Correlation Tests within the treatment group to evaluate the frame's impact and how partisan identity strength directly functions as a lens through which people process the climate change frame (Tajfel & Turner 1979; Greene et. al 1999). The results of these tests, displayed in Table 3 below, report the correlation between partisan identity strength and all indicators of perceived importance of food insecurity. When I operationalize perceptions of food insecurity using the position question and collapsed measure of the ranking question, I do not observe a statistically significant relationship. However, results of the Pearson's Correlation Test show that a positive correlation exists between partisan identity strength and shared views on food insecurity. As Republican identity strength increases, respondents in the treatment group regard their candidate sharing their views on food insecurity as a less important concern. Likewise, as Democratic identity strength increases, respondents in the treatment group ascribe more importance to their candidate sharing their views on food insecurity. Overall, I can reject the null hypothesis that no

relationship exists between partisan identity strength and perceptions of food insecurity within the treatment group.

**Table 3 The Relationship between Partisan Identity Strength and Perceived Importance of Food Insecurity within the Experimental Treatment Group**

DV Measure	Pearson's Correlation Coefficient	p-value
Shared Views	-0.206	0.0001*
Position Question	-0.055	0.5154
Most Important Problem	-0.018	0.833

To understand whether this partisan trend is a product of the treatment or observable within the control group as well, I ran a series of Pearson's Correlation Tests within the control group to evaluate how partisan identity moderates how these respondents process increasing food insecurity rates. The results of these tests, displayed in Table 4 below, report the correlation between partisan identity strength and all indicators of perceived importance of food insecurity for the control group.

When I operationalize perceived importance of food insecurity using the MIP ranking question, I do not observe a statistically significant relationship. However, for the shared views and SNAP position questions, results of the Pearson's Correlation Test reveal that a negative correlation exists between partisan identity strength and shared views on food insecurity, as well as between partisan identity strength and opinions about SNAP. As Republican identity strength increases, respondents in the control group view candidate sharing their views about food insecurity as a less critical matter. Likewise, as Democratic identity strength increases, respondents in the control group ascribe more importance to their candidate sharing their views

about food insecurity. Additionally, as Republican identity strength increases, respondents in the control group are more likely to report that beneficiaries of SNAP are taking advantage of the system. Likewise, as Democratic identity strength increases, respondents in the control group are more likely to report that beneficiaries of SNAP are genuinely in need of help. After running these analyses, I am able to reject the null hypothesis that no relationship exists between partisan identity strength and frame effectiveness within the control group.

**Table 4: The Relationship between Partisan Identity Strength and Perceived Importance of Food Insecurity within the Experimental Control Group**

DV Measure	Pearson's Correlation Coefficient	p-value
Shared Views	-0.237	0.004*
Position Question	-0.167	0.044*
Most Important Problem	-0.070	0.401

### Age

Table 5 displays the results of the Pearson's Correlation Test between age and the importance ascribed to food insecurity generally. Neither the SNAP position question nor the Most Important Problem question yields a significant correlation. However, there exists a positive correlation between age and shared views on food insecurity. As a person ages, the importance of their candidate sharing their views regarding food insecurity decreases. Overall, I can reject the null hypothesis that no relationship exists between age and perceived importance of food insecurity.

**Table 5 The Relationship between Age and Perceived Importance of Food Insecurity**

DV Measure	Pearson's Correlation Coefficient	p-value
Shared Views	0.143	0.015*
Position Question	0.006	0.912
Most Important Problem	0.011	0.852

The aforementioned findings clarify how Americans of different ages view food insecurity. However, this study seeks to explore whether these observed trends persist in the face of the experimental conditions. To test hypothesis 3B, I ran an additional Pearson's Correlation Test within the treatment group to evaluate the impact that age has on the effectiveness of the climate change frame. The results of these tests are shown in Table 6 below. I do not observe a statistically significant correlation using the position and most important problem measures of the dependent variable within the treatment group. However, there is a positive correlation between age and the importance that their candidate shares the respondent's view on food insecurity within the experimental treatment. As a person ages, they ascribe less importance to their candidate sharing their views on food insecurity when exposed to a climate change frame. Likewise, younger people exposed to a climate change frame ascribe more importance to their candidate sharing their views on food insecurity. Based on these findings, I can reject the null hypothesis that no relationship exists between age and opinions on food insecurity within the treatment group.

**Table 6: The Relationship between Age and Perceived Importance of Food Insecurity within the Experimental Treatment Group**

DV Measure	Pearson's Correlation Coefficient	p-value
Shared Views	0.176	0.036*
Position Question	-0.011	0.898
Most Important Problem	-0.006	0.945

To better understand the relationship between the experimental conditions, age, and perceived importance of food insecurity, I ran a series of Pearson's Correlation Tests within the control group. Results of these tests, shown in Table 7 below, reveal that no significant correlations exist between age and perceived importance of food insecurity for any operationalization for respondents who received the control version of this survey. Based on these findings, I fail to reject the null hypothesis that no relationship exists between age and opinions about food insecurity within the control group.

**Table 7: The Relationship between Age and Perceived Importance of Food Insecurity within the Experimental Control Group**

DV Measure	Pearson's Correlation Coefficient	p-value
Shared Views	0.126	0.129
Position Question	0.006	0.939
Most Important Problem	0.014	0.870

## Multivariate Models

### *OLS Using Shared Views Dependent Variable Measure*

I used OLS regression analysis to understand how the key independent variables (age, partisan identity strength, and exposure to the treatment) collectively shape perceived importance of food insecurity while controlling for sex, income, education, and race. Previous studies found that women express slightly higher concern about climate change than do men (Finucane et. al 2000), that non-white minorities express higher concern than whites do (Pearson et. al 2020), and that the effects of income and education on opinions about climate change and food insecurity differ depending on an individual's partisanship (Pearson et. al 2020; Bohr 2014). The results of this OLS regression are displayed in Table 8 below. Both age and partisanship are significant predictors of perceived importance of food insecurity in this model. A statistically significant positive relationship exists between age and perceived importance of food insecurity; as a respondent's age increases, the importance of their candidate sharing their views on food insecurity decreases (this variable is coded 1-5 with 5 being the least important). A statistically significant negative relationship between partisanship and perceived importance of food insecurity exists. As respondents identify as more Democratic, the importance of a candidate sharing their views on food insecurity increases. The coefficients from all other variables are insignificant in this model. These findings allow me to reject the null hypotheses 2A and 3A, that there is no relationship between partisanship or age, respectively, and perceived importance of food insecurity.

### *OLS Using MIP Dependent Variable Measure*

To better understand the trends related to how respondents compare food insecurity to other issues in terms of importance. I employed OLS regression analysis to construct a model



using this question as the dependent variable. The results of this OLS regression are shown in Table 8 below. I assess how the key independent variables affect the ranking of food insecurity's importance, while controlling for income, education, race, and sex. In this model, the treatment is the only significant predictor of perceived importance of food insecurity and it is significant at the 0.05 level. The relationship between the treatment and perceived importance of food insecurity is positive, illustrating that respondents who receive the treatment rank food insecurity as a more important issue than respondents in the control group. These findings allow me to reject the null hypothesis 1A that no relationship exists between exposure to a climate change frame and perceived importance of food insecurity under these conditions. This model differs from the simple t-test in that it shows significant difference between the treatment and control group, but importantly only when controlling for these other factors.

**Table 8: Multivariate Models' Coefficient Estimates and Standard Errors**

Results of OLS Regression					
Model 1 <sup>^</sup>			Model 2 <sup>^</sup>		
Variable	Coefficient Estimates	Standard Error	Variable	Coefficient Estimates	Standard Error
Age*	0.091	0.037	Age	0.006	0.032
Partisanship*	-0.106	0.027	Partisanship	-0.015	0.023
Income	-0.025	0.038	Income	-0.003	0.033
Education	0.021	0.071	Education	-0.038	0.061
Race	0.053	0.038	Race	0.043	0.032
Sex	0.171	0.121	Sex	-0.155	0.104
Treatment	-0.131	0.119	Treatment*	0.217	0.102

<sup>^</sup>Model 1 refers to the OLS regression run with the Shared Views dependent variable measure.

<sup>^</sup>Model 2 refers to the OLS regression run with the Most Important Problem dependent variable measure.

## Evaluating Research Design

While this survey experiment has many inherent strengths, it also possesses important weaknesses. The experimental design is high in internal validity, which allows me to compare groups of respondents based on the experimental conditions to which they were exposed. Because the treatment and control groups were randomly assigned and the treatment was the sole experimental manipulation, I can establish a causal relationship between exposure to the climate change frame and respondents' perceived importance of food insecurity. However, this research design is low in external validity. Because the treatment and control groups were given fictional vignettes of factual trends between climate change and food insecurity, I cannot guarantee that the significant results exist outside of the online survey platform. In a real-world scenario, individuals who received this information could deliberate with peers prior to arriving at opinions regarding food insecurity and its relationship to climate change.

The results of this analysis also show that while climate change is a broad, well-known issue that enjoys strong scientific consensus, it is not a neutral topic. This experiment was conducted amidst periods of increased media attention to the Green New Deal and other climate action under the Biden Administration, which likely influenced how respondents, especially strong partisans, reacted to the frame (Milman 2021). As polarization persists in American politics, partisan identity remains chronically salient, so the political nature of this survey likely primed respondents to process this frame through a partisan lens, despite no explicit mention of partisanship within the fictional vignette (Tajfel & Turner 1979).

More specific to the survey design itself, there is an error within the Shared Views dependent variable measure. The survey question, found in Appendix B, asks respondents how important it is that *their* candidate shares their views on food insecurity. A more general question

asking respondents how important it is that *a* candidate shares their views on food insecurity may be more appropriate in this experiment. However, this measure of the dependent variable was consistently significant throughout the analysis, suggesting that the wording personalizes the question, and captures the implications of a specific political behavior in a way that the other two dependent variable measures could not. The phrasing of this question is general enough to allow respondents to fill in the blank mentally with whichever office is most accessible to them. This measure is hypothetical and does not reflect that voters develop attachments to candidates because of their stances on many issues, including some that are not explicitly policy-related such as attractiveness and group identity.

In addition to these concerns, characteristics of the sample may prevent future ability to observe these results outside of the online survey platform. All models report that race is an insignificant factor in predicting respondents' perceived importance of food insecurity. Because of a lack of representation in each category of race that is nonwhite in this sample, I created a dichotomous variable for race that was "white" and "nonwhite" and ran the models with this new variable. The finding that race is an insignificant predictor for perceived importance of food insecurity endured even after creating the dummy variable. Upon further investigation, however, this sample is unbalanced in terms of race. 206 respondents are white, and only 82 are nonwhite. Due to the sample's lack of racial variation, I was not able to observe how race may affect perceptions of food insecurity and its relationship to climate change. However, as Benegal (2018) and Pearson et. al (2020) assert in their respective investigations into race and perceptions of climate change, racial identification has become increasingly correlated with concern about climate change, and non-white minorities in the U.S. consistently express higher levels of concern than their white counterparts. Outside of this sample, there may be significant

differences between racial groups when reacting to a frame that connects this issue to food insecurity.

## **Discussion**

My assumption for this experiment was that the scope of climate change was so great that all political elites benefit from addressing it swiftly. This assumption views climate change as a valence issue, one for which partisans agree on the end goal, but disagree on the means of achieving it (Stokes 1963). However, this analysis reveals that despite the broad scope of climate change, it does not always function as a valence issue. Rather, this issue is too polarizing for elites to use to increase public concern for food insecurity.

Overall, this analysis reveals that climate change is a position issue, individual differences more consistently influenced perceptions of food insecurity than the climate change frame. Only in the regression model using the ranking question did the frame produce a significant difference in perceived importance between the treatment and control groups. Otherwise, partisan and age differences were responsible for variation in perceptions of food insecurity.

I conducted supplemental analyses to assess how respondents perceived climate change itself apart from its connection to food insecurity. The results from additional t-tests comparing the treatment and control groups in terms of their position on climate change, displayed in Appendix A, reveal that respondents who received the treatment were more likely to believe that climate change is a human-caused process than the control group.

Additionally, these tests points to the power of partisanship in shaping opinions in the current polarized environment. A significant relationship exists between partisan identity and views on climate change. A t-test reveals that Republican respondents are more likely to believe

that climate change is a natural process completely separate from human behavior than Democrats. The results of additional t-tests report that Republican respondents are likely to ascribe less importance to their candidate sharing their views on climate change. T-tests reveal that Republican respondents consistently ranked climate change as less important than Democrat respondents, both for the original coding of the data, and the recoded groupings (as described in Appendix A).

Partisan identity strength also affects opinions on climate change, suggesting that this issue does not enjoy broad consensus from the American public. Results of a Pearson's Correlation Test, displayed in Appendix A, shows that as Republican identity strength increases, so does the belief that climate change is completely separate from human behavior. A Pearson's Correlation Test shows that as a respondent's Republican identity strength increases, the importance of their candidate sharing their views on climate change decreases. The power of this partisan response to climate change is illustrated in the ranking of climate change for the Most Important Problem ranking activity. Again, Pearson's Correlation Tests for both codings of the MIP climate change rankings reveal that as Republican identity strength increases, the perceived importance of climate change decreases.

These findings exist within the general sample, so further Pearson's Correlation Tests are needed within the experimental manipulation groups to assess whether these findings may be a product of the climate change frame. I run a series of additional Pearson's Correlation Tests within the treatment group and the control group separately. The findings shown in Appendix A reveal that this strong partisan response to climate change persists in the treatment and control groups, as well as the general sample. Thus, strong partisans respond to this issue differently,

which suggests strong partisans conceive of climate change based on their party's stance of this topic rather than its broad scope.

Age also influences respondents' opinions on climate change. Pearson's Correlation Tests, shown in Appendix A, reveal that as a respondents' age increases, they are less likely to regard their candidate sharing their views on climate change as an important concern. Additionally, as a respondents' age increases, they are more likely to believe that climate change is completely separate from human behavior.

These findings exist within the general sample, so I ran an additional series of Pearson's Correlation Tests within the treatment and control groups separately to determine whether the climate change frame influences the relationship between age and perceived importance of climate change. Results from these Pearson's Correlation Tests, shown in Appendix A, reveal that no significant correlation exists between age and perceived importance of climate change within the treatment group. Within the control group, however, analysis reveals that as a respondents' age increases, they are more likely to believe that climate change is completely separate from human behavior. Likewise, as a respondents' age decreases, they are more likely to believe that climate change is a human caused process. These results reveal that in the absence of a climate change frame, older individuals conceive of climate change differently than their younger counterparts. Critically, these age differences disappear in the presence of a climate change frame, which indicates that regardless of the frame's effects of perceptions of food insecurity, it primes the issue in the minds of respondents, removing age as a possible lens through which they perceive climate change and its causes.

The above analyses indicate that climate change is not a universal frame through which political elites can increase the salience of food insecurity in the minds of the American public.

Although the existence of climate change and its future severity enjoys broad scientific consensus, it also functions as a clear partisan issue that has produced stark divides in the mass public. However, partisanship alone does not explain variation in opinions on this issue or perceptions of food insecurity, as younger respondents acknowledge the scope and severity of both issues to a higher degree than their older counterparts. Thus, age serves as an additional factor responsible for the variation in frame effectiveness.

Future studies could investigate the merits of an economic frame of food insecurity that may be appealing to Republican respondents and older respondents who tend to earn higher salaries than their younger counterparts. While partisans differ on how best to alleviate economic insecurity, they both do care to maintain a functioning economy. Thus, contextualizing food insecurity alongside this issue may be more successful in drawing attention.

## **Chapter 6 Conclusion**

In light of the catastrophic events of 2020, namely the Coronavirus pandemic, ensuring that Americans are aware of the pervasiveness of food insecurity in their nation is as important as ever. Rather than relying on past emotional appeals that center on individual experiences with food insecurity, this study seeks to broaden the scope of individuals concerned about food insecurity by drawing attention to the relationship between food insecurity and climate change. This thesis presents a unique contribution to the study of framing, as these two issues persist and require attention from political elites simultaneously. However, findings reveal that this systemic frame increases the importance of food insecurity in some, not all, members of the mass public,

which suggests that another simultaneous issue frame may be more successful in raising awareness.

Ultimately, the climate change frame does not highlight the structural causes of food insecurity in a manner that appeals to all individuals in the mass public. Findings from this representative survey experiment reveal that partisanship and age consistently affect how individuals perceive the importance of food insecurity, not climate change. I find that, in general, Democrats are likely to ascribe more importance to food insecurity than Republicans. When exposed to the climate change frame, Democratic individuals are more likely than Republicans to report a higher perceived importance of food insecurity. Likewise, when exposed to the climate change frame, Republican individuals are more likely to report a lower perceived importance of food insecurity than Democrats. Evaluating individuals exposed to the experimental treatment reveals that partisan identity strength serves as a powerful predictor of opinions on food insecurity. As Republican identity strength increases, individuals in the treatment group ascribe less importance to food insecurity. Likewise, as Democratic identity strength increases, individuals exposed to the treatment conceive of food insecurity as an important issue more than Republicans.

In addition, age serves as an important variable that moderates individuals' responses to the climate change frame. Specifically, as a person ages, they are less concerned with their candidate sharing their views on food insecurity. Older individuals exposed to the climate change frame report a lower perceived importance of food insecurity, and younger individuals exposed to the climate change frame report a higher perceived importance.

However, the results did reveal the conditional appeal of the climate change frame, which indicates that it is effective, albeit not universally appealing. When controlling for partisanship,



age, and other demographic factors, climate change proves an effective means of altering perceived importance of food insecurity. Multivariate regression analysis shows that individuals who are exposed to this frame rank food insecurity as more important than other issues.

My analysis shows that while climate change enjoys a strong scientific consensus, it is not a neutral lens through which political elites can increase the perceived importance of food insecurity in the mass public. A supplemental analysis of how respondents perceive climate change apart from its connection to food insecurity reveals that polarization within American politics prevents climate change from being a valence issue, and instead solidifies it as a position issue (Stokes 1963). Current discussions of policies such as the Green New Deal, as well as past rhetoric about increasing government relations to mitigate the effects of climate change, likely shape how partisans react to the frame (Milman 2021). However, partisanship does not singularly explain variation in opinions on climate change. Younger respondents acknowledge the scope and severity of both issues to a higher degree than their older counterparts regardless of their partisanship and their exposure to the experimental treatment. However, the treatment did prime climate change, removing the age variation, so only partisanship moderated how individuals perceive climate change.

Future studies which aim to broaden the scope of individual concern about food insecurity may want to investigate the effectiveness of an economic frame of food insecurity, which could appeal to Republicans as well as older respondents, who typically are wealthier than younger individuals (Campbell & Mathias 2020). Economic insecurity, unlike climate change, is a valence issue (Stokes 1963). The parties agree that maintaining a functioning economy is imperative but disagree on methods as to how to achieve this goal. Thus, a frame that emphasizes the economic consequences of a food insecure population may be far less polarizing and far

more effective in increasing the perceived importance of food insecurity to the mass public than the climate change frame employed in this study. In order to promote policies that improve food security in the United States, political elites should emphasize its relationship with issues that both Democrats and Republicans consider worthy of a spot on the political agenda.

## Appendix A Sample Characteristics

The table below lists the mean, standard deviation, and range, respectively, for the responses to each ordinal demographic question in the survey. These findings allow me to build a prototypical respondent profile.

**Table 9: Ordinal Sample Characteristics**

Sample Characteristics - Ordinal Variables (n=288)	
Characteristic	Descriptive Statistics
Age	4.59 (35-49 years old) 1.63 2-8 (18-75 years or older)
Income	3.33 (\$35,001-50,000) 2.10 1-9 (Less than \$20,000- More than \$200,000)
Income Change	1.96 (no changes) 1.04 1-4 (no changes – severe changes)
Education	2.72 (High school diploma or equivalent) 1.01 1-6 (Less than high school diploma – doctoral degree)
Household Size	2.64 (2 persons) 1.40 1-8 (1 person – 8 or more persons)
Partisanship	4.49 (Independent) 2.22 1-7 (Strong Republican – Strong Democrat)

The table below lists the modal categories for each nominal demographic question in the survey. Along with the findings displayed in the previous table, these descriptive statistics allow me to understand the demographic qualities of the prototypical survey respondent.

**Table 10 Nominal Sample Characteristics**

Sample Characteristics – Nominal Variables (n=288)	
Characteristic	Modal Category
Race	“1” = White
Sex	“2” = Women
Rural/Urban	“2” = Suburban
Employment	“1” = Working now
Religion	“9” = Christian
Food Security Status	“1” = “High Food Security”

*Frequency Tables for Dependent Variable Measures*

The following frequency tables describe the responses for the three survey questions that measure the dependent variable, perceived importance of food insecurity. These are the “Shared Views” question, the “SNAP Position” question, and the “Most Important Problem” ranking question.

**Table 11: Frequency Table of Responses to Shared Views Question**

Frequency Table of Responses to Shared Views Question (n=288)		
(Mean: 2.21, Standard Deviation: 1.03)		
Selection	Frequency	Percent (%)
1: Extremely important	82	28.5
2: Very important	100	34.7
3: Moderately important	78	27.1
4: Slightly important	19	6.6
5: Not at all important	9	3.1

**Table 12: Frequency Table of Responses to SNAP Position Question**

Frequency Table of Responses to SNAP Position Question (n=288)		
(Mean: 1.20, Standard Deviation: 0.40)		
Selection	Frequency	Percent (%)
1: Genuinely in need of help	230	79.9
2: Taking advantage of the system	58	20.1

**Table 13 Frequency Table of Ranking Food Insecurity**

Frequency Table of Ranking of Food Insecurity (n=288)		
(Mean: 5.20, Standard Deviation: 2.43)		
Ranking	Frequency	Percent (%)
1	22	7.64
2	27	9.38
3	35	12.2
4	29	10.1
5	31	10.8
6	49	17.0
7	42	14.6
8	25	8.68
9	22	7.64
10	6	2.08

**Table 14 Frequency Table of Re-coded Ranking of Food Insecurity**

Frequency Table of Re-coded Ranking of Food Insecurity (n=288) (Mean: 2.72, Standard Deviation: 0.85)		
Ranking	Frequency	Percent (%)
1	22	7.64
2	91	31.6
3	122	42.4
4	53	18.4

*Climate Change Statistical Analyses***Table 15: The Relationship between Experimental Conditions and Position on Climate Change**

CC DV Measure	Group	Mean	p-value
CC Shared Views	Control	2.39	0.199
	Treatment	2.22	
CC Position Question	Control	1.34	0.096*
	Treatment	1.25	

**Table 16: The Relationship between Partisanship and Perceived Importance of Climate Change**

CC DV Measure	Group	Mean	p-value
CC Shared Views	Republican	2.567	0.0006*
	Democrat	1.993	
CC Position Question	Republican	1.400	0.0002*
	Democrat	1.170	
CC Most Important Problem (Original Coding)	Republican	8.522	<0.0001*
	Democrat	6.177	
CC Most Important Problem (Recoding)	Republican	3.655	<0.0001*
	Democrat	2.943	

**Table 17: The Relationship between Partisan Identity Strength and Perceived Importance of Climate Change**

CC DV Measure	Pearson's Correlation Coefficient	p-value
CC Shared Views	-0.253	<0.0001*
CC Position Question	-0.228	<0.0001*
CC Most Important Problem (Original Coding)	-0.303	<0.0001*
CC Most Important Problem (Recoding)	-0.291	<0.0001*

**Table 18: The Relationship between Partisan Identity Strength and Perceived Importance of Climate Change within the Experimental Treatment Group**

CC DV Measure	Pearson's Correlation Coefficient	p-value
CC Shared Views	-0.223	0.008*
CC Position Question	-0.261	0.002*
CC Most Important Problem (Original Coding)	-0.258	0.002*
CC Most Important Problem (Re-coding)	-0.262	0.002*

**Table 19: The Relationship between Partisan Identity Strength and Perceived Importance of Climate Change within the Experimental Control Group**

CC DV Measure	Pearson's Correlation Coefficient	p-value
CC Shared Views	-0.272	0.0009*
CC Position Question	-0.188	0.0229*
CC Most Important Problem (Original Coding)	-0.345	<0.0001*
CC Most Important Problem (Re-coding)	-0.315	0.0001*

**Table 20: The Relationship between Age and Perceived Importance of Climate Change**

CC DV Measure	Pearson's Correlation Coefficient	p-value
CC Shared Views	0.119	0.045*
CC Position Question	0.147	0.012*

**Table 21: The Relationship between Age and Perceived Importance of Climate Change within the Experimental Treatment Group**

CC DV Measure	Pearson's Correlation Coefficient	p-value
CC Shared Views	0.119	0.159
CC Position Question	-0.021	0.801
CC Most Important Problem (Original Coding)	-0.132	0.117
CC Most Important Problem (Re-coding)	-0.110	0.193



**Table 22: The Relationship between Age and Perceived Importance of Climate Change within the Experimental Control Group**

CC DV Measure	Pearson's Correlation Coefficient	p-value
CC Shared Views	0.131	0.115
CC Position Question	0.316	0.0001*
CC Most Important Problem (Original Coding)	0.046	0.581
CC Most Important Problem (Re-coding)	0.015	0.858

### Appendix B Survey Questions

(Age) What is your age?

- 18 - 24 (2)
- 25 - 34 (3)
- 35 - 44 (4)
- 45 - 54 (5)
- 55 - 64 (6)
- 65 - 74 (7)
- 75 years or older (8)

(Sex) Which term best describes your sex?

- Male (1)
- Female (2)
- Intersex (3)
- Other (4) \_\_\_\_\_
- Prefer not to answer (5)

(Urban/Rural) What word best describes your hometown?

- Urban (1)
- Suburban (2)
- Rural (3)

(Education) What is the highest level of education that you have completed?

- Less than high school diploma (1)
- High school diploma or equivalent (2)
- Bachelor's Degree (3)
- Master's Degree (4)
- Professional Degree (5)
- Doctoral Degree (6)

(Treatment) A recent Associated Press article reports that food insecurity is increasing because of climate change. Studies cited in this article observe a decrease in protein and other nutrients found in grains, rice, and potatoes due to a rise in CO2 levels as a result of climate change. A lack of nutritional value harms food quality, which is essential to maintain a food secure population.

(Control) A recent Associated Press article reports that food insecurity is increasing. Studies cited in this article observe a decrease in protein and other nutrients found in grains, rice, and potatoes. A lack of nutritional value harms food quality, which is essential to maintain a food secure population.

(MIP) Please place the following problems facing the country in order of their importance to you. (1=

Most Important, 10= Least Important)

- \_\_\_\_\_ Crime/Violence (1)
- \_\_\_\_\_ Healthcare (2)
- \_\_\_\_\_ Unifying the country (3)
- \_\_\_\_\_ Gun laws (4)
- \_\_\_\_\_ Immigration (5)
- \_\_\_\_\_ Food insecurity (6)
- \_\_\_\_\_ Unemployment (7)
- \_\_\_\_\_ Federal budget deficit (8)
- \_\_\_\_\_ Abortion (9)
- \_\_\_\_\_ Climate change (10)

(SharedViewsFI) How important is it to you that your candidate shares your views on food insecurity?

- Extremely important (1)
- Very important (2)
- Moderately important (3)
- Slightly important (4)
- Not at all important (5)

(PQ1FI) In your view, are most people who receive aid from the Supplemental Nutrition Assistance Program (SNAP) genuinely in need of help or are they taking advantage of the system?

- Genuinely in need of help (1)
- Taking advantage of the system (2)

(Income) Thinking back over the last year, what was your family's annual income?

- Less than \$20,000 (1)
- \$20,001 to \$35,000 (2)
- \$35,001 to \$50,000 (3)
- \$50,001 to \$70,000 (4)
- \$70,001 to \$100,000 (5)
- \$100,001 to \$150,000 (6)
- \$150,001 to \$200,000 (7)
- More than \$200,000 (8)
- Unsure or Prefer not to answer (9)

(IncomeChange) How has your household income changed since March 1, 2020?

- There have been no changes to my household income. (1)
- There have been small changes. (2)
- There have been moderate changes. (3)
- There have been severe changes. (4)
- I am not sure. (5)

(Household) Select the total number of persons in your household. (Select One)

- 1 person (1)
- 2 persons (2)
- 3 persons (3)
- 4 persons (4)
- 5 persons (5)
- 6 persons (6)
- 7 persons (7)
- 8 or more persons (8)

(EmploymentStatus) Which of the following describes your current employment status?

- Working now (1)
- Temporarily laid off (2)
- Unemployed (3)
- Retired (4)
- Permanently disabled (5)
- Homemaker (6)
- Student (7)
- Other (8) \_\_\_\_\_

(Religion) How would you describe your religious affiliation?

- Asian Folk Religion (1)
- Hindu (2)
- Jewish (3)
- Muslim (4)
- Catholic (5)
- Atheist (6)
- Agnostic (7)
- Spiritual (8)
- Christian (9)
- Other (10) \_\_\_\_\_
- Prefer not to answer (11)

(SharedViewsCC) How important to you is it that your candidate shares your views on climate change?

- Extremely important (1)
- Very important (2)
- Moderately important (3)
- Slightly important (4)
- Not at all important (5)

(CCPositionQ) In your view, is climate change caused by human activity, or is it a natural process that is completely separate from human behavior?

- Climate change is caused by humans. (1)
- Climate change is a natural process completely separate from human behavior. (2)

(Ideology) How would you describe your political ideology?

- Very liberal (1)
- Liberal (2)
- Slightly liberal (3)
- Moderate (4)
- Slightly conservative (5)
- Conservative (6)
- Very conservative (7)

(Partisanship) Which term best describes your political party affiliation?

- Strong Republican (1)
- Weak Republican (2)
- Independent but lean Republican (3)
- Independent (4)
- Independent but lean Democrat (5)
- Weak Democrat (6)
- Strong Democrat (7)

(Race) Which term best describes your race/ethnicity?

- White (1)
- Black or African American (2)
- American Indian or Alaska Native (3)
- Asian (4)
- Native Hawaiian or Pacific Islander (5)
- Hispanic / Latinx (6)
- Two or more of these (7)
- Other (8) \_\_\_\_\_
- Prefer not to answer (9)



**BIBLIOGRAPHY**

- Benegal, S. D. (2018). The spillover of race and racial attitudes into public opinion about climate change. *Environmental Politics*, 27(4), 733-756.
- Bohr, J. (2014). Public views on the dangers and importance of climate change: Predicting climate change beliefs in the United States through income moderated by party identification. *Climatic Change*, 126(1-2), 217-227.
- Corkery, M. & Yaffe-Bellany, D. (2020). *'We had to do something': Trying to prevent massive food waste*. <https://www.nytimes.com/2020/05/02/business/coronavirus-food-waste-destroyed.html?searchResultPosition=4>
- Campbell, A. & Mathias, A. (Directors). (2020). *Death to 2020* [Film]. Netflix.
- Cohen, S. (2019). The age gap in environmental politics. Retrieved from <https://blogs.ei.columbia.edu/2019/02/04/age-gap-environmental-politics/>
- Chong, D., & Druckman, J. N. (2007a). Framing theory. *Annu. Rev. Polit. Sci.*, 10, 103-126.
- Chong, D., & Druckman, J. N. (2007b). A theory of framing and opinion formation in competitive elite environments. *Journal of communication*, 57(1), 99-118.
- Druckman, J. N. (2011). What's it all about? Framing in political science. *Perspectives on framing*, 279.
- Druckman, J. N., & Nelson, K. R. (2003). Framing and deliberation: How citizens' conversations limit elite influence. *American Journal of Political Science*, 47(4), 729-745.
- Dunlap, R. E., McCright, A. M., & Yarosh, J. H. (2016). The political divide on climate change: Partisan polarization widens in the US. *Environment: Science and Policy for Sustainable*

Development, 58(5), 4-23.

Economic Research Service. (2020). *Food security in the U.S.*

<https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/>

FAO, I., & UNICEF. (2018). WFP and WHO: The State of Food Security and Nutrition in the World 2018. *Building climate resilience for food security and nutrition, 200.*

Gramlich, J. (2017). Few Americans support cuts to federal programs. Retrieved from

<https://www.pewresearch.org/fact-tank/2017/05/26/few-americans-support-cuts-to-most-government-programs-including-medicaid/>

Greene, Steven. 1999. "Understanding Party Identification: A Social Identity Approach."

*Political Psychology*, 20(2): 1999.

Gross, K. (2008). Framing persuasive appeals: Episodic and thematic framing, emotional response, and policy opinion. *Political Psychology*, 29(2), 169-192.

Hart, P. S. (2011). One or many? The influence of episodic and thematic climate change frames on policy preferences and individual behavior change. *Science Communication*, 33(1), 28-51.

Hejny, J. (2018). The Trump Administration and environmental policy: Reagan redux?. *Journal of Environmental Studies and Sciences*, 8(2), 197-211.

Kam, Cindy D. 2005. "Who Toes the Party Line? Cues, Values, and Individual Differences."

*Political Behavior*, 57(2): 163-182.

Milman, Oliver. 2021. Joe Biden's plans to combat climate crisis have – predictably – provoked GOP backlash. Retrieved from: <https://www.theguardian.com/us-news/2021/feb/04/joe->

biden-climate-crisis-republican-backlash

- Myers, S. S., Smith, M. R., Guth, S., Golden, C. D., Vaitla, B., Mueller, N. D., ... & Huybers, P. (2017). Climate change and global food systems: potential impacts on food security and undernutrition. *Annual review of public health*, 38, 259-277.
- Miller, G., & Schofield, N. (2008). The transformation of the republican and democratic party coalitions in the US. *Perspectives on Politics*, 433-450.
- Nisbet, E. C., Hart, P. S., Myers, T., & Ellithorpe, M. (2013). Attitude change in competitive framing environments? Open-/closed-mindedness, framing effects, and climate change. *Journal of Communication*, 63(4), 766-785.
- Pearson, A. R., Ballew, M. T., Naiman, S., & Schuldt, J. P. (2017). Race, class, gender and climate change communication. In *Oxford research encyclopedia of climate science*.
- Pew Research Center. (2016). The politics of climate. Retrieved from <https://www.pewresearch.org/science/2016/10/04/public-views-on-climate-change-and-climate-scientists/>
- Poppendieck, J. (1995). Hunger in America: Typification and response. *Eating agendas: Food and nutrition as social problems*, 11-34.
- Prosekov, A. Y., & Ivanova, S. A. (2018). Food security: The challenge of the present. *Geoforum*, 91, 73-77.
- Schmidhuber, J., & Tubiello, F. N. (2007). Global food security under climate change. *Proceedings of the National Academy of Sciences*, 104(50), 19703-19708.
- Spence, A., Leygue, C., Bedwell, B., & O'Malley, C. (2014). Engaging with energy reduction: Does a climate change frame have the potential for achieving broader sustainable

- behaviour?. *Journal of Environmental Psychology*, 38, 17-28.
- Stokes, D. E. (1963). Spatial Models of Party Competition. *American Political Science Review*, 57(2), 368–377. Cambridge University Press.
- Tiseo, I. (2019). U.S. concerns about climate change by age group 2015-2018. Retrieved from <https://www.statista.com/statistics/492507/concerns-about-climate-change-united-states-by-age-group>
- Trumbo, C. (1996). Constructing climate change: claims and frames in US news coverage of an environmental issue. *Public understanding of science*, 5(3), 269-284.
- Turner, J. C., Brown, R. J., & Tajfel, H. (1979). Social comparison and group interest in ingroup favouritism. *European journal of social psychology*, 9(2), 187-204.
- Wakefield, S., Fleming, J., Klassen, C., & Skinner, A. (2013). Sweet Charity, revisited: Organizational responses to food insecurity in Hamilton and Toronto, Canada. *Critical Social Policy*, 33(3), 427-450.
- Wheeler, T., & Von Braun, J. (2013). Climate change impacts on global food security. *Science*, 341(6145), 508-513.
- Wiest, S. L., Raymond, L., & Clawson, R. A. (2015). Framing, partisan predispositions, and public opinion on climate change. *Global environmental change*, 31, 187-198.

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**Education**

The Pennsylvania State University

Schreyer Honors College

*College of Liberal Arts*

B.A. International Relations

Minor: Nutritional Sciences

Honors: Political Science

Thesis Title: *Hungry from Change: Framing Food Insecurity as a Climate Issue*

Thesis Supervisor: Dr. Amy Sentementes, Assistant Teaching Professor of Political Science

**Relevant Work Experience**

DialogueDirect LLC, Philadelphia/*Summer Leadership Intern 2019/Summer 2019*

Fundraised to Philadelphia frequenters on behalf of ChildFund International, attaining over 30 monthly sponsors for impoverished children globally

Interacted independently, effectively, respectfully with hundreds of potential stakeholders daily from diverse socioeconomic, cultural, and career backgrounds

Independently led groups of fellow interns and full-time workers weekly

Achieved the highest number of sponsors of any intern in the Philadelphia office in Summer 2019

**Extracurricular Activities**

Pi Sigma Alpha, Beta Pi Chapter/*Secretary/2019-Spring 2021*

Plan, organize, and host biweekly meetings for the discussion of political current events

Coordinate with faculty to create expert panel discussions and guest lectures based on members' expressed interests

Mediate tense partisan debates in nonpartisan, professional manner

Created a social media presence in the absence of a Web Master for the chapter, including an Instagram account

Schreyer Success Program/*Mentor*/Spring 2018-Fall 2019

Dedicated peer mentor for Schreyer students experiencing difficulty transitioning to Penn State academically, socially, emotionally

Offered organizational planning and assistance for peers struggling to maintain a balanced lifestyle

Trained with Counseling and Psychological Services

**Awards & Honors:** Dean's List Fall 2017-Spring 2021, Phi Beta Kappa – Lambda of Pennsylvania Chapter.