

FRAMING ENVIRONMENTAL REFUGEES: EFFECTS OF RESPONSIBILITY
ATTRIBUTION, DISASTER PROXIMITY AND POLICY ATTITUDES

By

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Abstract

People displaced by climate change and environmental disasters are currently not covered by international legal frameworks. There are three broad narratives applied in literature to discuss this multi-faceted issue, mainly environmental disruption and climate change, threat to human and national security, and damage and loss of livelihood and property. Mimicking these narratives, this study tests the affect of 4 different frames – *Environmental Refugees*, *Political Refugees*, *Economic Refugees*, and *Refugees* (control) on responsibility attribution and policy attitudes for people displaced by climate change. The study aims to investigate if certain frames garner more support than others. Through an online experimental design of 230 participants in the US, I also test to see if predispositions of individuals bias their attitudes. My results show that participants in general attribute more responsibility for the wellbeing of the refugees with the individual refugees themselves in comparison to responsibility with the international community. Further, across the frames, the participants expect the US government to take relatively lesser policy action for the refugees than the international community. This policy action is in the form of providing asylum status, safe housing, jobs and development aid for the refugees. I find that the frames significantly differ from the control, with the *Environmental Refugees* narrative gathering the least support. Predispositions of anti-climate change perceptions, anti-immigration sentiments, previous experience with environmental disasters and political ideology significantly affect individual attitudes. The results are counter-intuitive to the expectation of the frames. The environmental narrative in particular is used by scholars to generate awareness and alarm for policy action, yet receives significantly lower support. These findings are suggestive of the

current global resistance to embrace environmental refugees within international legal frameworks. The study is embedded within attribution and issue framing theory. The paper builds on empirical evidence on experimental research and the environmental-migration literature.

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1-Introduction

“Climate change is already triggering displacement and migration, as a result of increasingly intense weather events, rising sea levels, and accelerated environmental degradation. In the future, we may be facing an increase in population flows that the world is presently ill-equipped to tackle effectively”

-International Organization for Migration (IOM 2012, pp.15)

In 1991, the Intergovernmental Panel on Climate Change (IPCC) declared that one of the “*gravest effects of climate change maybe those on human migration*” (IPCC, 1991,pp.103). The IPCC has predicted that by the turn of the century climate change would cause migration and displacement of 1.4 million people annually around the world (IPCC, 1990, pp.20). Recent global negotiations at the Conference of Parties (COP 19) at Warsaw reached a historic agreement on a “*Loss and Damage Mechanism*” to help developing countries cope with adverse impacts of climate change (UNFCCC, 2013, pp.1). Yet it remains unclear how environmental refugees and migrants will specifically benefit from this fund. Communities displaced by environmental change remain highly vulnerable populations, lacking international legal frameworks and policies for their protection.

The United Nations High Commissioner for Refugees (UNHCR) has explicitly refused to expand their definition of ‘*refugee*’ to include people displaced by environmental factors (UNHCR, 2002). Although the term ‘environmental refugees’ is currently legally

meaningless (UNHCR, 1951) scholars, activists and policy makers continue to use the term to generate awareness for action (Morrissey, 2012; Norman. Myers, 1997, 2005; R. Reuveny, J.W. Maxwell, & Davis, 2011; Reuveny, 2007; Warner, 2011 and others). Many scholars propose the creation of a new category for environmental refugees and migrants (B. Docherty & Giannini, 2009; Betts, 2013; Biermann & Boas, 2007; François Gemenne, 2011). Others oppose both the creation of a new policy framework (McAdam, 2011) and incorporations within existing frameworks (Bates, 2002; Black, 2001; Black et al., 2011; Castles, 2002).

The plight of environmentally-displaced persons is currently discussed drawing on three board narratives mainly environmental disruption and climate change, threat to human and national security, and damage and loss of livelihood and property. Being a multi-faceted issue, these narratives often overlap with other forms of population movement such as political refugees and economic migrants. Previous studies have analyzed, categorized and critiqued these narratives across various documents and media sources (Adger, A.B. Tor, B. Katrina, & Hanne, 2001; Bakewell, 2008; Bettini, 2013; C. Farbotko & Lazrus, 2012; E. Piguet, A. Pécoud, & Guchteneire, 2011; Farbotko, 2005; Hartmann, 2010; J.S. Dryzek & Stevenson, 2012; K. O'Brien, S. Eriksen, L.P. Nygaard, & Schjolden, 2007; Methmann, 2010; N. Detraz & Betsill, 2009; E. Piguet, 2010; Etienne Piguet, 2013; R. Reuveny et al., 2011; Clionadh. Raleigh, 2011; C. Raleigh & Kniveton, 2012; Reuveny, 2007; Risbey, 2008). While researchers have largely applied discourse analysis frameworks to deconstruct on-going debates, they have neglected the effect these narrative frames have on individual perceptions. Thus this study does not merely critique

existing narratives for environmental refugees, but rather demonstrates how alternative presentations of this growing problem affect attribution of responsibility and policy attitudes by individuals exposed to them.

Mimicking on-going narratives, I apply experimental manipulation to evaluate impacts of different frames on individual perceptions. My empirical findings indicate that these alternative frames do in fact influence how individuals attribute responsibility and support policies for people displaced. Among the frames, constructions for climate change and environmental damage receive significantly lower support, being counter-intuitive to the intensions of raising alarm for their cause. Participants with anti-climate change and anti-immigration sentiments are more likely to have reduced policy support, while those with prior experience with disasters increase their support. However, respondents who hold liberal ideologies are more willing to attribute responsibility to their own government and international community for the wellbeing of refugees. The effect of the different frames is thus altered by predispositions of the respondents. These findings are embedded within issue framing and attribution theory and emphasize the significance frames have in the context of individual attitudes.

2. THEORETICAL CONSIDERATIONS

2.1 Issue Framing

Framing of a social problem affects the formulation of individual attitudes and opinions. A single issue can be discussed or defined in several ways making certain facts and values more prominent than others (D. Chong & J. N. Druckman, 2007; Entman, 1993; Iyengar, 1989a; William G. Jacoby, 2000). They activate unequal emphasis on specific aspects by placing varying weights on features of the issue (Zaller & Feldman, 1992). When exposed to competing frames, citizens organize their attitudes by a selective process of accepting and rejecting alternatives, thereby forming judgments (D. Chong & J. N. Druckman, 2007; Sniderman, 1993). In other words, a particular interpretation of an issue impacts thinking among people exposed to that frame, also known as the ‘framing effect’ (D. Chong & J. N. Druckman, 2007; Sniderman, 1993; Zaller & Feldman, 1992, Gamson & Modigliani, 1989).

By influencing the causal factors underlying opinions on an issue, issue framing tap separate elements within a person’s belief system and values (Donald R. Kinder & Sanders, 1990). Individuals place “*a dimension*” (Riker, 1986), *a consideration* (Zaller & Feldman, 1992), *a value* (Sniderman, 1993), or *a belief* (Ajzen & Fishbein 1980)” in forming an attitude on the issue (Nelson, Rosalee A. Clawson, & Oxley, 1997, pp.105). The framing effect may thus either make a new belief salient or an existent belief available and prominent in an individual’s evaluation of a problem (D. Chong & J. N. Druckman, 2007).

Even a marginally small change in the presentation of an issue can produce large changes in opinion (Dennis Chong & James N. Druckman, 2007). For example, in a study on framing on welfare Rasinski (1989) finds that 20% of respondents believed that too little was being spent on ‘welfare’ while 65% stated that too little was being spent on ‘assistance to the poor’(Rasinski, 1989, pp.391). This illustrates how merely rephrasing the same issue significantly alters the meaning to respondents (Chong, 1996; Dennis Chong & James N. Druckman, 2007; Zaller & Feldman, 1992)

Framing literature is replete with successful studies using experimental, survey, and case study methods across a range of issues. These analysis include welfare issues (E. R. Smith & Miller, 1979), campaign finance (Grant & Rudolph, 2003), affirmative action (Donald R. Kinder & Sanders, 1990), support for the Supreme Court (Nicholson & Howard, 2003), government spending (William G. Jacoby, 2000; Nelson & Kinder., 1996), civil liberties (Chong, 1996; Nelson et al., 1997), and gender and morality politics (Doan & Kirkpatrick, 2013; M. R. Joslyn & Haider–markel, 2002). This study applies framing theory through the experimental methods approach. I test the effects of an individual’s attitudes on responsibility attribution and policy through subtle changes in the representation of people displaced by climate change.

2.2 Responsibility Attribution

In addition to affecting opinion, frames may also influence an individual’s causal attribution. Attribution reflects how individuals direct the locus of causation of an

outcome. People's perceptions of the cause of a problem shape their judgments of responsibility, achievement, blame, various emotions and policy attitudes (Iyengar, 1989b; Peffley & Williams, 1985; Weiner, 1985, 2006, Heider 1958, Sigelman and Knight 1985). Psychological literature is replete with studies on 'attribution' (Jones & Harris, 1967; Rholes & John, 1982; Schlenker et al., 1994; Shaver, 1985; E. R. Smith & Miller, 1979, Gibbert and Malone 1995, Anderson and Slusher 1986) that involve the formation of underlining causal beliefs (Shaver, 1985).

People's perceptions on the causes of the event draw direct connections with the responsibility of actors related to the issue. The actors are identified both in terms of responsibility for the creation of the problem, as well as action to remedy the situation (Rudolph, 2003; Schlenker et al., 1994). These judgments and causal beliefs shape individual opinions and behaviors that follow (Shaver, 1985). Scholars have tested attribution theory in various case studies including vote choice, job performance, and diverse policy attitudes (Balcetis & Dunning, 2006; Haider-markel & Joslyn, 2001; Kunda, 1990; Lord, Ross, & Leper, 1979; Nicholson & Howard, 2003; Peffley & Williams, 1985; Rudolph, 2003; Taber & Lodge, 2006; Brickman et al., 1975).

Prominent work by Iyengar 1990 analyzes the effect of news framing on individual's causal attribution of responsibility for social problems. The findings reveal that news stories focusing on individual actors rather than general issues tended to draw attention to individual agency and attribute responsibility for societal responsibility to them.

Attribution framing thus affects what individuals perceive as the cause of the event and the locus of control and responsibility.

2.3 Environmental Refugees

‘Environmental Refugee’ is often used by scholars to refer to the relationship between human movement and environmental change (Castles, 2002; François Gemenne, 2011; Massey, Axinn, & Ghimire, 2010; Morrissey, 2012; Suhrke, 1994). The term ‘environmental refugee’ was coined in 1976 by Lester Brown the founder of the Worldwatch Institute, but was brought into public debate only a decade later by Essam El-Hinnawi through his landmark report of the United Nations Environment Program (UNEP) (El-Hinnawi, 1985, pp.4¹). In the early 1980s, estimates reported over 10 million existing ‘environmental refugees’ (Jacobson, 1988) with an increase to 25 million by the 1990s (Norman. Myers, 1997; N. Myers & Kent, 1995). By the year 2050 the global community is expected to witness more than 200 million environmental refugees (Christian Aid, 2007; Cord Jakobeit & Methmann, 2007; Norman. Myers, 1997, 2005).

Given the severity of the problem (IPCC, 1990, 1991, 2007, 2013), global attention is drawn to the problem using three main narratives (Bettini, 2013). The first narrative posits the environment as a key and direct cause of mobility. It applies the traditional Malthusian push-and-pull frameworks to describe the problem (Hugo, 1996; Warner,

¹ El-Hinnawi through his landmark report of the United Nations Environment Program (UNEP) in Nairobi in 1985. El-Hinnawi defined environmental refugees as “*people who have been forced to leave their traditional habitat, temporarily or permanently, because of a marked environmental disruption (natural and/or triggered by people) that jeopardized their existence and/or seriously affected the quality of their life*” (El-Hinnawi 1985, pp.4).

2011). These descriptions have underlining development narratives which suggest policies for environmental protection and conservation (Adger et al., 2001, Saunders 2000). Stemming from the environmentalism movement in the 1970s (El-Hinnawi, 1985; Jacobson, 1988, Westing 1992) this approach describes the vulnerability of environmental refugees as a problem of physical environment (climate change) and social concern (Baechler, 1998; E. Piguet et al., 2011; Findley, 1994; F. Gemenne, 2011; C.L. Gray, 2009; C.L. Gray, 2011; Henry, Schoumaker, & Beauchemin, 2004; Cord Jakobeit & Methmann, 2007; C. Jakobeit & Methmann, 2012; Laczko & Aghazarm, 2009; Morrissey, 2012; E. Piguet, 2010; Renaud, Dun, Warner, & Bogardi, 2011; Warner, 2011; Westra, 2009).

Placing environmental disruptions within their socio-economic and political contexts, climate change is also depicted as a threat multiplier (Hendrix & Salehyan, 2012), leading to conflict and violence and destabilizing nation states. Within this narrative, studies highlight the mass movement of environmental refugees as a threat to human and national security (Barnett, 2000; Byravan & Rajan, 2006; Elliott, 2010; Homer-Dixon, 1994; N. Myers & Kent, 1995; O'Lear & Diehl, 2007; Salehyan, 2008; Scheffran, Brzoska, Kominek, Link, & Schilling, 2012; P. J. Smith, 2007; White, 2011). Emphasizing the complexity of the issue, the third broad narrative draws on global development inequalities (Black, 2001, Lonergan 1998), migrant livelihoods and survival. Studies focus on economic vulnerabilities, including loss and damage to income, property and life (Bardsley & Hugo, 2010; Findlay, 2011; Findley, 1994; Manzo,

2010; O'Brien, Eriksen, Nygaard, & Schjolden, 2007; Clionadh. Raleigh, 2011; Stern, 2007, 2013).

In combination, the three narratives highlight the physical environment, human vulnerabilities, social concerns, economic-inequalities and the destabilization of nation states (Morrissey, 2012). These different narratives draw on the multifaceted nature of environment-induced mobility (E. Piguet et al., 2011; Renaud et al., 2011), whereby the environment cannot be isolated from its social, political and economic 'context' (Black, 2001). Environmental refugees are thus positioned on a definitional continuum where the distinction between environmental, economic and political refugees into water-tight categories is blurred (Otunnu 1992).

The purpose of all three frames is the same – to bring global attention on the issue of environment-induced displacement (Bettini, 2013). Despite growing awareness on the problem, there exists strong resistance in embracing 'environmental refugees' within international legal frameworks such as the UN 1951 Refugee Convention. The UN High Commissioner for Refugees, Rudd Lubbers, clearly stated in an interview that "*there is no such thing as an 'environmental refugee' or an 'economic refugee'*" (BBC, 2010). Scholars speculate that this resistance is a manifestation of the growing global mood on anti-immigration and anti-climate change sentiments (Morrissey, 2012). Thus instead of gathering support for action, the term 'environmental refugees' has gained resistance by the fate of being born within the backdrop of xenophobia and opposition to climate

change (McNamara 2008), especially in the United States. This speculation warrants empirical testing.

2.4 Present Study

This study examines the effect of different narrative frames of people displaced by climate change on individual perceptions in the US. Does calling them environmental refugees, political refugees, economic refugees or merely refugees (control) affect individual's attribution of responsibility for their wellbeing and thereby the preferences on policy support. I also test for individual's predispositions on anti-immigration and anti-climate change to investigate if certain narratives garner more support than others, providing a key dimension to the on-going debate that has currently not been tested in literature. The study is divided into two inter-related parts. Part-1 examines the effect of different frames on attitudes of responsibility for the wellbeing of the refugees. Building on this, Part 2 explores the effect of frames and responsibility attribution (DV1) on individual's policy support for the refugees.

2.4.1 Moderators

Framing literature suggests incorporating 'moderator variables' in the study design as factors that condition the effect of issue frames. These include individual predispositions such as values and beliefs, knowledge on the issue (J. Druckman, 2001), and cultural values (Chong, 1996). For the purpose of this study I incorporate three moderators.

First, I expect individuals with a predisposition to climate change to mediate the affect of the frames. This bias can be caused by varying perceptions by way of awareness, understanding or beliefs of climate change (Böhm, 2003; Bord & O'Connor, 2000; Dunlap, 1998; A. Leiserowitz, 2005; Nisbet & Myers, 2007; Truelove & Parks, 2012; Yeager, Larson, Krosnick, & Tompson, 2011; Zomeran Martijn, Spears Russell, & Colin, 2010). I anticipate people opposing climate change to attribute the locus of causation of the problem away from themselves than those in favor of climate change (Bauer, Allum, & Miller, 2007; Bostrom et al., 2012; Kellstedt, Zahran, & Vedlitz, 2008; T. W. Reynolds, A. Bostrom, D. Read, & M. G. Morgan, 2010; Rosentrater et al., 2013; Sundblad, Biel, & Gärling, 2007; Viscusi & Zeckhauser, 2006; Wolf & Moser, 2011). This would further affect attitudes on climate change policy with the denial for climate change corresponding with reduced support for action (Dietz, Dan, & Shwom, 2007; Heath & Gifford, 2006; Anthony Leiserowitz, 2006; Lorenzoni, Nicholson-Cole, & Whitmarsh, 2007; O'Connor, Bord, Yarnal, & Wiefek, 2002; Read, Bostrom, Morgan, Fischhoff, & Smuts, 1994; Travis William Reynolds, Ann Bostrom, Daniel Read, & M. Granger Morgan, 2010; Rosentrater et al., 2013; Sterman & Sweeney, 2007, Tobler et al., 2012).

The Second moderator is anti-immigration prejudice. Realistic and symbolic threat of immigrants (D. R. Kinder & Sears, 1981; Sears, Hensler, & Speer, 1979; Zárata, Garcia, Garza, & Hitlan, 2004; Zárata & Quezada, 2011) often translate into notions of competition for scarce resources affecting policy attitudes such as welfare support (Esses, Dovidio, Jackson, & Armstrong, 2001; Stephan, Renfro, Esses, Stephan, & Martin,

2005). I expect anti-immigration prejudice to bias the affect of frames by increasing the potential threat of refugees and reducing policy support for them (Stephan et al., 2005). I suppose this moderator will especially affect differing policy support between the US and the international community, with the threat being more pronounced in the U.S. scenario (Laczko, F., & Aghazarm, C., 2009, Pehrson & Green, 2010; Short & Magaña, 2002; Staerklé, Sidanius, Green, & Molina, 2005; Zárata et al., 2004).

Exposure to environmental disaster is the third moderator. Previous studies on public opinion for climate change have shown that risk proximity or exposure to disaster increases the support for climate change policies (Brulle, Carmichael, & Jenkins, 2012; Joireman, Barnes Truelove, & Duell, 2010). Exposure to environmental disasters can indirectly capture notions of empathy. Literature on social psychology and marketing describe empathy as an emotional response or a cognitive sympathy of other people's experiences (Preston, deWaal, & Frans, 2002; Simon, 2013; Wieseke, Geigenmüller, & Kraus, 2012). I expect previous exposure to environmental disasters to conjure feelings of empathic concern for the welfare of others experiencing similar or related environmental events (Batson et al., 1995; Blader & Rothman, 2014; Davis, 1994; Duan & Hill, 1996; Eisenberg & Miller, 1987). This moderator may have an effect in the *Environmental Refugees* group.

2.4.2 Hypothesis

The study hypothesizes that receiving different frames for refugees (environmental, economic, political) brings forth different underlying perceptions and biases, causing

respondents to allocate varying levels of responsibility for the well-being of refugees, and thereby affect their policy attitudes. More specifically I hypothesize:

H1a. Those in the *Environmental Refugee* condition are **more** likely than those in the control (*Refugee*) condition to hold the individual refugees responsible for their situation, and support refugee welfare policies relatively **less**.

H1b. Similarly, the *Political Refugee* group respondents are **more** likely than those in the control (*Refugee*) condition to hold the individual refugees responsible for their situation, and support refugee welfare policies relatively **less**.

H1c. In nuance, people in the *Economic Refugee* condition are **more** likely than those in the control (*Refugee*) condition to hold the individual refugees responsible for their situation, and support refugee welfare policies relatively **less**.

Framing theory guides the above hypothesis where we speculate that individuals will be affected by their predispositions that are brought into salience by the (D. Chong & J. N. Druckman, 2007; J. Druckman, 2001). These predispositions are elaborated in the following hypothesis.

H2. People with anti-climate change perceptions put the locus of responsibility relatively more with the individual refugees themselves and their policy attitudes garner less support for refugees.

I expect this relationship to be most pronounced for the *Environmental Refugee* group since the frame emphasizes the role of environmental and climate disasters.

H3. Anti-immigration sentiment respondents will attribute more responsibility with individual refugees, and have less support for refugee welfare policies.

Perceiving refugees as a threat to resources, people with anti-immigration biases tend to see the refugees as an ‘out group’ (Jang, 2013; Miller & Ross, 1975) directing the locus on responsibility away from themselves. *Political and Economic Refugee* frames are expected to witness this affect more distinctly, given the on-going xenophobic debate and threat of resources underlining these frames.

H4. People with previous experience with disasters attribute **less** responsibility to the individual refugees and are **more** in favor of policies for refugee welfare.

Climate risk or exposure to disasters conjure possible emotions of empathy drawing forth more support for refugees. This hypothesis maybe more evident in the case of *Environmental Refugees* where the frame reiterates environmental conditions of the problem.

H5. Individuals who attribute more responsibility to the refugees and less to the international community will attribute less policy support to the US government and more policy initiative on the part of international community.

This hypothesis links the two parts of the study where we expect attitude on responsibility to bias the policy action in support of the refugees.

H6. Political ideology affects individual attitudes where more liberal respondents favor more government involvement and welfare policies (Converse, 1964; Converse, 2000; Feldman, 1988, 2003; Jacoby, 2002; Jost, Federico, & Napier, 2009; Poole & Rosenthal, 1997; Schwartz, 1992).

3. METHOD

3.1. Participants

The participants for this online experiment were 230 American adults recruited from Amazon Mechanical Turk (MTurk) in May 2013. MTurk as an online internet sample maintains a demographically representative pool of participants in comparison to college students often used in experimental research (Buhrmester, Kwang, & Gosling, 2011; Paolacci, Chandler, & Ipeirotis, 2010, Eriksson & Simpson 2010). Demographic survey studies have tested MTurk to show that the populations are relatively representative of U.S. internet users (Ipeirotis, 2009; Ross, Irani, Silberman, Zaldivar, & Tomlinson, 2010). Studies have also supported the validity of internet based experimental studies as reliable methods for undertaking research to test individual level perceptions and attitudes (Berrens, Bohara, JenkinsSmith, Silva, & Weimer, 2003; Gosling, Vazire, Srivastava, & John, 2004; Krantz & Dalal, 2000).

Participants of this study were between the ages 18 to 72, with a mean age of 34.37 years (SD 12.39). Of the 230 participants, 42.17% were female (U.S. Census 50.8%), with political ideology of 64% liberal, 21% conservative and 15% moderate (independents). Ethnic variation in the sample was 84% Caucasians (U.S. Census 78%). The respondents had a mean education years of 15.16 years (SD 2.77). As a whole the study sample is more liberal, better educated and predominantly Caucasian, making the sample a conservative test of the hypothesis of this study. At the beginning, participants read the purpose of the online study and provide informed consent by proceeding to begin the

survey. The respondents self select into the study and were compensated \$1 on its completion.

3.2 Experimental frames and stimuli

Experimental manipulation has been designed to evaluate the impacts of issue framing on individual and perceived opinions. Experimental designs are most useful in understanding causal relationships between variables (*Cambridge Handbook of Experimental Political Science*, 2011; J. N. Druckman, Green, Kuklinski, & Lupia, 2006; J. N. Druckman, Hennessy, St. Charles, & Webber, 2010; Lupia, 2002; McDermott, 2002). The experiment is designed to use message content as a heuristic device allowing participants to infer information from choices provided in the survey instrument. This method falls within the classic stimulus-response models of social psychology (M. Joslyn & Haider-markel, 2006, Hovland et al., 1953).

Selecting framing scenarios from real world settings (Claes, 2012) I expose participants to multiple repetitive frames mimicking the three narratives on-going on the issue of environment-induced displacement. The participants were randomly assigned to one of the four conditions: Environmental Refugees (n=63), Political Refugees (n=67), Economic Refugees (n=68), and a control group of Refugees (n=59). All four groups were presented an identical vignette with manipulation only in the type of 'Refugee' in the situation. Each manipulation aims to highlight only one aspect of the multi-faceted problem.

*“Climate change has resulted in the increasing incidence of environmental disasters such as droughts and floods all around the world. These environmental disasters can cause significant disruption to people’s lives. They threaten people’s homes and livelihoods, create conflict and violence between communities, and pose a threat to human security. Often, the consequences of these environmental disasters result in people becoming **REFUGEES [ENVIRONMENTAL, POLITICAL, ECONOMIC]**. That is, they cross national borders into other countries in search of a place where they can work and live in safety and security.”*

The vignette is followed by the survey instrument containing four sections completed by all four groups. The sections, in order, include policy attitudes, perceptions on immigration, climate change perceptions, and demographics (gender, age, education, political ideology, and ethnicity). The experimental frame is repeated in questions throughout the survey to keep the frame manipulation active.

3.3 Measures

3.3.1. Conceptions of Responsibility for Plight of Refugees

The first dependent variable, responsibility attribution, was captured through the question *“Please use the scale below to indicate the extent to which the responsibility for the well-being of these REFUGEES lies with each of the following – individual refugees, friends and relatives of refugees, national governments, neighboring country, and international community”*. Each of the 5 items used a 7-point scale (1_strongly disagree, 4_neither

agree nor disagree, 7_strongly agree). The principal components analysis revealed two factors where the first factor consisted of 2 items ($\alpha = 0.601$) that referred to responsibility attribution to the individual refugee and their families, and the second consisted of 3 items ($\alpha = 0.763$) that referred to responsibility with national, neighboring and international governments. These two index items are understood as responsibility attribution at the individual and the government level. The variable Responsibility Attribution was created by subtracting perceived responsibility for national, neighboring and international community from responsibility attribution to the individual refugees and their friends and family. The variable range is -5 to 6 ($M = 0.16$, $SD = 1.61$).

3.3.2. Policy Support for Refugees

The second dependent variable is captured through attitudes for four different types of policy support provided to ‘Refugees’, mainly asylum status, safe housing, jobs, and development aid. This policy support was asked in relation to three different actors – the American government, Neighboring countries, and the International community. Participants were asked the question *“Please use the scale below to indicate your agreement with the questions that follow: The American government should intervene to offer asylum (legal rights to live and work) for these REFUGEES”*, repeated for each of the 4 policies and 3 actor. This constituted 12 items using a 7-point scale (*1_strongly disagree, 4_neither agree nor disagree, 7_strongly agree*). The policy attitudes were collapsed into an index for each actor - American govt. ($\alpha = 0.928$), neighboring countries ($\alpha = 0.934$) and international community ($\alpha = 0.927$). Finally, a variable for US

policy attitude was created by subtracting neighboring and international actors from the American government. This variable ranges from -3.5 to 4.1 (M = 0.57, SD = 1.09)

3.3.3. Perceptions of Immigration

Realistic and symbolic threat of ‘Refugees’ is a key moderator in the study (Kinder & Sears 1981, Zarate et al., 2004). Participants are asked 10 items through the question “*Many REFUGEES displaced by environmental disasters seek asylum status (legal rights to live and work) in the United States. Please use the scale below to indicate your agreement with the questions that follow*”. Through a 7-point scale (1_strongly disagree, 4_neither agree nor disagree, 7_strongly agree) respondents indicate their opinion on *Refugees* conforming to American rules, ways of life, culture; having equal access to public schools, health care and social services; being a burden on tax and government services; reducing jobs opportunities and not contributing sufficiently to the American economy (PEW 2006). Principal components analysis revealed two factors with 5 items each ($\alpha = 0.840$ and $\alpha = 0.823$). The variables are referred to as Anti-Immigration 1 and Anti-Immigration 2. They range from 1 to 7 (M = 3.42, SD = 1.16) and 0 to 6 (M = 3.41, SD = 1.17) respectively.

3.3.4. Climate Change Perceptions

Participants view on climate change constitutes the second moderator. Opinions of respondents are captured through five questions asked on a 7-point scale (1_strongly disagree, 4_neither agree nor disagree, 7_strongly agree). “*The temperature rise*

associated with climate change is not dangerous for the environment; The United States will not be affected by climate change; Modern Science will solve our environmental problems with little change to our way of life; Climate change is a myth created by some scientists; and Climate change will only impact people in poor developing countries". A variable for anti-climate change perceptions was created (Cronbach α of 0.857), ranging from 1 to 6.6 (M = 2.6, SD = 1.23).

3.3.5. Direct Exposure to Environmental Disasters

Direct personal experience or that of close friends and family with natural disasters is expected to have a moderating effect. Respondents are asked to indicate their agreement on a 7-point scale (1 *strongly disagree*, 4 *neither agree nor disagree*, 7 *strongly agree*) to two questions "*Environmental disasters have had a direct impact on my life; Environmental disasters have had a direct impact on the lives of my friends or family*". Disaster Experience Variable is created by combining the two items ($\alpha = 0.900$), ranging from 1 to 7 with the mean at 3.6 (SD = 1.66).

3.3.6. Control Variables

Other variables incorporated in the models include gender, age, education and political ideology (Brulle et al., 2012; Hamilton, 2011; Anthony Leiserowitz, 2006; Milfont, 2012; Milfont, Harré, Sibley, & Duckitt, 2012; Milfont & Sibley, 2012; Tobler, Visschers, & Siegrist, 2012 and more). Due to lack of variation in the sample, ethnicity was dropped from the model.

3.4. Contrast Test Design

The four-group design (environmental, political, economic, and control) afforded three focused contrasts with which to test the primary hypothesis (H1) of whether each experimental frame differs from the control group. The Contrast designs seek to test if the label on type of refugee results in differing individual support for the group. The first contrast tests the hypothesis (H1a) that environmental refugees receive lesser support from the control condition, assuming individual perceptions on both anti-climate change and anti-immigration beliefs are made salient. To accomplish this contrast, I weighted the conditions with codes of (-1, 1, 0, 0) respectively.

The second contrast examines the hypothesis (H1b) of political refugees receiving relatively different support from the control condition. I expect values on threat to human security to be brought forward in this frame and weight the condition with codes of -1, 0, 1, 0 respectively. Similarly, the third contrast tests the effect of an economic label from the control condition (H1c). I expect anti-immigration sentiments are made salient in this frame, making individual preferences differ between the treatment and control. Weighted contrast codes of -1, 0, 0, 1 respectively are assigned in this contrast. In addition to the planned contrast tests, I also report results on one-way analyses of variance (ANOVAs), post hoc comparisons and regression analysis with interaction models for each outcome.

4. RESULTS

4.1 Study 1: Attribution of Responsibility for Wellbeing of Refugees

4.1.1 ANOVA analysis

Responsibility Attribution is a composite variable calculated from two indexes - responsibility lies with 'individual refugees and their families' (M=5.04, SD=1.15) or with 'national, neighboring and international governments' (M=4.77, SD=1.16). The omnibus ANOVA tests reveal that the *individual and family* index is not significant $F(240) = 0.446$, (mean square $\eta_p^2 = 0.595$), $p=0.720$, but is significant for the *national, neighboring and international* variable $F(240)=5.83$, (mean square $\eta_p^2 = 7.452$), $p = 0.001$. All three contrasts are significant in the *national, neighboring and international* variable ($p = 0.000, 0.012, 0.001$ respectively) showing that the effect of the three frames significantly differ from the control group (H1).

The descriptive means show a pattern that participants attribute the wellbeing of the refugees more with the individual refugees themselves and less with international community across all three frames in comparison to the control group. This is tested further, and the 2-sided Dunnett test reveals that the participants in the three treatments attributed significantly lesser support than the control group in the *national, neighboring and international* variable (mean difference MD= -0.870*, MD= -0.547*, MD = -0.729* respectively). Thus adding a frame tends to direct the locus of responsibility more with the individual refugees, and reduces the liability of the international community for the

plight of the refugees. This effect is most pronounced in the *Environmental Refugees* group.

4.1.2 OLS Regression Analysis

The model analyses reveal significant variations between experimental frames. The treatment effect in the Environmental and Economic group is significantly different from the control (H1a & H1c). People receiving the *Environmental Refugee* manipulation tend to hold the individual refugees the most responsible for their situation (See Table 1, Model 1 Coefficients). Respondents with anti-climate change attitudes, as hypothesized (H2), direct the locus of responsibility to the refugees and this effect is significant in the *Environmental* frame where climate change and environmental factors are accentuated.

The second moderator, Anti-Immigration bias influences the *Political Refugee* group making respondents with this sentiment increase their attribution of responsibility to the individual refugees (H3). Although I expected this affect in the *Economic* group as well, the results are not significant. Direct experience with environmental disasters is consistent with previous studies (Brulle et al., 2012; Joireman et al., 2010). Experience with disasters may indirectly evoke empathy for the refugees, moving the responsibility away from them and more towards the international community (H4). As expected, this influence is mainly visible in the *Environmental Refugee* group.

Table 1: Determinants of Responsibility Attribution with Refugees (Composite Variable) ^a

	Model 1.1		Model 1.2		Model 1.3	
	Environmental Refugees		Political Refugees		Economic Refugees	
	Moderator Effects	Main Effects	Moderator Effects	Main Effects	Moderator Effects	Main Effects
Treatment affect	0.850** (0.301)	0.806** (0.305)	0.496 (0.270)	0.412 (0.274)	0.697* (0.266)	0.663* (0.275)
Anti-Climate Change	0.328* (0.145)	0.255 (0.156)	0.098 (0.137)	0.031 (0.153)	0.197 (0.131)	0.169 (0.144)
Anti-Immigration I	0.134 (0.175)	0.064 (0.182)	0.382* (0.154)	0.319 (0.170)	0.271 (0.166)	0.251 (0.181)
Anti-Immigration II	0.050 (0.203)	-0.014 (0.204)	0.172 (0.182)	0.157 (0.185)	0.049 (0.170)	0.41 (0.177)
Disaster Experience	-0.293** (0.099)	-0.269** (0.100)	0.009 (0.085)	0.006 (0.086)	-0.009 (0.086)	-0.001 (0.089)
Conservative Ideology		0.885 (0.495)		0.971* (0.449)		0.459 (0.482)
Liberal Ideology		-0.164 (0.453)		0.263 (0.387)		0.130 (0.408)
Female		-0.031 (0.313)		0.062 (0.287)		0.039 (0.285)
Age		-0.006 (0.013)		0.000 (0.011)		-0.001 (0.011)
Education		0.002 (0.058)		-0.038 (0.054)		-0.002 (0.065)
Number of Cases	103	103	105	105	107	107
R-square	0.216	0.225	0.222	0.266	0.155	0.164
Log-likelihood	-185.277	-182.000	-177.508	-174.476	-181.068	-180.494

Notes: Coefficients are Ordinary Least Square (OLS) coefficients. Standard errors are in parenthesis. Two tailed significance test = **Sig. <.05; *Sig. <.10.

^a Responsibility Attribution is calculated by (Individual Refugee Index – International Community Index).

Three separate models are run comparing each frame with the control to avoid variable co-linearity. Main effects models run with treatment and moderators variables. The N and R-square are for the Main Effects model. Control variables in model are age, gender, education and political ideology.

The interaction effect in Figure 1 clearly shows that participants with low experience with disasters in the *Environmental Refugee* frame tend to attribute significantly more

responsibility to the refugees themselves. As the participants or their family and friends are exposed to environmental disasters, they tend to empathize more with the displaced persons and are less inclined to hold the refugees responsible. With increasing levels of disaster experience, the effect of frames is diluted (along the scale of 3), and there is no significant difference between the frame and the control group.

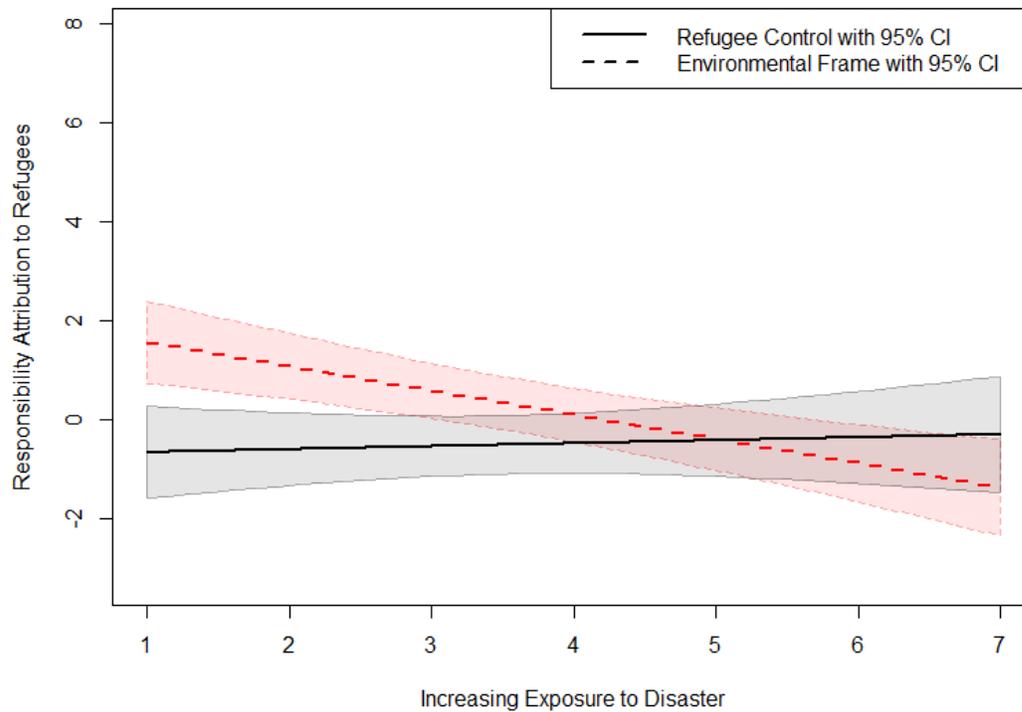


Figure 1: Predicted Responsibility Attribution by Disaster Experience (Composite Variable)

Individual preferences are also influenced by their political ideology (interaction model) where the liberals move the locus of responsibility towards the international community and away from individual refugees in the *Environmental* group. This is consistent with literature where within American politics liberal ideals correspond with more government and public programs, while conservative ideologies favor limited government

interference and welfare programs (P.E. Converse, 1964; P. E. Converse, 2000; Feldman, 1988, 2003; William G. Jacoby, 2002; Jost, Federico, & Napier, 2009; Poole & Rosenthal, 1997; Schwartz, 1992).

4.2 Study 2: Support for Policy Action for Refugee Wellbeing

4.2.1 ANOVA analysis

Policy Support for Refugees is a composite variable calculated by deducting '*International Policy Support*' (M=4.75, SD=1.19) from '*US Policy Support*' (M=4.18, SD=1.41). Results from the omnibus ANOVA for these two items was not significant [F(245) = 2.087, $n_p^2 = 1.407$, df=3, p = .621, and F(245) = 0.592, $n_p^2 = 2.007$, df=3, p=.103 respectively]. However, deeper investigation through the contrast test show that the *Environmental Refugee* group and control are significantly different (p = 0.013) in the *International Policy Support* Index. This points towards a manipulation affect between the environmental and control group (H1a).

In general, preference for the US government to take policy action (in the form of providing asylum status, jobs, safe housing, and development aid to the refugees) is relatively lower than the policy action required by the International Community. This effect is significant in the group receiving the *Environmental Refugee* treatment (Dunnett 2-sided test p = 0.04) for the *International Policy Support* Index (H1a). Thus calling refugees *Environmental Refugees* significantly reduces International policy support while maintaining US policy support at relatively low levels.

4.2.2 OLS Regression Analysis

Similar results are observed in the model regressions where adding the *Environmental or Economic* frame significantly reduces policy support (H1a & H1c), with the largest coefficient being for the *Environmental* group. In line with our hypothesis, people denying climate change tend to direct the US government to take less and international community more policy action for the refugees (H2). Although I expected this effect to be more visible with the environmental narratives, the results show the effect is more evident in the *Economic Refugees* frame.

Individuals with anti-immigration perspectives tend to hold the US government more accountable for policy action. This result may seem counter-intuitive to our expectation (H3), but a deeper investigation reveals that the positive effect in the composite variable is primarily due to a sharp decrease in policy action by international community while maintaining US support at a low. Thus people with anti-immigration bias support low action on the part of the US government, but even lower support by the international community. This effect is visible for the *Environmental* and *Political* groups. Respondents with a liberal ideology (interaction model) tend to support policy action by the US across all three frames, supporting theory discussed above (Jacoby 2002, Schwartz 1992, Jost, Federico & Napier 2009, Poole & Rosenthal 1997).

Table 2: Determinants of Policy Support by U.S. Government (Composite Variable) for Refugees ^a

	Model 2.1		Model 2.2		Model 2.3	
	Environmental Refugees		Political Refugees		Economic Refugees	
	Moderator Effects	Main Effects	Moderator Effects	Main Effects	Moderator Effects	Main Effects
Treatment	-0.527* (0.231)	-0.481* (0.239)	-0.367 (0.215)	-0.338 (0.219)	-0.504* (0.197)	-0.490* (0.200)
Anti-Climate Change	-0.007 (0.110)	-0.032 (0.120)	0.029 (0.108)	-0.052 (0.121)	-0.210* (0.095)	-0.252* (0.103)
Anti-Immigration I	0.333* (0.130)	0.290* (0.137)	0.304* (0.124)	0.269 (0.136)	0.214 (0.120)	0.166 (0.129)
Anti-Immigration II	-0.051 (0.150)	-0.080 (0.154)	0.165 (0.143)	0.186 (0.146)	0.089 (0.122)	0.087 (0.125)
Disaster Experience	0.066 (0.076)	0.076 (0.078)	-0.099 (0.067)	-0.082 (0.068)	-0.050 (0.062)	-0.056 (0.063)
Responsibility Attribution	-0.008 (0.075)	-0.028 (0.079)	-0.207* (0.079)	-0.232** (0.081)	-0.012 (0.071)	-0.013 (0.072)
Conservative Ideology		0.185 (0.379)		0.527 (0.363)		-0.031 (0.342)
Liberal Ideology		-0.250 (0.342)		-0.095 (0.306)		-0.389 (0.288)
Female		-0.018 (0.236)		-0.183 (0.226)		-0.132 (0.201)
Age		0.005 (0.010)		-0.004 (0.009)		0.002 (0.008)
Education		0.009 (0.044)		0.029 (0.043)		0.028 (0.046)
Number of Cases	103	103	105	105	107	107
R-square	0.122	0.142	0.234	0.269	0.182	0.213
Log-Likelihood	-153.465	-152.300	-151.485	-149.053	-144.816	-142.723

Notes: Coefficients are Ordinary Least Square (OLS) coefficients. Standard errors are in parenthesis. Two tailed significance test = **Sig. <.05; *Sig. < .10.

^a Policy Attitudes is calculated by (Policy Action by US – Policy Action by International Community).

Three separate models are run comparing each frame with the control to avoid variable co-linearity. Main effects models run with treatment and moderators variables.

An interesting finding is that the responsibility attribution variable reduces policy action by US. In Study 1 I had seen that the general trend of frames attribute the locus of responsibility away from governments and towards the individual refugees themselves. This attitude further effects a respondent's perception on policy action, where the US government is intended to take less action for the refugees (H5). This indirect effect is most evident among people receiving the *Political Refugees* frame.

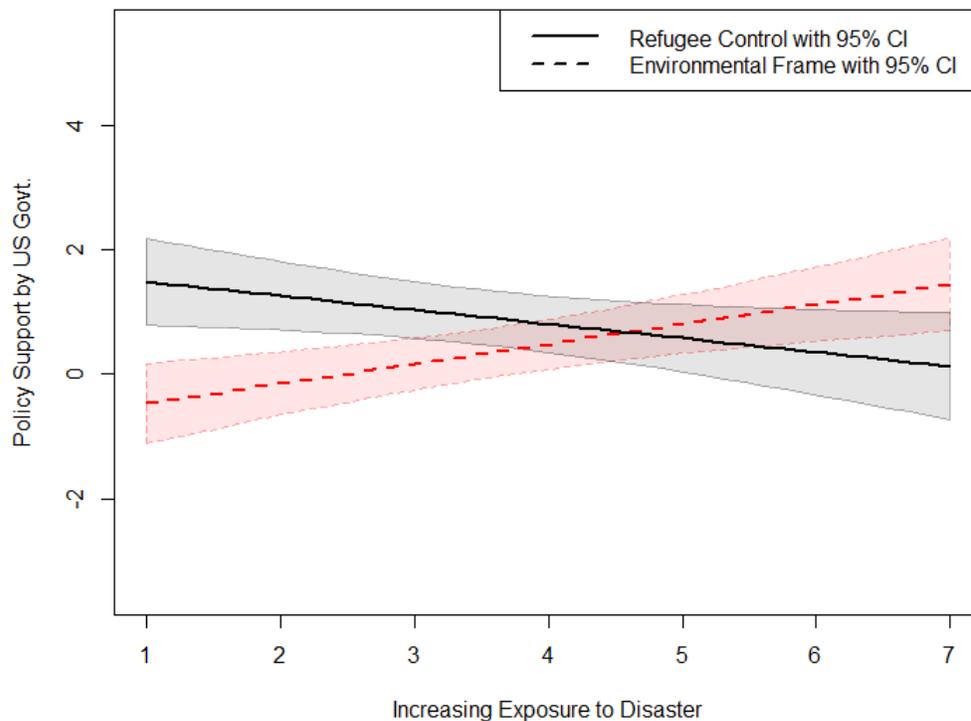


Figure 2: Predicted Policy Action by the US Government (Composite Variable)

By plotting the interaction of disaster exposure we see that at low or no level of disaster experience, participants are more susceptible to the attitude of low policy expectation from the US government. As disaster experience increases, there is greater expectation for the US government to intervene to provide policy support.

5. DISCUSSION

Scholars communicating information on people displaced by climate change use three broad narratives that highlight the multi-faceted nature of the issue (Bettini, 2013; E. Piguet et al., 2011; Etienne Piguet, 2013; Renaud et al., 2011) mainly environmental, political, economic frames. I test these frames on individual attitudes to identify if certain frames garner more support than others. My results indicate a clear effect of framing, where different frames tap into different predispositions of individuals and lead to varying attributions of responsibility and policy support.

The first part of my study examines the effect of frames on attribution of responsibility for the wellbeing of refugees. I find that adding any of the three frames leads to shifting of the locus of responsibility from the international community to the individual refugees. This relocation of responsibility away from themselves and towards the ‘out-group’ (Ferguson & Branscombe, 2010; Jang, 2013) is indicative of how the framing of the problem changes perceptions of responsibility of actors involved.

The *Political Refugee* frame is most susceptible to the moderation effect of anti-immigration sentiments where respondents with this bias hold individual refugees more responsible for their situation (Esses et al. 2001, Stephan et al 2005, Staerke et al., 2005, Zarate et al 2004, Pehrson & Green 2010, Short & Magana 2002). However, the frame for *Environmental Refugees* attributes the highest responsibility with the individual refugees themselves, and this attribution is biased by anti-climate change sentiments. People with more denial for climate change direct more responsibility towards the people

displaced (Bostrom et al., 2012, Sundblad Eva-Lotta, Biel Anders and Garlin Tommy 2007, Rosentrater et al., 2013, Wolf & Moser 2011, Bauer et al., 2007, Reynolds et al., 2010, Kellstedt et al., 2008, Viscusi & Zeckhauser 2006). Among them however, those holding liberal ideologies (Converse 1964, Feldman 1988, 2003, Jacoby 2002, Schwartz 1992, Jost, Federico & Napier 2009, Poole & Rosenthal 1997) or who have had direct or indirect experiences with environmental disasters expect the international community to step forward for the wellbeing of people displaced (Brulle et al., 2012, Joireman et al., 2010).

There is a marked difference between policy action anticipated for the US government and the International community. The expectations for support in providing asylum status, jobs, safe housing and development aid is consistently lower for the US government. Respondents across all frames have the opinion that the US should do relatively less for the refugees. This maybe a reflection of attribution of responsibility towards refugees whereby directing the locus of causation of the problem towards the 'out group' (here the refugees), leads to opinions of less policy action expectation from the US government. The *Political Refugee* group in particular reflects this causal account. Thus opinions on responsibility attribution correlate to some degree with policy attitudes of individuals.

Interestingly however, calling people *Environmental Refugees* receives the least support among the frames, including significantly lesser support from the international community. These results are counter-intuitive to the purpose of generating alarm and

sympathy for people displaced by climate change and environmental disasters. What is more concerning is finding this evidence with a subtle framing manipulation within a respondent pool of more liberal, Caucasian and better educated individuals. It must be reiterated that the research design involved respondents across all four groups receiving the identical vignette with only a replacement in the name of the refugee. A delicate treatment, yet we see clear indications of different frames tapping into specific individual predispositions.

These results corroborate speculations by Morrissey 2012 on the on-going debates within the environment-migration literature. Despite visible impacts of climate change in various regions around the world (IPCC 1990, 2007, 2013), the resistance to incorporating *Environmental Refugees* within international legal frameworks maybe connected with the baggage the frames carry. The backdrop of xenophobia and anti-climate change sentiments do, to some degree, influence individual level attitudes in the US.

5.1 Limitations and Future Research Directions

Despite these findings, it is significant to acknowledge certain limitations that can be addressed in future works. First, as mentioned above, the study is representative of a more liberal, better educated and Caucasian sample. The limited focus on White American respondents does not draw on potential variations on ethnicity that can be elaborated on, especially since the study involves anti-immigration variables.

Second, the study tries to draw causal inferences (Lupia 2002, McDermott 2002, Druckman et al. 2006, Druckman et al. 2011) in the analysis of the effects of different frames. Cognizant of the limitations of an experimental design, the findings of the research are suggestive of perceptions at the individual level, and limited in its generalizability as a public opinion survey. Third, the study captures attitudinal measures of the respondents such as perceived responsibility and policy attitudes. There is scope to expand on this by capturing actual behavioral measures over time to get a better understanding of implications of the study (Jang 2013).

Fourth, the sample of respondents is only within the US. It would be interesting to test these hypotheses across other countries, both developed and developing nations, to see if the findings hold. This would also allow more validation on the moderator variables of anti-climate change and anti-immigration attitudes.

6. CONCLUSION

Three broad narratives in literature currently emphasize the plight of people displaced by climate change and environmental disasters. While scholars have identified and critiqued these narratives, this study tests the effect of different narratives on individual perceptions in America. I apply an experimental manipulation of three frames mimicking these narratives mainly *Environmental Refugees*, *Political Refugees*, *Economic Refugees* and a Control (*Refugees*). I specifically test for causal connections of three moderators that are speculated to bias the effect of different frames – anti-climate change, anti-immigration and exposure to environmental disasters. My findings reveal that participants attribute higher responsibility to individual refugees in all three frames, with the *Environmental Refugees* receiving the least support from international community. These preferences are affected by individual predispositions of anti-climate change perceptions, anti-immigration sentiments, political ideology, and exposure to disasters.

The findings are similar for policy attitudes providing asylum status, safe housing, jobs, and development aid for the refugees. Participants in general expect the US government to take relatively lesser action than the international community for the wellbeing of the refugees. Again, the least support is garnered by the *Environmental Refugees* frame. The results are counter-intuitive to the purpose of scholars using these frames, especially the environmental narrative, as a means to generate awareness and alarm for policy action for people displaced. Although the findings are only suggestive of the underlying individual attitudes, it does indicate the effect different frames have on how responsibility is

attributed and the effect individual predispositions may have on policy attitudes. These findings contribute to the larger discourse on environment-migration nexus.

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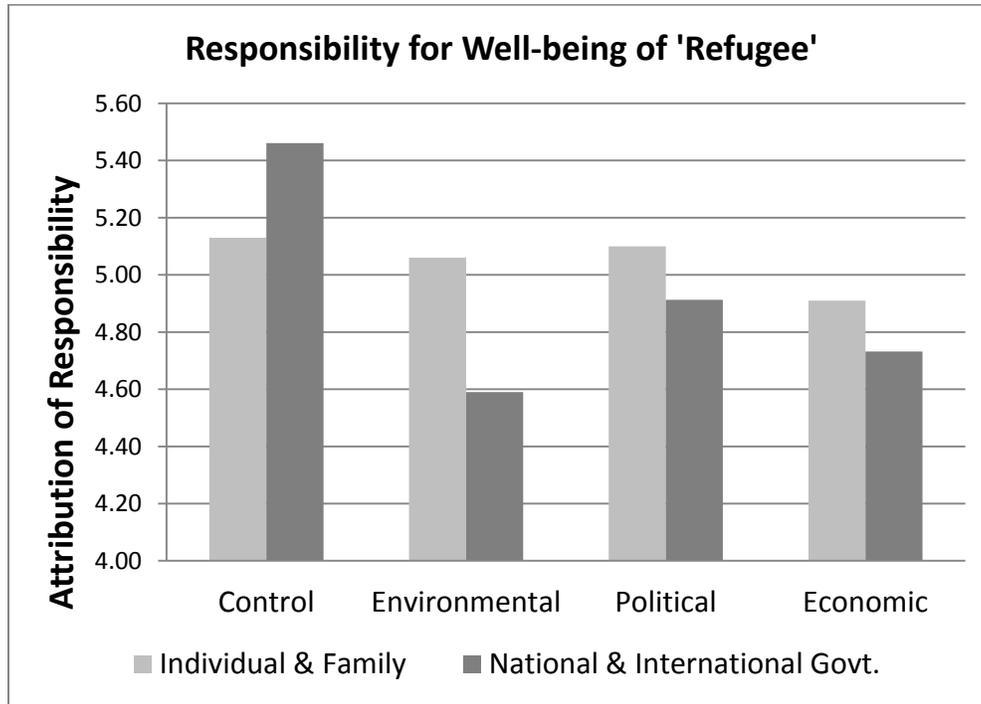
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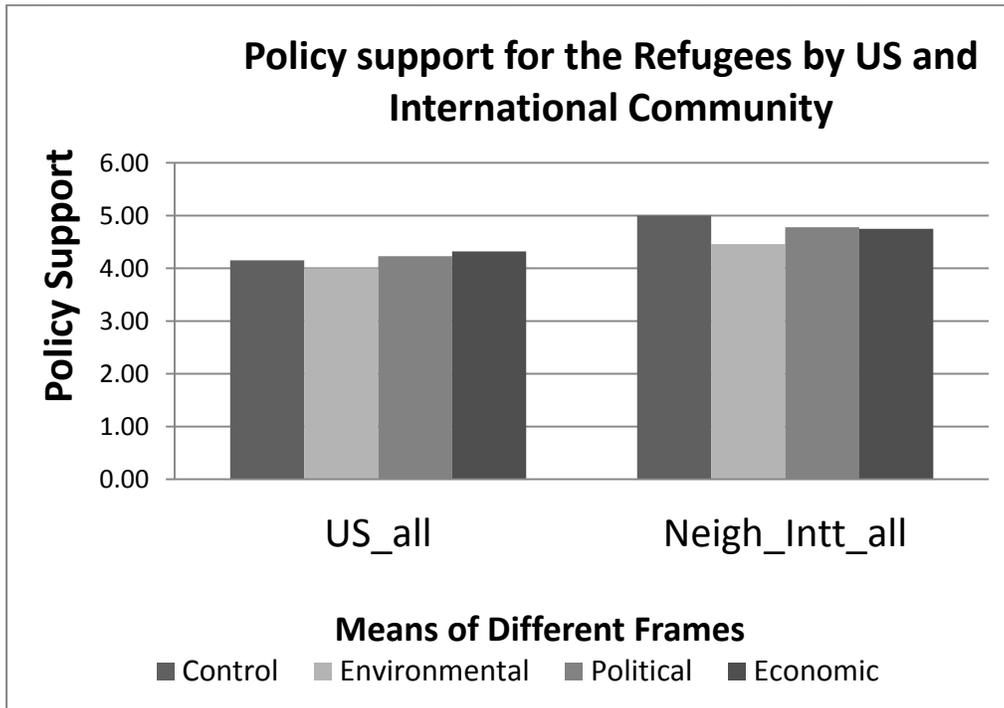
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8. APPENDICES

8.1 Appendix: Mean Values Responsibility for Well-being of 'Refugees' (DV1)

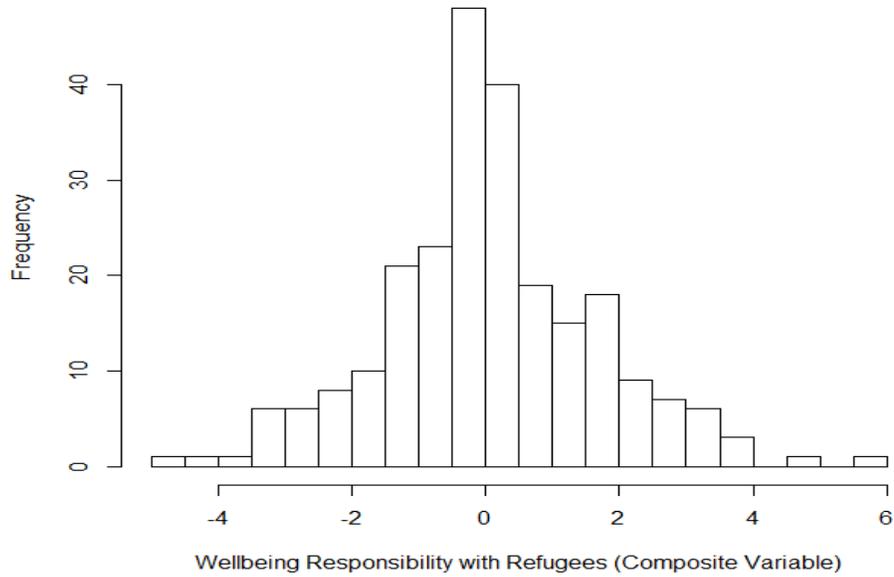


8.2. Appendix: Mean Values Policy support for 'Refugees' (DV2)



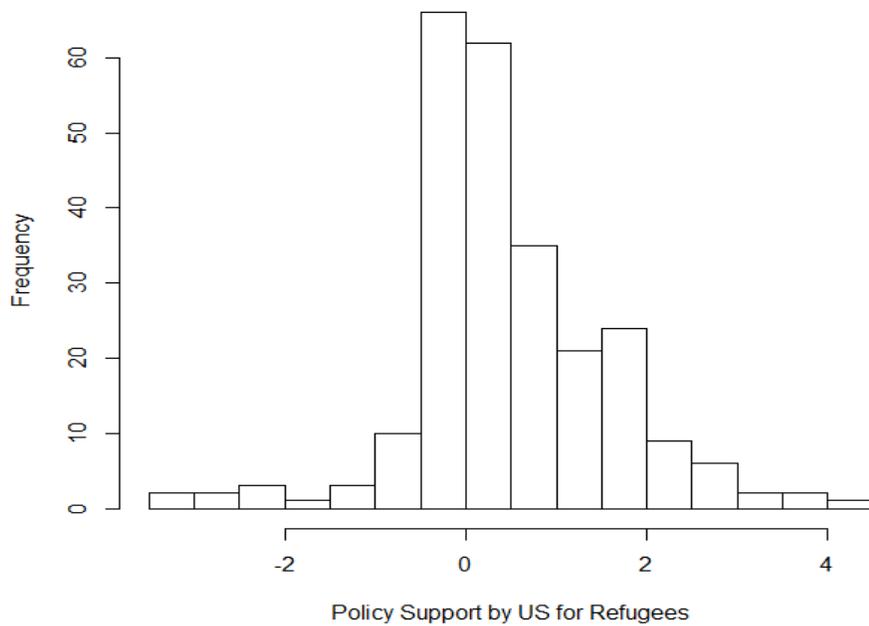
8.3. Appendix: Distribution of Refugee Wellbeing with Individuals (Composite)

Refugee Wellbeing with Individual Refugee (Composite Variable)

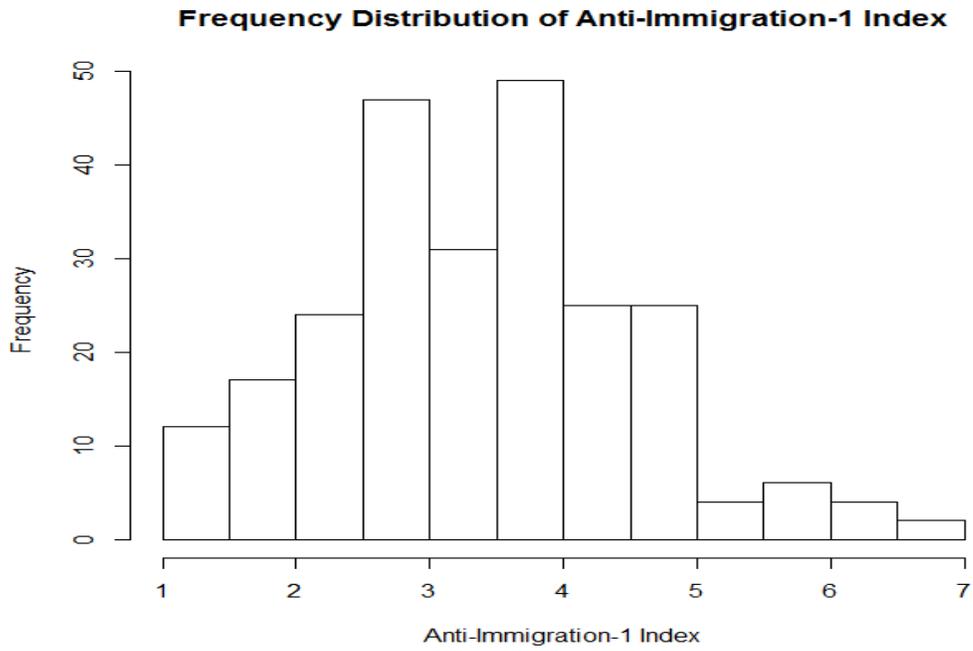


8.4. Appendix: Distribution of Refugee Wellbeing with Individuals (Composite)

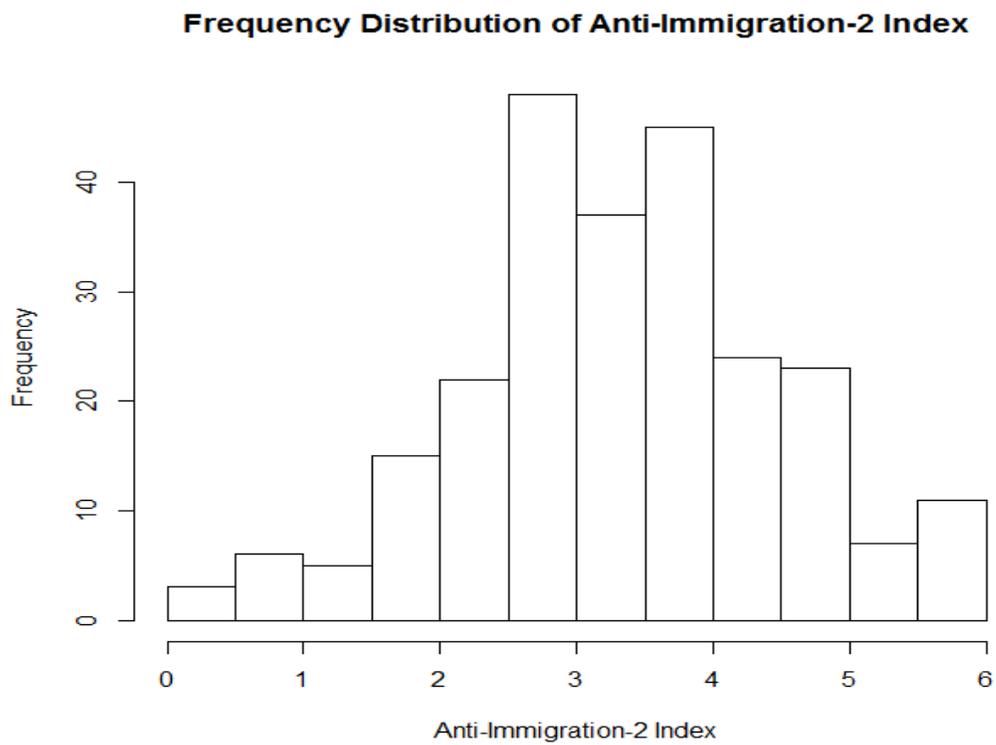
Frequency Distribution of Policy Support by US for Refugees



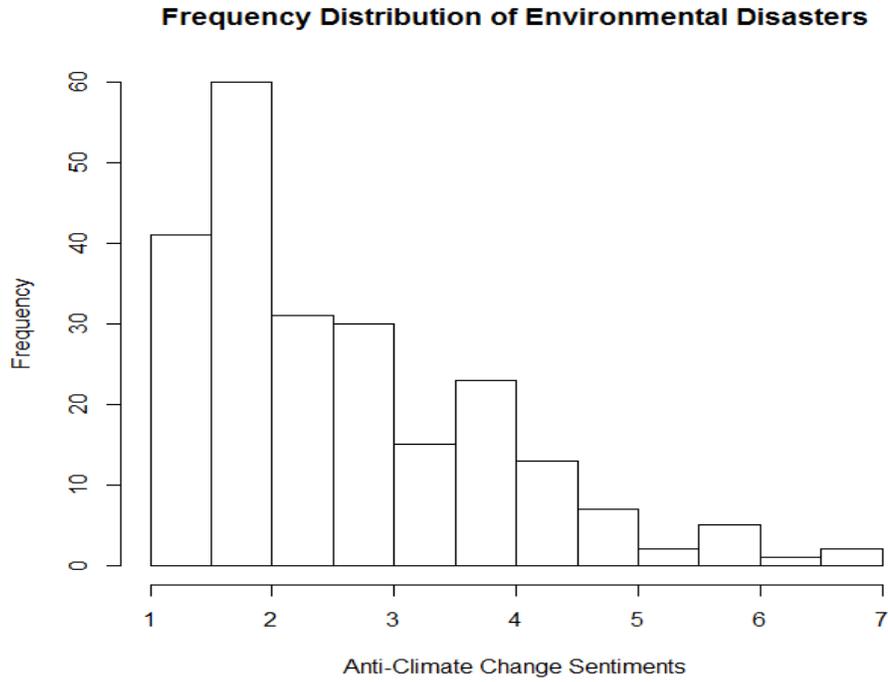
8.5. Appendix: Frequency Distribution of Anti-Immigration1



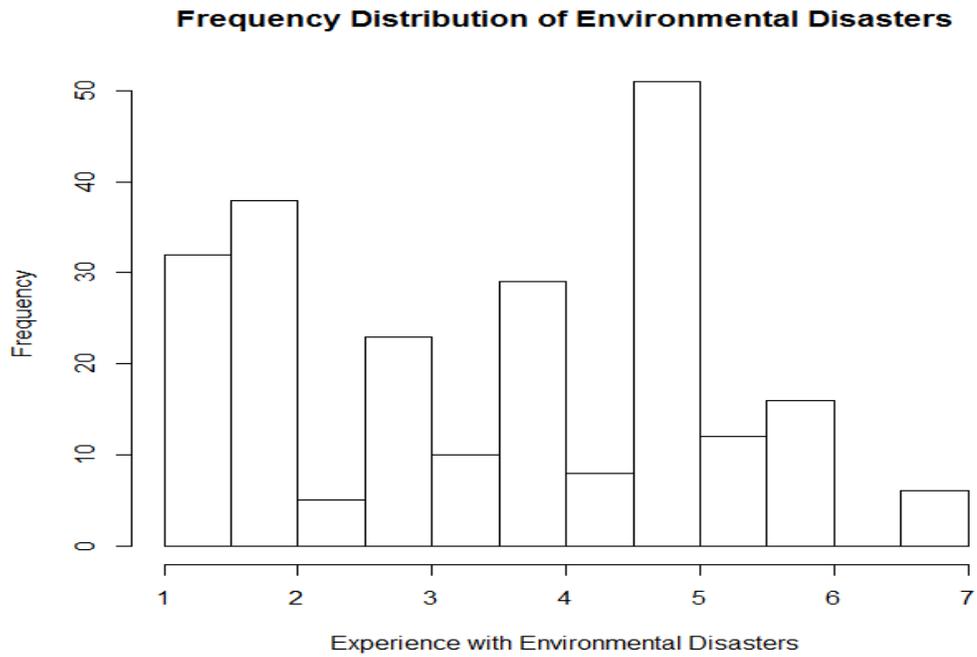
8.6. Appendix: Frequency Distribution of Anti-Immigration2



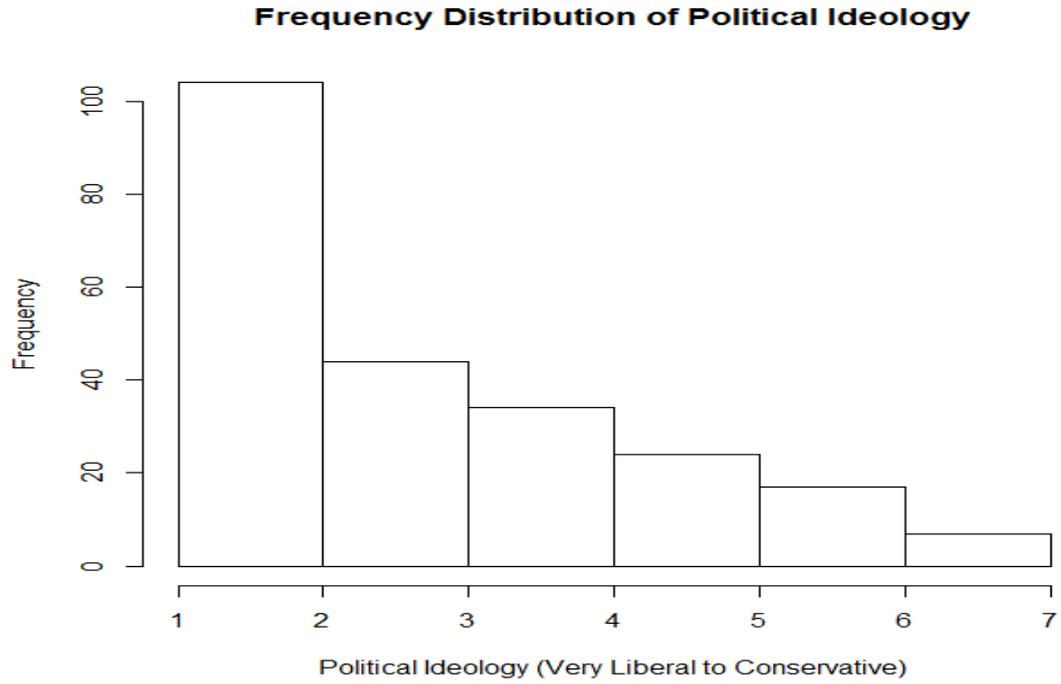
8.7. Appendix: Frequency Distribution of Anti-Climate Change



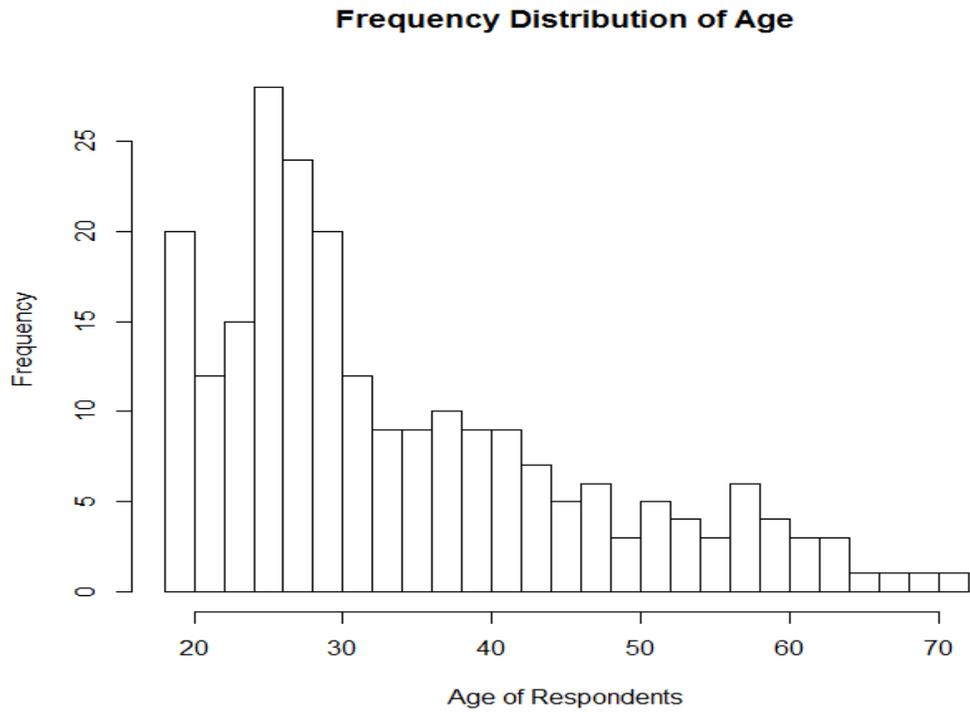
8.8. Appendix: Frequency Distribution of Direct Exposure with Environmental Disasters



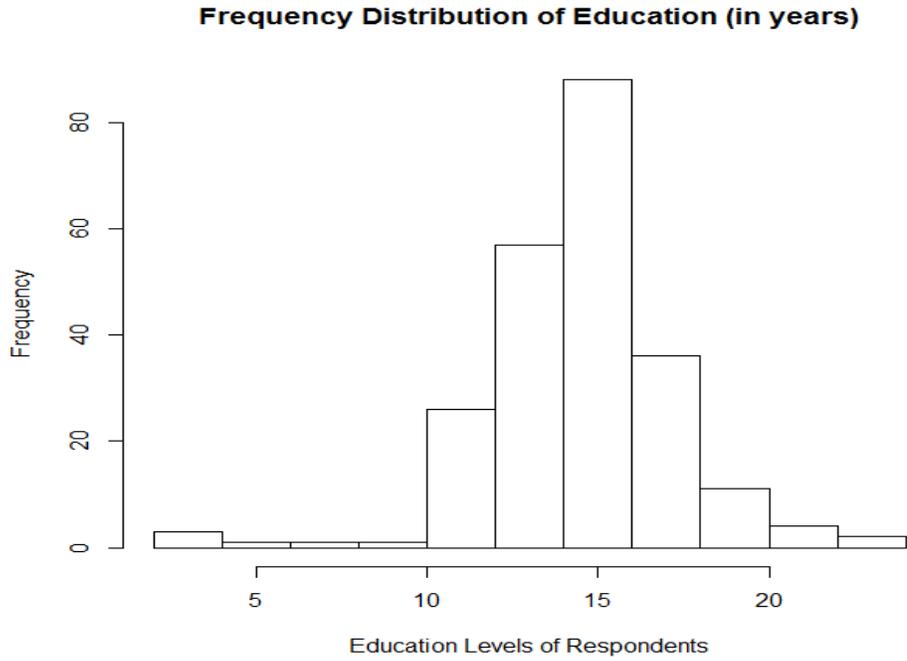
8.9. Appendix: Frequency Distribution of Political Ideology



8.10. Appendix: Frequency Distribution of Age



8.11. Appendix: Frequency Distribution of Education (in years)



8.12. Appendix: Frequency Distribution of Gender by Treatment Groups

Treatment	Male	Female	Total
Refugee (Control)	32	21	53
Environmental	33	24	57
Political	30	29	59
Economic	38	23	61
Total	133	97	230

8.13. Appendix: Regression Analysis of Wellbeing of Responsibility of Refugees with the Individuals Themselves [Environmental vs. Refugee]

	Model 1.1	Model 1.2	Model 1.3
	Main Effects	Interact Ideology	Interact Disaster
(Intercept)	-0.114 (1.310)	-.883 (1.324)	-1.410 (1.324)
Treatment	0.847** (0.312)	2.174** (0.656)	2.907*** (0.735)
Anti-Immigration 1	0.136 (0.184)	0.192 (0.181)	0.040 (0.179)
Anti-Immigration 2	0.047 (0.207)	-0.017 (0.205)	0.151 (0.201)
Anti-Climate Change	0.280 (0.160)	0.276 (0.156)	0.233 (0.154)
Disaster Experience	-0.288** (0.102)	-0.266** (0.100)	0.058 (0.149)
Political Ideology	-0.137 (0.231)	0.278 (0.289)	-0.127 (0.221)
Gender (Female)	-0.048 (0.320)	0.123 (0.322)	0.017 (0.307)
Age	-0.005 (0.013)	-0.007 (0.013)	-0.004 (0.013)
Education	-0.012 (0.059)	-0.002 (0.058)	-0.005 (0.057)
Treatment x Political Ideology		-0.927* (0.405)	
Treatment x Disaster Experience			-0.577** (0.188)
R-square	0.260	0.300	0.328
Log-likelihood	-184.927	-182.081	-179.920
N	103	103	103

8.14. Appendix: Regression Analysis of Wellbeing of Responsibility of Refugees with the Individuals Themselves [Political & Economic vs. Refugee]

	Political	Economic
	Main Effects	Main Effects
(Intercept)	-2.321	-2.076
	(1.198)	(1.262)
Treatment	0.448	0.695*
	(0.279)	(0.273)
Anti-Immigration 1	0.379*	0.275
	(0.171)	(0.180)
Anti-Immigration 2	0.158	0.049
	(0.188)	(0.177)
Anti-Climate Change	0.126	0.205
	(0.149)	(0.140)
Disaster Experience	-0.003	-0.008
	(0.088)	(0.089)
Political Ideology	0.094	0.030
	(0.196)	(0.201)
Gender (Female)	0.167	0.057
	(0.288)	(0.284)
Age	0.004	0.000
	(0.011)	(0.011)
Education	-0.032	0.003
	(0.055)	(0.065)
R-square	0.230	0.156
Log-likelihood	-177.023	-181.025
N	105	107

8.15. Appendix: Regression Analysis of Policy Support for Refugees by US Govt. [Environmental vs. Refugee]

	Model 2.1	Model 2.2	Model 2.3
	Main Effects	Interact Ideology	Interact Disaster
(Intercept)	-0.142 (0.964)	0.416 (0.979)	1.099 (0.954)
Treatment	-0.483* (0.239)	-1.471** (0.512)	-2.513*** (0.570)
Responsibility Attribution	-0.010 (0.076)	0.028 (0.077)	0.078 (0.075)
Anti-Immigration 1	0.311* (0.136)	0.266 (0.135)	0.390** (0.128)
Anti-Immigration 2	-0.062 (0.153)	-0.017 (0.151)	-0.165 (0.145)
Anti-Climate Change	-0.029 (0.119)	-0.038 (0.117)	-0.010 (0.111)
Disaster Experience	0.075 (0.078)	0.070 (0.077)	-0.299* (0.107)
Political Ideology	-0.140 (0.170)	-0.433* (0.214)	-0.137 (0.158)
Gender (Female)	-0.023 (0.236)	-0.143 (0.238)	-0.080 (0.220)
Age	0.006 (0.010)	0.008 (0.010)	0.005 (0.009)
Education	0.005 (0.044)	-0.002 (0.043)	-0.001 (0.041)
Treatment x Political Ideology		0.667* (0.308)	
Treatment x Disaster Experience			0.548*** (0.141)
R-square	0.133	0.176	0.256
Log-likelihood	-152.817	-150.220	-144.966
N	103	103	103

8.16. Appendix: Instruments for Variable Indexes on Factor Analysis

Factor Index	Variables	Factor Loading (Cronbach α)
Anti-Immigration 1 (Reliability Statistics $\alpha =$ 0.840)	Undermine American culture	0.771
	Take more than contribute US	0.781
	Strain on govt. social services	0.805
	Social values and beliefs	0.845
	Children not have right to Public schools	0.828
Anti Immigration 2 (Reliability Statistics $\alpha =$ 0.823)	Should adopt American ways	0.783
	Displacing Americans from jobs	0.791
	Not eligible for health care	0.785
	Increase Tax Burden	0.787
	Should conform to American rules	0.793
Climate Change (Reliability Statistics $\alpha =$ 0.857)	Climate change dangerous	0.795
	US not affected	0.780
	Affect only poor countries	0.825
	Climate change myth	0.800
	Science provides little solution	0.913
Disaster Exposure (Reliability Statistics $\alpha =$ 0.900)	Affect you directly	0.819
	Affect your friends and family	0.819