

POLARIZATION AND NUCLEAR FEAR:  
HOW PARTISAN MESSAGE PROCESSING AFFECTS  
PUBLIC TRUST IN GOVERNMENT

by

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THESIS

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## ABSTRACT

### POLARIZATION AND NUCLEAR FEAR: HOW PARTISAN MESSAGE PROCESSING AFFECTS PUBLIC TRUST IN GOVERNMENT

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Scholars have found that an environment that appears increasingly polarized in the United States has been accompanied by a decline in institutional trust over several decades. Scholarship involving partisanship and trust suggests that out-party groups are less receptive to political messages than in-groups. In the wake of the false emergency alert in Hawaii that sent citizens into a panic for 38 minutes, messaging and nuclear issues remain a salient topic for study. This thesis presents the results of an experiment ( $N = 2,310$ ) investigating how political trust is influenced by the partisan interpretation of a message. Survey respondents were presented with treatment messages from varied political sources and then asked a posttest question regarding diffuse trust in government. Results demonstrate that partisanship is a strong factor that affects how people interpret a message, even in the event of a large-scale disaster. The findings suggest that partisanship and preferences for or against authoritarianism influence trust and message interpretation.

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## DEDICATION

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# TABLE OF CONTENTS

<b>LIST OF FIGURES.....</b>	<b>VII</b>
<b>LIST OF TABLES.....</b>	<b>VIII</b>
<b>CHAPTER ONE.....</b>	<b>1</b>
Introduction.....	1
Partisanship, Trust, and Nuclear Fears.....	4
<b>CHAPTER TWO.....</b>	<b>15</b>
Introduction.....	15
Research Question and Methodology.....	15
Experimental Setting and Context.....	18
Experimental Design.....	19
Sample.....	21
<b>CHAPTER THREE.....</b>	<b>23</b>
Descriptive Findings.....	23
Results.....	26
Discussion.....	33
<b>APPENDIX.....</b>	<b>44</b>
<b>BIBLIOGRAPHY.....</b>	<b>54</b>

## LIST OF FIGURES

FIGURE 1: Trust model from Mayer, Davis, and Schoorman.....	12
FIGURE 2: Trust antecedents review from Mayer, Davis, and Schoorman.....	13
FIGURE 3: Sample Population Partisanship.....	25
FIGURE 4: Bush vote as a function of willingness to physically discipline children, by state .....	35



## LIST OF TABLES

TABLE 1: Experimental and control groups.....	20
TABLE 2: Partisan identification in population (leaning independents sorted to party.....	24
TABLE 3: Self-identified independents in population.....	24
TABLE 4: Trust in government and partisanship (unsorted).....	26
TABLE 5: Trust in government and partisanship (sorted into low, high, and neutral).....	26
TABLE 6: Republican treatment regression.....	27
TABLE 7: Marginal effects for Republican treatment.....	28
TABLE 8: Marginal effects for non-Republican respondents.....	29
TABLE 9: Democrat treatment regression.....	30
TABLE 10: Marginal effects for Democratic treatment.....	31
TABLE 11: Marginal effects for non-Democratic respondents.....	32

## CHAPTER ONE

### PARTISANSHIP, TRUST, AND NUCLEAR FEARS

#### **I. Introduction**

The twentieth century is in part defined by the political fallout of numerous nuclear incidents that live in the memories of the public. Bikini Atoll, Hiroshima, Nagasaki, the Cuban Missile Crisis, Three Mile Island, and Chernobyl all form part of the story of nuclear fission. That story continues in the twenty-first century as the Fukushima Daiichi nuclear power plant in Japan failed due to an earthquake, releasing an estimated 570-940 PBq of radiation (equivalent to 15 to 20 percent of the radiation release of the Chernobyl meltdown) and triggering an international cleanup effort (World Nuclear Association 2017; Kansai Daikagu 2018). Fears of reactor meltdowns or other nuclear energy accidents are compounded by a historical association with nuclear weapons (Slovic et al. 1991). Fears of nuclear weapons in the current political climate have roots in the Cold War, as the president of the United States (US) pursues diplomacy with the North Korean head of state and has openly threatened nuclear war (Associated Press 2018). The former Soviet-backed regime on the Korean Peninsula has threatened to send missiles toward Guam, and high tensions resulted in the first nuclear attack warning siren tests in Hawaii since the Cold War (Reuters 2017; Ripley 2017). In the wake of the false missile alert in Hawaii that sent US citizens into a panic for 38 minutes in January 2018, messaging and fears of nuclear war remain a salient topic for study (Nagourney et al. 2017).

In the US, while policy and opinion surrounding nuclear power have experienced dramatic fluctuations, another long-term trend has emerged regarding how Americans view government. For decades, public trust in the systems and institutions of government have eroded,

a consistent attitude that has been demonstrated in polls since the 1960s. This phenomenon has implications for social capital and the ability of politicians to marshal support and resources for political outcomes. Low levels of diffuse political trust occur in a US political environment that has proven favorable to negative attitudes toward government, and political orientations inform attitudes toward institutions and policies, in addition to the incumbents that represent government. In sum, political trust both emerges from and informs political outcomes in a partisan system with an increasingly polarized electorate that is highly distrustful.

Within these strictures, sending an effective message meant for all Americans may be a difficult task. The American electorate is not a homogeneous group and does not interpret messages in a uniform manner. To study complex phenomena such as trust and message reception in a partisan political system, an experimental design should attempt to account for the effects of partisan attitudes. A nuclear disaster can serve as a high-salience case study that is illustrative of partisan interpretation of messages and public trust of the government in a charged political atmosphere.

This thesis tests whether or not partisan attitudes and interpretation of messages affect political trust. Political and social psychological frameworks often explain message processing through a truth bias framework such as truth-default theory or through a social identity framework such as social identity theory. Truth-default theory posits relations between social groups as an explanation for cognitive bias toward trust of a message (Levine 2014), while social identity theory posits a bias toward a perception of honesty toward in-group members (Tajfel and Turner 1979). Results from this experiment provide evidence relevant to both theoretical frameworks, and these results are considered further in that context in the discussion section.

The experimental design includes a survey instrument that offers randomized messages with partisan labels to a population of North Texas students ( $N = 2,310$ ) and follows the treatment with a posttest question about trust in government. This study incorporates messages from hypothetical future partisan politicians instead of well-known political figures to distance trust orientations from traditional associations with contemporary politicians in power. Previous work on political interactions in a social psychological context indicates that partisan bias can overcome truth bias when individuals judge political messages (Harwood 2014; Verschuere and Shalvi 2014). The present study emerges from scholarship surrounding sociology, social psychology, and political science to measure partisan effects on diffuse trust in government, using the American National Election Studies (NES) as a contextual basis to form questions regarding trust and party identification.

This study examines the literature surrounding risk perception and nuclear war, discusses messaging and nuclear disasters, and examines trust in government within the context of politicization and partisanship. Psychological frameworks are also discussed. The effects of partisanship and politicization on political trust and message reception are areas that have not been fully explored by scholars. This thesis addresses the gap in scholarship and provides discussion with suggestions for refinement and further research. After a review of research in risk, politicization, and trust, this study presents the research question, hypotheses, and details of the experimental design. Descriptive data and findings are discussed along with hypothesis testing, followed by a conclusion which locates the role of these findings within the literature, and discusses limitations, alternative experimental designs, and implications for future study and for policy making.

## II. Partisanship, Trust, and Nuclear Fears

Nuclear energy has been subject to competing narratives since its inception. Is it the all-powerful alchemical solution to mankind's search for energy? Or is it an apocalyptic Pandora's box with unforeseen and dire implications beyond the control of scientists? Both narratives contain elements of truth and have proven resilient from the dawn of the twentieth century into the present day, though the latter narrative presently holds much political power in the US. The element of the unknown in the powerful technology contributes to a deep fear in the American public. This fear can be mobilized to reduce risks associated with nuclear technology or exploited to warp risk perceptions (Wellerstein 2016). According to nuclear historian Spencer Weart (1988), nuclear imagery holds a powerful place in the human psyche because it combines legitimate appeals to unprecedented power with deep-seated human narratives.

### *Risk*

In a two-factor analysis of technologies, Slovic categorizes nuclear energy risks at the highest end of unknown risks and "dread risks," which correlate with desires for mitigation or regulation and perceptions of uncontrollability, global catastrophic consequences, and high risks to future generations (Slovic 1987). In North America, nuclear dread has been documented by scholars who found that Americans and Canadians fear nuclear accidents more than any other type of disaster (Flynn et al. 1992). Evidence has been found that nuclear fears co-vary with gender, political party identification and issue knowledge (Robinson 1989; Pew 2011a; Pew 2011b). The political nature of nuclear power and nuclear weapons provide fertile ground for a study that is salient and provides generalizable conclusions that contribute to the academic

discourse surrounding partisan message interpretation, political trust, risk communication, and disaster response in a political environment.

Ropeik (2016) describes “radiophobia,” which is a fear of nuclear radiation that creates alarm incongruous with the actual danger. Historically, the harmful effects of radiophobia have been far worse than the effects of radiation itself, which can be seen in disaster response and in implications in energy choices. After the failure at the Fukushima Daiichi nuclear power plant, for example, more than 100,000 people were evacuated, and official figures show that more than 1,000 people died due to the extended evacuation, while there were no deaths related to radiation sickness (World Nuclear Association 2017). A World Health Organization (2013) report estimates that an early return for most evacuees would have resulted in radiation doses from 1-10 mSv during the first year after the accident. Such radiation doses to returning evacuees would have been well below harmful levels during an early return.

The political implications of nuclear fears are numerous, but one effect is clear: new nuclear energy plants have been difficult to build in the US since the 1970s (Lovelock 2004). Moreover, plants currently in service are scheduled to close before their life cycle is complete. California’s Diablo Canyon plant supplies nine percent of the state’s energy without producing any greenhouse gasses and will be shuttered by 2025 per a unanimous vote by the California Public Utilities Commission (Baker 2018). In Nevada, a decades-long issue of nuclear waste storage continues as state regulators prepare for a conflict with the Trump Administration, which has for the second year in a row requested funds to extend the contract to store nuclear waste at a site in Yucca Mountain (Associated Press 2018). The effects are felt beyond the US in two direct consequences of the disaster at Fukushima: Japan has only two reactors out of 54 plants currently

functioning, and Germany has plans to shut down all nuclear energy plants by 2020 (Kasperson 2012). Other scholars have noted the power of imagery in the nuclear discussion (Palfreman 2006). Risk and nuclear scholars put the matter succinctly:

The public's visceral horror of all things nuclear has never been adequately understood by the government or the nuclear power industry, which have tended to dismiss such concerns as irrational and rooted in misperception and misinformation (Flynn et al. 1992).

Is such visceral horror unfounded? Events such as disasters at Three Mile Island, Chernobyl, and most recently in Fukushima illustrate the potential for harm that nuclear power entails. While risk scholars and nuclear experts rank the dangers of nuclear energy far lower than average Americans, there is evidence for justification in the gap between experts and laypersons (Slovic 1987). While communication between the public and experts is an issue, experts may have different values than laypersons, potentially making the gap between the two groups unbridgeable. The cognitive science approach to risk focuses on individuals with the detrimental side effect of ignoring cultural and social underpinnings of risk perceptions and heuristic biases (Douglas 2003). In other words, society provides a framework for understanding risk, and sets parameters for individual risk analysis.

One phenomenon for which radiation has been a useful lever for study is the social amplification of risk, a conceptual framework that seeks to explain the interaction of risk perception behavior within a larger environmental, psychological, and institutional context (Kasperson 2012). Following the disaster at the Fukushima Daiichi power plant, iodized salt became a highly prized commodity in Chinese cities and individuals began to hoard it; based first on a false belief that the iodized salt would provide protection from radiation and then based

on the scarcity of the commodity (Wang and Li 2011). This risk-related behavior was based on a lack of trust in the institutions that serve citizens, especially in times of crisis. According to Kaspersen (2012, 59), “social distrust of institutions and their managers plays an important part in amplifying risk.”

*Missile or Meltdown? Conflation and nuclear fear*

Separation of fears of nuclear war from fears of nuclear power accidents is difficult because the two are linked in the eyes of the public (Slovic 1991). The conflation in the public is not unjustified, as despite a narrative of nonproliferation associated with nuclear power, evidence demonstrates that peaceful assistance with nuclear power development increases the likelihood of nuclear weapons proliferation (Fuhrmann 2012). Public orientations toward nuclear technology are a measurable phenomenon with practical implications for policy and for the narratives that elites use to promote policy.

Meltdowns are largely technical; the result of natural disaster, an engineering error or a mistake in human implementation of maintenance tasks. To the contrary; wars, bombing missions and missile attacks or threats of missile attacks are political phenomena: the potential result of policy, failed diplomacy, or disagreements among elites about resources or territory. However, both kinds of nuclear incidents share common elements: a connection to policy, a danger of poisoning from radioactive fallout, the potential for a globally catastrophic disaster, and a deep-seated fear in the public.

Soviet leader Mikhail Gorbachev recognized this relationship in his first public speech after the accident at Chernobyl. His speech took political overtones as he sought to use the disaster to highlight Soviet progress on nuclear weapons tests while Washington dragged its feet



(Rhodes 2008). Gorbachev was about to announce an extension of the Soviet moratorium on nuclear weapons tests until August 6, 1986, the 41st anniversary of the US atomic bombing of Hiroshima:

For all this, it should not be forgotten that in our world, where everything is interrelated, problems with the military atom exist alongside those of the peaceful atom ... the accident at Chernobyl showed again what an abyss will open if nuclear war befalls mankind. The stockpiled nuclear arsenals are fraught with thousands upon thousands of disasters far more horrible than the one at Chernobyl.

—Mikhail Gorbachev, May 14, 1986 (1987)

#### *Government messaging during a nuclear disaster*

The Soviet leader was not making such statements in a vacuum; he was attempting to minimize the disaster at Chernobyl and emphasize the danger of armed nuclear conflict in order to reach US leadership with a message of change. He was attempting to live up to the *glasnost* policy of government openness. This policy followed extensive secrecy efforts at multiple steps of the nuclear program and disaster response that had made the meltdown at Chernobyl worse than it otherwise might have been.

As Slovic (1987) notes, fear of risks is increased based on the unknown quality of the risk. Nuclear power and nuclear weapons are associated with radiation, an invisible substance with the ability to kill. Such a technical and complex scientific phenomenon is likely to be accompanied by a dearth of information and understanding in the public sphere in any society. Soviet Russia compounds this dynamic through a history of intentional and systematic, compartmentalized bureaucratic secrecy that left not only the public, but also political leaders and engineers without knowledge of past failures in nuclear reactors. This culture of secrecy

contributed to deadly delays in the response to a pair of steam explosions and a meltdown at the nuclear reactor near Chernobyl in the Ukraine in April 1986.

Soviet nuclear power plants incorporated reactors initially developed to produce plutonium for nuclear weapons and subsequently adapted for civilian needs, with an eye on the ability to quickly and easily remove fuel rods for potential military use in a military emergency. A containment structure like a concrete dome would have made the reactor in Chernobyl much safer but also limited its military value by making fuel rods difficult to extract quickly, so the Soviets opted for a more dangerous reactor in order to accommodate a dual-purpose design (Marples 1996).

Secrecy not only laid the foundation for the disaster at Chernobyl, it formed a cultural context that exacerbated the problem. Potassium iodine tablets, present in disaster shelters throughout the Ukraine and the USSR, could have been administered to children, those most susceptible to the intake of radioactive iodine in the environment. The pills would have been most effective within eight hours following a nuclear explosion, but denial in some sectors of the administrative hierarchy and ignorance of the explosion in other sectors prevented public distribution of the tablets, leaving unheeded scientists to frustratingly administer the pills only to themselves and their children (Rhodes 2008, 11).

Secrecy was also a feature of the disaster response in the US during the Three Mile Island reactor meltdown, and during the disaster, experts were unable to successfully deliver clear messages about the danger through the media. For example, radiation levels at the peak of the steam plume were falsely reported as ground radiation levels by several media outlets, which had misunderstood and misreported expert evaluations (Walker 2004). During a disaster,

communication is key to response efforts, and attempts to dissemble information will fail if the public does not trust the message or the messenger (Griffin et al. 2004).

### *Partisanship and polarization*

Trust in government has been posited as a function of government performance (Citrin 1974) and social capital (Keele 2007), but these paradigms can overlook political partisanship as a component of political trust. Trust in government looks different when parsed as data for separate groups than it does when trust is assumed to be a measure of the sentiment of the general public. Evidence shows that political trust rises among individuals whose party has presidential power (Alford 2001). Opinions about government have been framed within a context of elite messaging and reception by individuals that differ in predispositions, and so are more or less receptive to these messages. Zaller (1992) theorized that most people have non-attitudes, and that citizens can be placed on a spectrum from low to high information, with median citizens having a mix of attention and openness that leaves them more receptive to elite messages. In a study borne from the literature surrounding trust and partisanship, Lock et al. (1999) found that education and increased political knowledge expanded opportunities for priming rather than contracting them.

Evidence from the Chernobyl disaster offers support for the idea that public perception of the risks associated with nuclear power plant accidents constitute such non-attitudes or “pseudo-opinions” (Lindell et al. 1990). Public attitudes toward risk are expected to be more resistant to change in countries with advanced nuclear power programs where the public has also formed strong opinions about nuclear power than they would be in countries without such programs (Renn 1990; Van der Pligt et al. 1990). Scholars have found that partisanship can alter the impact

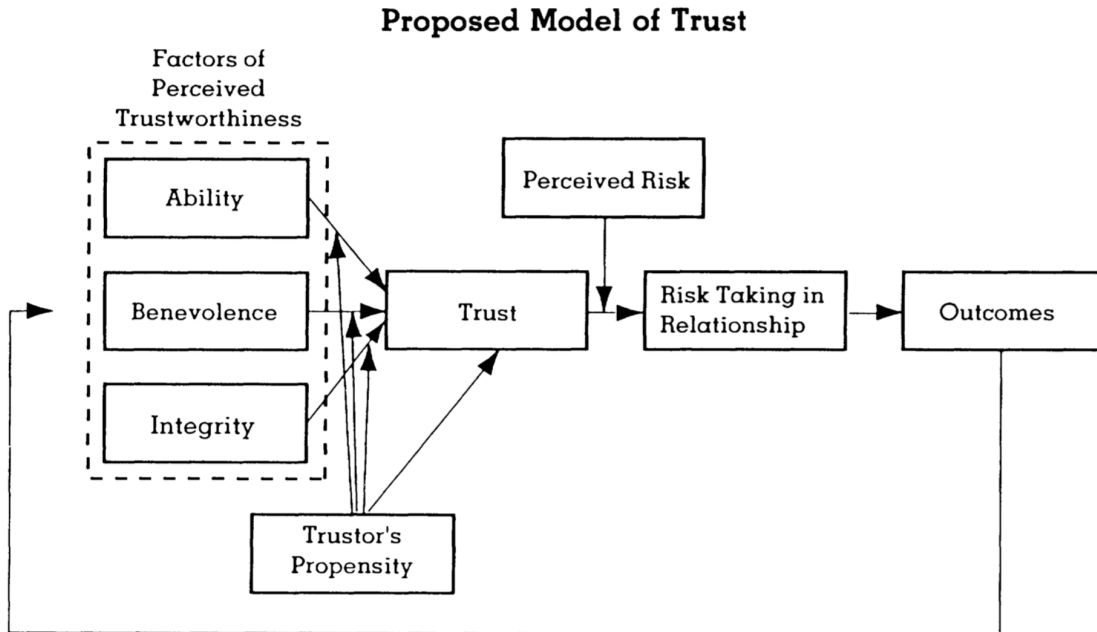
of message content, contributing complexity to theories of elite message reception that posit high-information voters as resistant to attitude change and priming effects. For example, Republicans are sensitive to military and defense issues, while Democrats are sensitive to civil rights and environmental issues (Iyengar et al. 1987). Within this framework, individuals with the most prior knowledge may in some circumstances be more susceptible to attitude change than those with less concretized attitudes and serve as exception to the model of elite messaging and receptive voters that Zaller (1992) proposed.

While the current political climate does not resemble a highly polarized environment wherein public opinion is clustering around distinct and distant poles (Fiorina et al. 2005), distance between Democrats and Republicans (both party elites and voters) is “significant and increasing” on many issues, which some scholars have tied to preferences for and tendencies toward authoritarianism (Hetherington and Weiler 2009). The political sphere is increasingly polarized, if issue division is used as measurement, instead of issue distance. Importantly, the preference of white working-class voters (a historically authoritarian group) for Hillary Clinton over Barack Obama in the 2008 Democratic nomination serves as a reminder that partisan distinctions and party sorting leave significant room for variation within a partisan coalition with regard to populations and issue orientations (Lipset 1959; Hetherington and Weiler 2009, 174)

### *Trust*

Defining trust in a political context is a complex task, not only because trust is multi-dimensional and has been conceptualized in different ways by scholars, but also because trust encompasses a relationship including more than a single actor (Levi and Stoker 2000, 476). Weatherford (1992) conceptualized trust and trustworthiness as multi-level concepts, in that

**Figure 1: Trust model from Mayer, Davis, and Schoorman (1995)**



these concepts are useful in describing individuals and aggregates such as nations and bureaucracies. Components of trustworthiness are the subject of contention among scholars, but there is some agreement that benevolence, competence and honesty (also conceptualized as ability, openness and integrity, see Figure 1) are important characteristics of a trustee for those making trust judgements (Mayer et al. 1995; Peters et al. 1997; Hetherington 1998). These scholarly conceptions have roots in a postulation by Aristotle, who proposed that conceptions of the ethics of a speaker are based on the listener's perception of intelligence, character, and goodwill in the speaker (Solmsen 1954).

Scholars have described trust as an orientation toward government based on expectations (Stokes 1962; Miller 1974b). Under this definition, trust can be conceptualized as an attitude in the public that is dependent on government outcomes. However, trust has also been conceptualized from a bottom-up perspective, in that government outcomes are also dependent

**Figure 2: Trust antecedents review from Mayer, Davis, and Schoorman (1995)**

<b>Authors</b>	<b>Antecedent Factors</b>
Boyle & Bonacich (1970)	Past interactions, index of caution based on prisoners' dilemma outcomes
Butler (1991)	Availability, competence, consistency, discreetness, fairness, integrity, loyalty, openness, promise fulfillment, receptivity
Cook & Wall (1980)	Trustworthy intentions, ability
Dasgupta (1988)	Credible threat of punishment, credibility of promises
Deutsch (1960)	Ability, intention to produce
Farris, Senner, & Butterfield (1973)	Openness, ownership of feelings, experimentation with new behavior, group norms
Frost, Stimpson, & Maughan (1978)	Dependence on trustee, altruism
Gabarro (1978)	Openness, previous outcomes
Giffin (1967)	Expertness, reliability as information source, intentions, dynamism, personal attraction, reputation
Good (1988)	Ability, intention, trustees' claims about how (they) will behave
Hart, Capps, Cangemi, & Caillouet (1986)	Openness/congruity, shared values, autonomy/feedback
Hovland, Janis, & Kelley (1953)	Expertise, motivation to lie
Johnson-George & Swap (1982)	Reliability
Jones, James, & Bruni (1975)	Ability, behavior is relevant to the individual's needs and desires
Kee & Knox (1970)	Competence, motives
Larzelere & Huston (1980)	Benevolence, honesty
Lieberman (1981)	Competence, integrity
Mishra (In press)	Competence, openness, caring, reliability
Ring & Van de Ven (1992)	Moral integrity, goodwill
Rosen & Jerdee (1977)	Judgment or competence, group goals
Sitkin & Roth (1993)	Ability, value congruence
Solomon (1960)	Benevolence
Strickland (1958)	Benevolence

on public trust. Under the conceptualization of trust as a lever for government outcomes, distrust and disapproval negatively affect leadership and the ability to marshal resources to enact policies (Neustadt 1990; Rivers and Rose 1985). Gamson (1968, 43) postulated that distrust creates the conditions for further distrust, which is one explanation for historical patterns of continually lowered trust in institutions. In order to differentiate from political cynicism and other related

frameworks (Citrin 1974), political distrust is conceptualized as a part of a trust index for this study. In the experiment, trust is measured as a continuous variable on a five-point scale with a neutral response along with two high and two low responses.

The modern political environment includes a pattern of lowered trust that is an aspect of scholarship with much agreement. For decades, political and social scientists have measured steadily decreasing levels of trust in American government and institutions, with an exception following the terrorist attacks on September 11, 2001 (Chanley 2002). Sophisticated measurements of trust in institutions began in 1962 with questions that were eventually known as the NES trust-in-government questions (Stokes 1962, 64). These questions were designed to distribute respondents into binary positive or negative evaluations of government, but trust was not part of Stokes' analysis or intended design. Scholarship surrounding political trust began in the 1960s and 1970s amid social and political upheaval, and often with the NES trust questions as a springboard. For an overview of early scholarship surrounding trust, see Levi and Stoker (2000, 476-480).

In addition to overall trends in lowered trust, strong partisan and incumbent components of opinions regarding trust and distrust have been identified. Survey respondents exhibit more political trust if they belong to the same party as the president (Citrin 1974) and trust is also dependent on evaluations of performance of incumbent politicians (Abramson and Finifter 1981). Trust has been framed as an orientation toward the entire government (Markus 1979; Weatherford 1984), but an important distinction has been drawn between such "diffuse" trust in the system or institutions in general, and in "specific" trust of incumbent authorities tied to outputs and performance (Easton 1965).

## CHAPTER TWO

### METHOD, MEASURES AND SAMPLE

#### **I. Introduction**

While questions regarding trust-in-government may be answered with relatively clear and simple questions such as the NES trust-in-government questions, exactly what answers to such questions measure is debated by scholars, who have sometimes conceptualized political cynicism and distrust as separate from political trust (Citrin 1974; Levi and Stoker 2000). A valid measure of trust over years and decades might, like the NES trust-in-government index, measure diffuse trust in institutions instead of in specific incumbents in an attempt to record attitudes deeper than those that reflect a shifting political climate in each election. Dimensions of trustworthiness may be isolated in polls to determine what is most important among characteristics responsible for trust. Some scholars have proposed as many as 11 such characteristics within one study (Butler 1991). An attempt to create an exhaustive list of what Mayer et al. (1995) term “trust antecedent factors” might include more than 30 items suitable for testing (see Figure 2). For this study, characteristics of trustworthiness are not examined. Instead, political trust is measured with a direct question about trust in government.

#### **II. Research Question and Methodology**

Emerging from the literature surrounding risk, a nuclear disaster is posed as a high-salience disaster event, with message sources manipulated to alter levels of perceived politicization. Effects of the manipulation are examined after the treatment with a posttest question regarding diffuse trust in government. Answers are measured against other levels of politicization through regression models, and against a control group without a nuclear disaster



message. Emerging from scholarship in fields including political trust, risk communication, and partisanship, the following research question is posed.

### *Research Question*

How may diffuse trust in government be influenced by the partisanship and authority of a message regarding a nuclear attack? How may diffuse trust in government be influenced by the partisanship and authority of a message regarding nuclear meltdown? Add to these a non-acute threat that may also be considered, wherein a nuclear storage accident is posed.

### *Hypotheses*

Utilizing the framework of elite messaging and attitudes laid out by Zaller (1992) and adding considerations of partisanship described by Locke et al. (1999), I test to find whether or not increased political authority and partisanship of a message causes a decrease in trust of the government in the sample population. For this study, politicization is used to describe a message source with greater or lesser political authority and partisanship. For example, a phone alert is less likely to be viewed as a politicized message, whereas a message from the president is more likely to be viewed as a politicized message due to the status of the president as a leader of a political party.

**H<sub>1</sub>: As politicization of a message warning of a nuclear disaster increases, diffuse trust of government decreases in the general population**

Different groups bring different conceptual frames to bear in risk assessment. Scholarship implies that in-party effects of treatment manipulation would reveal higher levels of trust within partisan groups than in out-party and independent groups (Lock et al. 1999; Robinson et al.

1989). This thesis hypothesizes that in-party groups more favorably weigh political messages than individuals that identify with an out-group party or as independents, because people are more likely to favorably judge copartisans. This leads to two secondary hypotheses:

**H<sub>2</sub>: As politicization of a message warning of a nuclear disaster increases, in-party diffuse trust of government increases**

**H<sub>3</sub>: As politicization of a message warning of a nuclear disaster increases, independent diffuse trust of government decreases**

#### *Experimental survey design*

The experimental component of this research design is an anonymous survey with incomplete disclosure and a subject pool drawn from adults in a North Texas university student population. The survey is presented as a “technology and government survey” and includes questions about social media and technology use. The survey instrument offers one of six treatments to three treatment groups and a control group. After answering initial questions and receiving the treatment, respondents were asked more questions, including one about government trust; the question that offers data for the research question. The final group of questions determines the political affiliation of the respondent. The control group received no treatment regarding nuclear issues but was asked the same question regarding government trust. The survey was created in Qualtrics. Because full disclosure would potentially skew data by priming participants to think about nuclear issues, this experimental design utilizes incomplete disclosure to conceal the target data: self-reported assessment of government trust. The survey instrument structure can be found in its entirety in the appendix.

### **III. Experimental Setting and Context**

The experiment is designed to allow participants to experience different levels of authority and partisanship in messages regarding a nuclear disaster. Participants in the student population of a North Texas university received an in-class presentation detailing the anonymity of data, the extracurricular nature of the research, and how to access the online survey. Most students (in 29 of 32 classes visited) were offered time in class to complete the survey on personal electronic devices. All students (including the three classes where students were not offered time in class) were offered the opportunity to take the experimental survey at their discretion outside of class, without knowledge of the time the survey would close. The survey was created in a research version of Qualtrics, an online survey platform. Respondents clicked on an internet link and were directed to a website with the university logo and the first wave of the survey. This wave includes instructions, a consent question, and an age requirement question.

Introductory political science courses are mandated by the state of Texas for university students, so introductory political science courses include students from every major at a university. Recruitment letters were sent to professors at the university, asking for time for an in-class presentation and for students to take the survey in class if they chose. Recruitment began with professors in the Political Science department, but expanded to include biology, physics, astrophysics, and history courses. The math and English departments were approached but declined to share the study with professors to allow participation. The result is a snowball sample created by sending e-mails, walking to department offices, and visiting classrooms before the beginning of a class and office hours for professors. The second stage of recruitment was an in-class verbal presentation followed in most cases by three to five minutes to complete the survey.

Participating professors provided students with a message and a link to the survey (see appendix for the message). In the presentation and in the message with a link to the survey, students were informed that the survey was anonymous, that participation was voluntary, and it provided no help or credit in the course. Respondents were asked to use phones or laptops in class to complete the survey, or to complete it on their own time if they chose to do so. Students who attended class received the verbal presentation, but any students enrolled in the class received the e-mail from their professor with details regarding the survey and a link to the survey on the Qualtrics platform.

Alternative survey designs have been considered by the primary investigator, and one is planned for implementation with a different survey population in the future. This planned survey and experimental design is actively in development in the recruitment phase and is discussed in the final section.

#### **IV. Experimental Design**

A survey was designed with six different sources for a message regarding a nuclear disaster, with levels of perceived politicization including highly politicized (president of the US), less politicized (secretary of energy appointed by a US president), and two non-politicized sources (nuclear power engineer and phone alert). The experimental design features messages regarding two acute disaster threats; a missile strike and a meltdown at a nuclear power plant, and one non-acute threat, which is a message regarding an accident at a nuclear waste storage facility. The design also includes a control group with no message about a nuclear disaster, and divides messages from the president and secretary of energy by party. The result is an experimental design with 24 total conditions (see Table 1). Such division of the conditions allows

**Table 1: Experimental and control groups**

<b>Group 1: Missile</b>	<b>2: Meltdown</b>	<b>3: Storage</b>	<b>4: Control</b>
Republican President of the United States (R POTUS)	R POTUS	R POTUS	R POTUS
Democratic President of the United States (D POTUS)	D POTUS	D POTUS	D POTUS
Republican Secretary of Energy (R SOE)	R SOE	R SOE	R SOE
Democratic Secretary of Energy (D SOE)	D SOE	D SOE	D SOE
Nuclear power engineer (expert)	expert	expert	expert
Cell phone alert notification (alert)	alert	alert	alert

for hypothesis testing and descriptive analysis detailing the effects of partisanship of the respondent, partisanship of the message sender, and type of threat in the message.

The central question (i.e., does a politicized message decrease trust in government, and is this effect reversed when message sources reflect the partisan identification of the receiver) refers to diffuse trust in government, and describes attitudes toward government in general, as opposed to attitudes toward specific institutions and incumbents. Disasters are high-concern situations that involve risk and interfere with communication efforts. In addition, such situations involving risk evoke emotions including fear, anxiety, distrust, anger and helplessness (Covello et al. 2001). In order to measure trust in this context, participants were asked about trust in government instead of a direct question about trust of the message. While political partisan identification questions were drawn from the NES, the question regarding political trust is devised specifically for this study in order to provide a nuanced set of choices for survey respondents along a five-point trust index. This design allows for survey administration through text questions without the need for complex contextual explanations with the potential for individual biases regarding the messages and the source. Participants were asked to assume the

message came from a reliable source, instead of specifying a source such as a news media outlet or an individual (see appendix for exact survey wording). Separation between the treatment conditions and the question about trust is an attempt to ask the question indirectly to avoid issues related to priming in respondents.

Further efforts toward overcoming respondent priming include the initial wave of questions which regard internet usage, the answers for which were not used for hypothesis testing in the study. The second wave of the survey includes the question about trust in government, and this question is situated among other questions that were intended to obscure the focus of the study.

## **V. Sample**

The experimental design includes a North Texas university sample with 2,310 responses. Most respondents completed the survey within 120-240 seconds. Recruitment began on October 5, 2018, when letters were sent to political science professors. Further recruitment was achieved through engagement with office personnel, deans and individual professors during office hours, and through informal discussions in classrooms before class was scheduled to start. Recruitment was actively pursued for ten weekdays from Friday, October 5 through Thursday, October 18. Afterward, professors were only engaged if they followed up on meetings or emails during the initial recruitment period.

The resulting sample consisted of presentations to 33 classrooms of students, with the survey link shared to every student enrolled in the class. Of the 33 total classes, 20 were introductory political science courses and 13 were physics (5), astrophysics (1), history (4) and biology (3) courses. Survey host Qualtrics used browser data to prevent respondents from

completing the survey more than once. The survey was open and actively promoted through classroom presentations from October 8 through October 30, with a final week given for completion time, so that final responses were recorded on November 6, 2018, 26 days from the initial presentation. The Qualtrics platform allows for large data sets of survey responses to be downloaded as spreadsheets for statistical analysis. This analysis was the work of the primary investigator under the direction and supervisory of thesis committee members.

## CHAPTER THREE

### RESULTS

#### **I. Descriptive Findings**

The sample reveals a number of interesting characteristics before advanced statistical models are applied for hypothesis testing. The North Texas sample consisted of 2,310 student responses, many of which were incomplete, extremely rapid (less than 50 seconds) or contained incoherent responses to questions of political identification, resulting in 1,885 responses suitable for most types of analysis. The dropped data vary by analysis but may include as many as 213 dropped responses with inconsistent answers to partisan identification questions. For example, 38 respondents identified as a Democrat in the initial partisanship sorting question, but subsequently identified as a strong Republican.

These types of incoherent responses were in part a reflection of the survey logic that allowed respondents the freedom to pick a response that negates a previous response. This may be fixed in a future iteration of this study. Partisan identification questions from the NES were used for the survey, which means that the occurrence of some incoherent responses in the sample must be anticipated without specialized skip logic. The NES questions allow respondents to identify as a member of a party and then as something different in a subsequent question. In a face-to-face or phone interview, respondents can be prompted by the interviewer to give a single consistent answer, but the online, self-administered survey format requires alterations to these questions. For analysis, independents were sorted into the parties they identified as leaning toward, with only independents who considered themselves “equally similar to Republicans and Democrats” being left in the independent category for analysis.



**Table 2: Partisan identification in population (leaning independents sorted to party)**

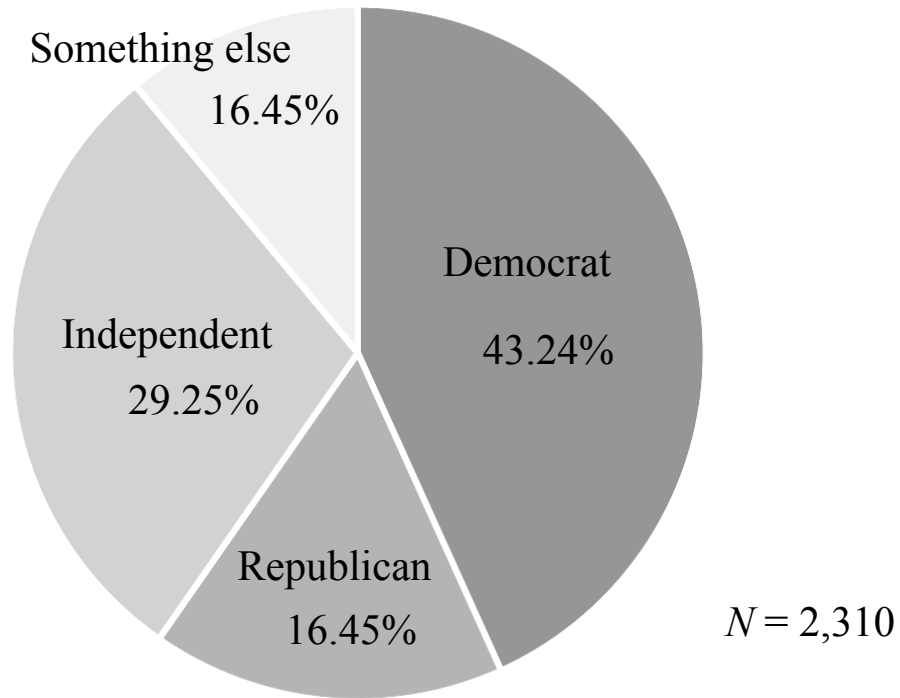
<b>Partisan identification</b>	<b>Frequency</b>	<b>Percent</b>
Democrat	1,177	55.91
Independent	463	22
Republican	465	22.09

**Table 3: Self-identified independents in population**

<b>Independent</b>	<b>Frequency</b>	<b>Percent</b>
“Equally similar to Republicans and Democrats”	261	28.12
“More similar to Democrats than Republicans”	482	51.94
“More similar to Republicans than Democrats”	185	19.94
Total	928	100

From a partisan identification perspective, the North Texas student population was heavily Democratic, especially when self-identified leaning independents are sorted into a party (Table 2). Nearly 56% of the sample are self-identified Democrats. The rest of the student population was split between Republicans and independents, with about 22% in each category (Figure 3). However, this is not the only way to look at the data. Because the NES partisanship questions allow for a degree of nuance in capturing independents that lean toward a party, Table 3 sorts leaning independents into the party with which they more closely align. A more nuanced picture of independents can be seen when all 928 self-identifying independent respondents are examined closely (Table 3). More than half of independents were leaning Democrats, while only a fifth of independents were leaning Republicans. Independents who considered themselves equally similar to both parties made up 28% of the independents.

**Figure 3: Sample Population Partisanship**



Most respondents completed the survey within two-three minutes. Notably, the data confirm a trend that political and social scientists have observed for decades: a stark lack of trust in government. Out of 2,093 responses suitable for analysis in this case, only 40, or less than two percent, chose a level of trust in government as “High” (Table 5). Trust responses were not similar across all partisan identities. Republicans were nearly four times as likely to have high trust in government than Democrats were, and more than twice as likely as independents (Table 5). This effect held even when the data was compressed into three categories, with Republicans twice as likely to express high levels of trust in government than anyone else, regardless of treatment. These effects are likely an illustration of the composition of government at the time of the sample in October 2018, with republicans in control of the executive and legislative branches of government, and with a conservative majority in the Supreme Court after two appointments in

**Table 4: Trust in government and partisanship (unsorted)**

<b>Partisanship</b>	<b>Trust</b>					<b>Total</b>
	<b>Very low</b>	<b>Not much</b>	<b>Neutral</b>	<b>Some</b>	<b>High</b>	
Republican (%)	43 (12.36)	58 (16.67)	91 (26.15)	138 (39.66)	15 (4.31)	345
Democrat (%)	195 (21.31)	282 (30.82)	247 (26.99)	177 (19.34)	10 (1.09)	911
independent (%)	140 (16.72)	241 (28.79)	265 (31.66)	176 (21.03)	15 (1.79)	837
<b>Total (%)</b>	<b>378 (18)</b>	<b>581 (27.76)</b>	<b>603 (28.81)</b>	<b>491 (23.46)</b>	<b>40 (1.91)</b>	<b>2,093</b>

**Table 5: Trust in government and partisanship (sorted into low, high, and neutral)**

<b>Partisan identification</b>	<b>Trust</b>			<b>Total</b>
	<b>Low</b>	<b>Neutral</b>	<b>High</b>	
Republican (%)	101 (29.26)	91 (26.38)	153 (44.35)	345 (100)
Democrat (%)	477 (52.36)	247 (27.11)	187 (20.52)	911 (100)
independent (%)	381 (45.52)	265 (31.66)	191 (22.82)	837 (100)
<b>Total</b>	<b>959 (45.82)</b>	<b>603 (28.81)</b>	<b>531 (25.37)</b>	<b>2,093</b>

as many years. This aspect of the sample also holds true in reverse, as more than half of Democrats have low levels of trust in government, while more than a fifth (21.31%) of Democrats chose the lowest level of trust, significantly more than Republicans or independents.

## II. Results

To test the effect of a politicized message on diffuse trust in government, six analyses were carried out. The analyses were carried out in Stata and include OLS regression interaction models and marginal effects. First, in-party trust was tested on Independents, Democrats, and Republicans receiving the Republican treatment (Table 6). This analysis is an interaction that demonstrates how respondents of various partisan identifications respond to various treatments.

**Table 6: Republican treatment regression**

<b>Partisanship</b>	<b>Coef.</b>	<b>Std. Err.</b>	<b>t</b>	<b>P &gt;  t </b>
Control	-.007	.057	-.13	.900
Nuclear phone alert	.007	.042	.18	.860
Rep. Energy secretary	.022	.041	.53	.596
Rep. POTUS	-.005	.042	-.11	.911
Independents	-.061	.040	-1.53	.126
Democrats	<b>-.125**</b>	.034	-3.64	<b>.000**</b>

**\*base category is a Republican President treatment and a Republican respondent**

**\*\*interaction terms not reported are not statistically significant**

When independents receive a Republican president treatment, they are less likely to trust the government than Republican respondents by a value of 0.61 on the five-point trust index scale, but this result is not statistically significant. The first remarkable result is that when Democrats receive a Republican president treatment, they are less likely to trust the government than Republicans who received the same Republican president treatment. This finding supports the in-party hypothesis, but further tests reveal that this effect is more complex than anticipated in the hypotheses. This is discussed further as the hypotheses are tested. In order to better understand the effect captured in Table 6, marginal effects were also calculated for each Republican treatment for every category of partisanship (Table 7) and for Republican respondents (compared to other respondents) at every treatment condition (Table 8).

As demonstrated in Table 7, the marginal effects comparing other treatments to the Republican president treatment are not statistically significant. Independents were less likely to trust the government after receiving a control message (non-nuclear message from a phone alert) than they were after receiving a message from the Republican president, but this difference is not

**Table 7: Marginal effects for Republican treatment**

	<b>dy/dx.</b>	<b>Std. Err.</b>	<b>t</b>	<b>P &gt;  t </b>
<b>Control</b>				
Independents	-.059	.007	-.88	.379
Democrats	.037	.037	.99	.324
Republicans	-.007	-.057	-.13	.900
<b>Phone Alert</b>				
Independents	-.038	.044	-.86	.390
Democrats	-.009	.027	-.34	.732
Republicans	.007	.042	.18	.860
<b>Expert</b>				
Independents	.054	.045	1.19	.234
Democrats	.025	.027	.92	.359
Republicans	.022	.041	.53	.596
<b>Energy Secretary</b>				
Independents	-.038	.042	-.90	.367
Democrats	.029	.027	1.07	.284
Republicans	-.005	.042	-.11	.911

statistically significant. Because none of the marginal effects presented in Table 7 are significant, the data demonstrate that trust responses for Democrats, Republicans, and independents are not affected by the source. This means that in the sample, respondents from any group were not more or less likely to change trust responses if they received a message from an expert or from a US secretary of energy or a president.

On the other hand, when comparing Democrats and independents to Republicans, a strong partisan effect is revealed (Table 8). Marginal effects for Republican respondents demonstrate that all Republican respondents have more trust than independents and Democrats.

**Table 8: Marginal effects for non-Republican respondents**

	Source	dy/dx	Std. Err.	t	P >  t
<b>Independents</b>	Control	-.113	.078	-1.44	.151
	Phone alert	<b>-.106**</b>	.046	-2.32	<b>.020**</b>
	Expert	-.029	.046	-.063	.532
	Energy Secretary	<b>-.094**</b>	.043	-2.17	<b>.030**</b>
	POTUS	-.061	.04	-1.53	.126
<b>Democrats</b>	Control	-.81	.059	-1.38	.169
	Phone alert	<b>-.141**</b>	.036	-3.96	<b>.000**</b>
	Expert	<b>-.121**</b>	.035	-3.52	<b>.000**</b>
	Energy Secretary	<b>-.091**</b>	.036	-2.55	<b>.011**</b>
	POTUS	<b>-.125**</b>	.034	-3.64	<b>.000**</b>

**\*base category is Republican respondents**

Between Democrats and Republicans, the increased levels of trust are consistent and fairly dramatic. This effect is statistically significant in all cases but the control. Additionally, even the analysis of the Democratic treatment on respondents of varying party identifications demonstrates that the message source is not a statistically significant factor when considering responses to a question on trust in government (Table 9).

On the other hand, Republican respondents are more likely than Democrat respondents to have increased trust levels after receiving a message from a Democratic president (Table 9, Table 11). Moreover, Republican respondents are more likely than their Democrat counterparts to demonstrate higher levels of trust for nearly all of the Democrat treatment conditions. These effects are significant, and although the same trend is present in independents, the effects are only significant for the expert treatment condition.

**Table 9: Democrat treatment regression**

<b>Partisanship</b>	<b>Coef.</b>	<b>Std. Err.</b>	<b>t</b>	<b>P &gt;  t </b>
Control	.023	.036	.65	.516
Nuclear phone alert	-.023	.026	.88	.377
Dem. Energy secretary	.011	.026	.44	.657
Dem. POTUS	.016	.026	.64	.524
Independents	.051	.035	1.45	.149
Republicans	<b>.130**</b>	.035	3.75	<b>.000**</b>

**\*base category is a Democrat President treatment and a Democrat respondent**

**\*\*interaction terms not reported are not statistically significant**

The data reveal that Republicans are more likely than Democrats and Independents to trust a message from the government or a person of authority, particularly when it comes from a person, and not a phone alert. This finding exposes a potential flaw in this study in that an important factor was not accounted for during hypothesis creation. Partisanship and authority are complex concepts, and measurement of trust in this complex environment can be obscured by larger contextual factors. It may be true that a president of the US is trusted more by Republicans than by Democrats or independents, but is this effect due to politicization of a message, or to the current political climate which is favorable to Republicans? This study cannot offer detailed evidence for how this factor may contribute to political trust in partisan groups.

The hypotheses will now be reviewed. The first hypothesis regarding an inverse relationship between politicization and trust levels in the general population is not borne out by the data. The effects of treatment manipulations were not statistically significant in the unsegmented sample population. There is insufficient evidence to accept  $H_1$  under the current

**Table 10: Marginal effects for Democrat treatment**

	<b>dy/dx.</b>	<b>Std. Err.</b>	<b>t</b>	<b>P &gt;  t </b>
<b>Control</b>				
Independents	-.059	.066	-.89	.372
Democrats	.032	.036	.65	.516
Republicans	-.026	.057	-.45	.649
<b>Phone Alert</b>				
Independents	-.038	.044	-.86	.391
Democrats	-.022	.026	-.88	.377
Republicans	.011	.042	-.27	.787
<b>Expert</b>				
Independents	.053	.045	1.17	.243
Democrats	.011	.027	.44	.657
Republicans	.003	.041	.07	.946
<b>Energy Secretary</b>				
Independents	-.025	.041	-.61	.541
Democrats	.016	.026	.64	.524
Republicans	-.03	.044	-.68	.499

model. In order to understand the factors relating to H<sub>1</sub> and diffuse trust in the general population further study is required, although more evidence to reject this hypothesis is discussed.

The second hypothesis regards a positive effect of partisanship and authority on in-party trust, and the data do not support H<sub>2</sub>. Instead of a treatment affect in both Democrats and Republicans within their respective parties, the data indicate that partisans reacted differently to the treatments without regard to the source. This complex interaction is difficult to study in a political climate, as the president in any given year is from one party or another, and not an independent. Orientations and attitudes toward government, therefore, cannot be studied under a



**Table 11: Marginal effects for non-Democratic respondents**

	Source	dy/dx	Std. Err.	t	P >  t
<b>Independents</b>	Control	-.031	.066	-.47	.637
	Phone alert	.035	.038	.93	.352
	Expert	<b>.093**</b>	.039	2.39	<b>.017**</b>
	Energy Secretary	.009	.034	.28	.782
	POTUS	.05	.035	1.45	.149
<b>Republicans</b>	Control	.811	.058	1.41	.159
	Phone alert	<b>.141**</b>	.035	4.05	<b>.000**</b>
	Expert	<b>.121**</b>	.034	3.6	<b>.000**</b>
	Energy Secretary	<b>.084**</b>	.038	2.23	<b>.026**</b>
	POTUS	<b>.130**</b>	.035	3.75	<b>.000**</b>

**\*base category is a Democratic President treatment and a Democratic respondent**

non-partisan presidential administration. The strong effects among Republicans and Democrats in the sample reveal that partisanship is important when creating trust attitudes, but the relationship discovered was not a direct relationship for all partisans that received a message for copartisans. Instead, respondent partisanship determined trust levels regardless of the partisanship or the perceived authority of the source. One more complication is that this hypothesis regards partisans, some of whom may be highly informed and polarized. These issues may be explored further in future studies, which may address the problem with robust information checks to provide a more nuanced measure of information and resistance levels that partisans bring into the experimental setting.

The survey data do not provide evidence to accept the final hypothesis. H<sub>3</sub> proposes an inverse relationship between politicization and levels of trust in independents. To the contrary,

independents were no more or less likely to adjust responses to the trust-in-government question as the other groups, regardless of authority level of the source. There is evidence that Democrats are less likely to trust a message from the government than other groups, and Republicans more likely to trust than other groups. The lack of evidence to accept H<sub>3</sub> may also serve as a lack of evidence to support H<sub>1</sub> regarding trust in the general population, since effects were apparent, but not significant, in the entire population. This remarkable finding suggests that although the experimental design includes consideration of partisanship as a significant influence for trust, the story of partisanship in the data is not one of intra party or extra party trust judgements. Instead, the data reveal that authority and partisanship deeply affect political trust.

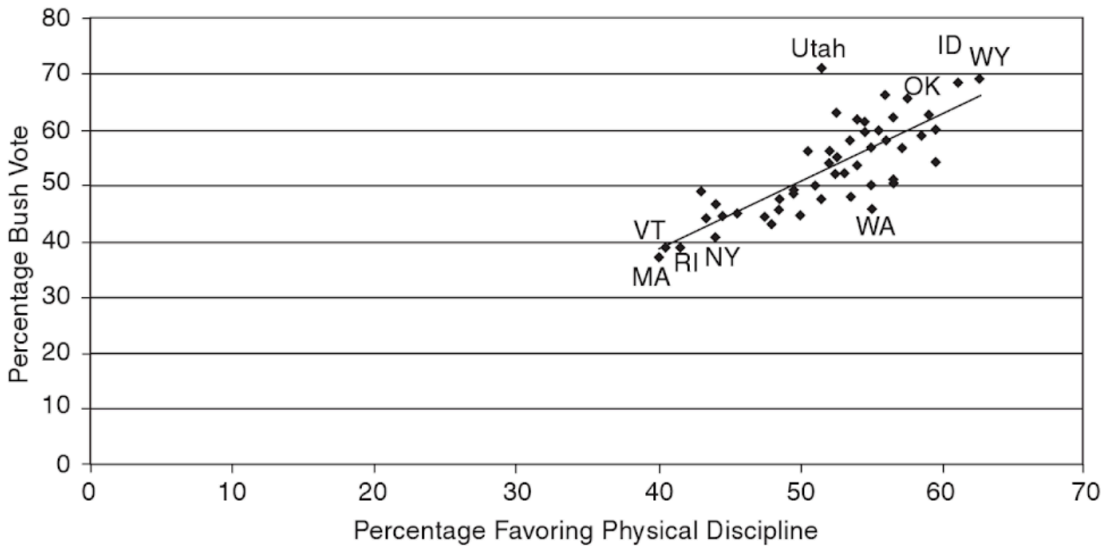
### **III. Discussion**

The lack of evidence to support each of the three research hypotheses implies that intra party trust is a difficult concept to measure and test in a practical environment. The effects of the party in control of government are powerful, and studies of diffuse trust may need to be conducted across decades to isolate diffuse trust from attitudes toward specific institutions and political figures. The tendency for Republicans to trust government more than other groups after a message either from their own party or from another party indicates that although partisanship matters within the context of message reception and interpretation, this relationship is more accurately described as different in partisan subsets of the population. It seems likely that the power of an individual in authority is creating an effect in the responses of Republicans and Democrats. Partisanship is distinct and important in message processing. This effect requires further testing for a satisfying explanation, but the data and experimental design set out in this study can provide a basis for further work in this area.

Counter to what researchers might expect to find if social identity theory holds as an accurate description of partisan processing, copartisans (or in-group members) were not significantly affected by the partisanship of a message source. This offers further support for a truth bias framework, as described in an experiment involving political deception detection in partisans (Clementson 2018). However, truth-default theory does not offer a satisfying explanation for the data. Instead, the data reveal that truth bias is a function of partisanship. The strong relationship between partisanship and political trust may be best explained as an individual worldview and psychological framework that runs deeper than group identities and social cues.

From a top-down perspective, scholars understand that partisan politics matter in the case of presidential disaster declarations (Salkowe and Chakraborty 2009). However, evidence from this experiment suggests that partisanship is a fundamental factor in the processing of political messages by constituents, beyond messages that relate to disasters. Instead of media content, partisanship is a key variable that determines perception of media bias (Lee 2010). In a longitudinal study of black and white Americans using NES data from 1958 to 2012, race was shown to be a prominent factor in political trust (Wilkes 2015). Moreover, partisan attitudes are deeply related to political trust, and this relationship has practical consequences. Distrust of authorities in historically impoverished minority groups determined reactions to evacuation warnings before Hurricane Katrina made landfall in New Orleans in 2005 (Cordasco et al. 2007). The authors of that study concluded “disaster and public health officials must learn how to build trust” (Cordasco et al. 2007, 277). Results from this study suggest the learning process will be more difficult than previously thought, because partisanship and diffuse political trust must be

**Figure 4: Bush vote as a function of willingness to physically discipline children, by state**



**\*data from 2004 presidential election (image from Hetherington and Weiler 2009)**

considered when public health officials approach communities that segment along partisan lines and are more or less receptive to political messages. Consider the implications of the findings of this thesis within the context of a hurricane evacuation: a message about an evacuation is likely to disproportionately affect those of one party; leaving a higher risk of death or injury among one group of partisans, and lower risks among other groups.

Partisanship determined trust levels in this survey experiment, and the effect was often statistically significant at the .00 level. These findings provide evidence for Altemeyer's (1996) conception of a differentiation in cognitive style between those that score high and low on an authoritarianism scale. Scholars have noted that seemingly incongruous variables such as a preference for corporeal punishment for children and a vote for a political candidate are related because holding a particular worldview has deep ramifications, some of which are political (Hetherington and Weiler 2009, 3). Those that score highly on the authoritarian scale have a

greater than average need for order and tend to see the world in more concrete terms than those that score low on the authoritarianism scale (Stenner 2005).

Zaller (1992, 44) posited the resistance axiom which states “people tend to resist arguments that are inconsistent with their political predispositions” as long as they have contextual information about a relationship between a message and their predispositions. This axiom emphasizes the role of information and partisanship in reception and interpretation of a message. In other words, we should expect to find that independents (medium-information independents in particular) are receptive to a message, and that partisans are less so. Scholarship involving partisanship and trust in government suggests that out-party groups are less receptive to highly politicized messages, and elite messaging in general (Taber et al. 2009). This is in part because partisans often have different levels of information than median voters.

In contrast to a framework of resistance or receptiveness to messaging, the data describe important and deep effects of partisanship on government trust. Messaging is complicated, and interpreting an important message is a difficult task, even without consideration for the dynamics of partisan cues or social contextual factors. Evidence from this experiment suggests that in the face of a disaster, many people jettison partisan views and prioritize messages from authority figures, while many others are less receptive to messages from any authority. These distinctions fall along partisan lines, but they are stronger than top-down partisan cues; evidence suggests these attitudes regarding trust and authority are foundational orientations that inform decisions far beyond the reception of a political message during disaster response. Hetherington and Weiler (2009) argue that non-authoritarian individuals tend to act more like authoritarians when they feel threatened, and they examine public opinion data surround the 9/11 terror attacks as an

example to justify their position. This study utilizes a hypothetical nuclear disaster as a threat and describes partisans who increase the distance between each group instead of moving closer together in a crisis, providing support for earlier work that describes increased polarization within the context of a threat (Stenner 2005). Because authoritarian preferences structure opinion on many other issues, the results from this study which support the existence of deep ideological differences in the population have far reaching implications (Hetherington and Weiler 2009). The partisan sorting described by this study reflects an American electorate that is increasingly divided regarding key issues in the political sphere that can be interpreted as tension between maintaining order and seeking justice; such as gay rights, race relations, diplomacy, terrorism and immigration.

While foundational political psychology work on the authoritarian personality by Adorno and colleagues (1950) has been challenged methodologically (Christie 1954; Rokeach 1960) and dismissed outright as a biased attempt to link psychology with ideological beliefs (Durrheim 1997; Martin 2001), the authoritarian personality remains an important part of understanding political psychology (Altemeyer 1981, 1996; Stone et al. 1993; Tetlock, 1984). For a review of political psychology studies of the authoritarian personality, see Jost et al. (2003) This thesis provides further evidence for the significant role of psychology in the political sphere and in shaping specific ideological beliefs, and for the strength of these partisan attitudes during uncertainty and threat.

### *Limitations*

This study has several limitations. The student sample was offered much freedom in partisan identification questions, allowing for incoherent answers to these questions and resulting

in hundreds of unusable responses that had to be dropped from the data set. This can in part be remedied in iterations of this experimental design, but future studies would benefit from clear, mutually exclusive delineations between party and partisan strength categories. In addition, the main finding of this study was in direct opposition to the hypothesis proposed. To restate, Republicans have higher levels of political trust related to a message regarding a hypothetical disaster than other groups, regardless of the political nature or partisanship of the source. The effects of current politics are difficult to overcome, even when a hypothetical future administration is proposed, as trust levels in this study correlate with the political climate outside of the study. Future work in this area might seek to separate the outside effects of a political climate from the treatment effects that are measured.

Much care was taken to separate the question regarding trust in government from the treatment and control conditions. The final experimental design reflects a varied message source and a following question about government in general. Such separation was included to avoid priming effects, but perhaps a direct question about the source would be better for future study. In addition, the trust question in this survey was chosen to offer a more nuanced scale of trust to offer more precise data and to attempt to allow respondents to represent their true opinions. The NES trust-in-government questions should be considered for inclusion in political trust experiments like this one, because they can provide an outside marker for comparison. Use of exact NES question wording would have allowed this study to use decades of data, including concurrent data, which would allow for powerful comparisons.

The data likely reflect an effect related to Stanley Milgram's well-known psychological experiment regarding obedience and figures of authority (1963). The President of the US is a

highly visible person in a position of authority, separate from notions of partisanship. Such figures of authority command significant levels of perceived legitimacy in the public, so it should be no surprise that individuals pay attention to the president (Van der Toorn et al. 2011). In this study, the effect among Republicans may be related to this phenomenon, but further research is required for this hypothesis. The challenge for scholars is to better explain the relationship between partisanship and authority, which may necessitate removing the president from such experiments, or otherwise accounting for the influential power of authority figures.

For future studies, it may be prudent to ask partisan questions early in the study and vary the treatment accordingly, to ensure that each group has an effective number of randomized treatments applied. For example, a survey that first determines that a participant is a Republican could include a function to administer a specific treatment based on party identification. This experiment utilized 24 treatment and control groups. This expansive compartmentalization was ambitious and may be simplified to increase the size of each treatment group and enhance the ability to measure statistical effects.

#### *Mechanical Turk sample*

To strengthen findings in this study, a second sample will be drawn from Amazon Mechanical Turk (MTurk), a platform for human intelligence tasks. The recruitment of a second population allows for a comparison of two separate populations and result in increases to both internal and external validity. In addition to strengthening the sample, some of the issues discussed above are addressed in the planned iteration of this study. Work has been undertaken to create and administer a close variant of the survey through the online intelligence tasks platform. Issues with answer consistency may be addressed by the use of a more sophisticated and mature



survey population with a better incentive for participation. The MTurk sample is expected to confirm the low level of trust measured in the university sample, but political orientations may be different in the second sample. The MTurk respondents will be paid \$0.18 for their time completing the survey. Amazon labels the work Human Intelligence Tasks (HITs). For this experimental survey, respondents are awarded compensation per HIT, which in this case is set as a fully completed survey.

The MTurk sample is in the initial stages and will survey 1200-1600 individuals with payment as incentive. The same survey platform and design will be used with tweaks to the introduction and termination to reflect the realities of the MTurk platform (see appendix for survey designs). The second survey utilizes the same questions, components, and structure of the university survey. The MTurk survey design mimics the student survey design, save for the addition of a completion code following the end of the survey, which allows for verification of task completion by the primary investigator. Other changes include altered instructions and an ending message tailored specifically for MTurk workers. In addition to these changes, skip logic that better reflects the in-person NES survey has been added to the MTurk sample to reduce inconsistent responses and strengthen potential findings.

### *Conclusion*

While the findings in this study are limited, they offer interesting descriptive statistics and several paths forward for studies in a similar area. These paths have been discussed in the limitations and discussion sections. Future studies may include skip logic for questions regarding political orientation and a consideration of political contextual forces at play outside of the experimental setting. In addition, special consideration for how authority figures affect attitudes

and trust must be considered. Findings from this study have implications that stretch beyond the bounds of the US political context, as the relationship between trust and partisanship has shown to be important in emerging democracies in East Asia (Huang et al. 2013). Among six emerging democracies (Indonesia, Mongolia, the Philippines, South Korea, Taiwan and Thailand), important distinctions are made between trust attitudes toward partisan institutions such as congress or political parties, neutral institutions such as the military and the courts, and in power-checking institutions such as the press. Following this example, future work in political trust may consider parsing political trust into separate institutional components.

Importantly, this study provides evidence that partisanship and party control of government matters, even when the stakes are extremely high in a nuclear disaster. Scholarship has described the powerful effects related to placement on a personality scale including authoritarianism and other components of political conservatism (Jost et al. 2003). Zaller described median citizens that are receptive to certain messages, but evidence from this study implies that partisan tendencies toward or against authoritarianism are stronger than the tendencies toward openness for in-party messages, at least during a disaster.

Risk communication and disaster response disciplines ask how an important message should be communicated during a disaster. This study was an attempt to answer a question with broad implications for risk communication during a disaster and for interpretation of important messages among partisans. Findings from this study suggest that during a disaster, citizens listen to the president. This effect has the potential to overcome partisan cues and strongly held attitudes regarding those in power. Spinoza (1677/1982) posited that the rejection of false information takes cognitive effort and is secondary to a default assumption of truth before the

information is weighed. The “Spinoza effect” (Gilbert 1993) is the result of inertia in the initial acceptance stage of information processing, wherein an individual does not appraise the information for veracity and continues with a truth assumption (Levine 2014; Levine et al. 2010). The results of this experiment indicate that partisanship is a foundational orientation that feeds into information processing at a base level, providing context and a world view that has far-reaching effects for individuals.

According to a report by the United Nations Scientific Committee on the Effects of Atomic Radiation, mental health impacts were the largest public health problem caused by the Chernobyl accident (Kinley 2006). This is not to minimize deaths surrounding the disaster, but to highlight the effect of Post-Traumatic Stress Disorder, depression, alcoholism and suicidal thinking that dropped life expectancy by seven years in the population surrounding the disaster site (Ropeik 2016). These mental health effects are the result of fears in the public that should be considered by those who are responsible for disseminating messages.

Political trust is a key component of governance in a democracy, so public servants and officials prioritize building trust in order to effectively govern and build support for policies and platforms (Thomas 1998; Levi and Stoker 2000). Within the context of a disaster, political trust and partisan message processing are variables that politicians and public health officials must take into consideration as they attempt to reach a population with a message. In contexts such as the political arena, findings from this study suggest that attempting discourse with a diverse population is more difficult than previously recognized. The central question relating to the proposed relationship between partisan messages and trust in government remains to be described in further detail. Scholarship following this experimental design would benefit from a

multi-disciplinary approach that straddles political science, psychology, and sociology to offer a more complete, descriptive, and useful model for partisanship and trust in government.

## APPENDIX

### SURVEY 1: NORTH TEXAS STUDENT POPULATION

[UTA Students] Structured Online Experimental Survey

Technology and government survey

Thank you for taking this UTA research survey. All the data is completely anonymous, so it cannot be linked to any specific person. You may quit at any time by closing the browser window, and you must be at least 18 years old to participate.

// Wave 1

1. Do you wish to participate in this survey? Yes/No
2. You must be at least 18 years old to participate. Are you age 18 or older?  
Yes/No

Note: Survey will only proceed if both questions are answered in the affirmative. If one or more answers is negative, the respondent will see this message: You have chosen not to participate, or have not met the age requirement. Thanks for your time!

// Wave 2

This section of the survey is about internet usage.

1. How many hours do you use the internet in a typical week?
  - Zero to two hours
  - More than two hours but less than ten hours
  - More than ten hours but less than 20 hours
  - More than 20 hours but less than 30 hours
  - More than 30 hours
  - Not sure
  
3. Do you own a computer, tablet or laptop? Yes/No/Not sure
4. How often do you use social media in a typical week?
  - Zero to two hours
  - More than two hours but less than ten hours
  - More than ten hours but less than 20 hours
  - More than 20 hours but less than 30 hours
  - More than 30 hours
  - Not sure
  
5. Do you use social media to discuss political issues? Yes/No/Not sure

// Wave 3

This section of the survey is the treatment section and will vary depending upon the group to which the participant is randomly assigned. Among the three treatment groups, one of six

politicized messages will be assigned randomly. A fourth group will receive a message unrelated to nuclear disaster and function as a control group. The message regarding the meltdown is adapted from the Federal Emergency Management Agency (FEMA) document “Communicating During and After a Nuclear Power Plant Incident.”

Thank you for completing the first part of the survey. Next, you will be asked to consider a fictional situation.

Imagine that three years from now you receive the following message from a reliable source. Please consider this message as you proceed with the survey.

### **Group A: Meltdown**

**Message:** A nuclear power plant has declared a general emergency that resulted in the release of radioactive materials. Seek immediate shelter. This is not a drill.

**Source 1:** from a future Republican President of the United States

**Source 2:** from a future Democratic President of the United States

**Source 3:** from a future Secretary of Energy appointed by a Republican US president

**Source 4:** from a future Secretary of Energy appointed by a Democratic US president

**Source 5:** from a nuclear power engineer

**Source 6:** from a phone alert message

### **Group B: Missile**

**Message:** Ballistic missile inbound. There is potential for a dangerous release of radioactive material. Seek immediate shelter. This is not a drill.

**Source 1:** from a future Republican President of the United States

**Source 2:** from a future Democratic President of the United States

**Source 3:** from a future Secretary of Energy appointed by a Republican US president

**Source 4:** from a future Secretary of Energy appointed by a Democratic US president

**Source 5:** from a nuclear power engineer

**Source 6:** from a phone alert message

### **Group C: Non-acute threat**

**Message:** Do not be worried about nuclear waste storage at local Rucca Mountain storage facility. Limited nuclear radiation release has been contained.

**Source 1:** from a future Republican President of the United States

**Source 2:** from a future Democratic President of the United States

**Source 3:** from a future Secretary of Energy appointed by a Republican US president

**Source 4:** from a future Secretary of Energy appointed by a Democratic US president

**Source 5:** from a nuclear power engineer

**Source 6:** from a phone alert message

### **Group D: Control**

**Message:** Please be cautious on the roads and in the air. Safety is important during National Transportation Week!

**Source 1:** from a future Republican President of the United States

**Source 2:** from a future Democratic President of the United States

**Source 3:** from a future Secretary of Energy appointed by a Republican US president  
**Source 4:** from a future Secretary of Energy appointed by a Democratic US president  
**Source 5:** from a nuclear power engineer  
**Source 6:** from a phone alert message

// Wave 3

1. Within the next three years, how likely do you think there will be a problem with the power grid that will leave many Americans without electricity for a month or more?  
Extremely likely/ Moderately likely/ Slightly likely/ Neither likely nor unlikely/ Slightly unlikely/ Moderately unlikely/ Extremely unlikely
2. Within the next three years, how likely do you think it is that there will be a problem with the internet that will leave many Americans without internet service for more than a month?  
Extremely likely/ Moderately likely/ Slightly likely/ Neither likely nor unlikely/ Slightly unlikely/ Moderately unlikely/ Extremely unlikely
3. What do you think is the likelihood of a nuclear disaster in the U.S. in the next three years?  
Extremely likely/ Moderately likely/ Slightly likely/ Neither likely nor unlikely/ Slightly unlikely/ Moderately unlikely/ Extremely unlikely
4. How likely do you think it is that the government is well prepared to respond to a nuclear disaster?  
Extremely likely/ Moderately likely/ Slightly likely/ Neither likely nor unlikely/ Slightly unlikely/ Moderately unlikely/ Extremely unlikely
5. How likely do you think it is that the government is well prepared to respond to a natural disaster?  
Extremely likely/ Moderately likely/ Slightly likely/ Neither likely nor unlikely/ Slightly unlikely/ Moderately unlikely/ Extremely unlikely
6. How would you rate your trust of government in general?  
High/ Some trust/ Neutral/ Not much trust/ Very low/ Not sure
7. Considering past and future US presidential administrations, how would you rate your trust of the executive branch of government in general?  
High/ Some trust/ Neutral/ Not much trust/ Very low/ Not sure
8. How well would you rate your knowledge of nuclear technology such as nuclear power plants or missiles?  
High/Some knowledge/Neutral/Not much knowledge/Very low/Not sure

Thank you for your participation so far. The final section of the survey will ask some demographic questions.

9. Generally speaking, do you usually think of yourself as a Republican, a Democrat, an Independent, or something else? Republican/Democrat/Independent/Something Else

10. If you think of yourself as a Democrat, would you call yourself a strong Democrat or a not very strong Democrat? Strong/Not Very Strong/I do not think of myself as a Democrat
11. If you think of yourself as a Republican, would you call yourself a strong Democrat or a not very strong Republican? Strong/Not Very Strong/I do not think of myself as a Republican
12. If you think of yourself as an Independent, do you think of yourself as more similar to Republicans than Democrats, more similar to Democrats than Republicans, or equally similar to Republicans and Democrats? More similar to Republicans than Democrats/More similar to Democrats than Republicans/Equally similar to Republicans and Democrats/I do not think of myself as an independent.

I would like to thank you for your participation. There is an additional purpose for this research-based study. If you are interested to know more about how this survey will be used, please click the link below to enter your e-mail address in a separate form. If you choose to do this, you will receive an e-mail after the survey has closed with further details. In every case, your answers remain anonymous. Thank you again for your participation.

Click this link to enter your e-mail address to receive an e-mail regarding the purpose of the study.

You may contact the UTA Research Office with general questions or concerns: [regulatory services contact email and phone number] In addition, I am personally available to answer any questions you may have, at [email address]. Feel free to contact me about anything regarding this study. Thank you,

Ian Trevor Owens

Debriefing script: I know your time is valuable and your help is very much appreciated. While this survey was offered as a “Technology and Government Survey,” it is a scientific study focused on public trust in government and how it relates to politicized message sources. Some participants received a hypothetical message about a nuclear disaster, while others did not, and responses will be compared.

I am interested in how a message is received when it comes from a source that people perceive to be politicized. This research will help scholars understand how government can be effective in times of crisis, and has the potential to affect the way in which government informs the public during a disaster.

I would like to once again offer my gratitude for your participation, without which I would have no project at all. Please feel free to respond to this e-mail with any direct questions; I am happy to follow up with you regarding this study.

Thank you, Trevor Owens



## SURVEY 2: AMAZON MECHANICAL TURK POPULATION

[MTURK] Structured Online Experimental Survey

Technology and government survey

Thank you for taking this UTA research survey. Respondents who fully complete the survey will be compensated \$0.18. All the data is completely anonymous, and you may quit at any time by closing the browser window.

// Wave 1

1. Do you wish to participate in this survey? Yes/No
2. You must be at least 18 years old to participate. Are you age 18 or older?  
Yes/No

Note: Survey will only proceed if both questions are answered in the affirmative. If one or more answers is negative, the respondent will see this message:

You have chosen not to participate, or have not met the age requirement. Thanks for your time!

// Wave 2

This section of the survey is about internet usage.

1. How many hours do you use the internet in a typical week?
  - Zero to two hours
  - More than two hours but less than ten hours
  - More than ten hours but less than 20 hours
  - More than 20 hours but less than 30 hours
  - More than 30 hours
  - Not sure
  
3. Do you own a computer, tablet or laptop? Yes/No/Not sure
4. How often do you use social media in a typical week?
  - Zero to two hours
  - More than two hours but less than ten hours
  - More than ten hours but less than 20 hours
  - More than 20 hours but less than 30 hours
  - More than 30 hours
  - Not sure
  
5. Do you use social media to discuss political issues? Yes/No/Not sure

// Wave 3

This section of the survey is the treatment section and will vary depending upon the group to which the participant is randomly assigned. Among the three treatment groups, one of six

politicized messages will be assigned randomly. A fourth group will receive a message unrelated to nuclear disaster and function as a control group. The message regarding the meltdown is adapted from the Federal Emergency Management Agency (FEMA) document “Communicating During and After a Nuclear Power Plant Incident.”

Thank you for completing the first part of the survey. Next, you will be asked to consider a fictional situation.

Imagine that three years from now you receive the following message from a reliable source. Please consider this message as you proceed with the survey.

### **Group A: Meltdown**

**Message:** A nuclear power plant has declared a general emergency that resulted in the release of radioactive materials. Seek immediate shelter. This is not a drill.

**Source 1:** from a future Republican President of the United States

**Source 2:** from a future Democratic President of the United States

**Source 3:** from a future Secretary of Energy appointed by a Republican US president

**Source 4:** from a future Secretary of Energy appointed by a Democratic US president

**Source 5:** from a nuclear power engineer

**Source 6:** from a phone alert message

### **Group B: Missile**

**Message:** Ballistic missile inbound. There is potential for a dangerous release of radioactive material. Seek immediate shelter. This is not a drill.

**Source 1:** from a future Republican President of the United States

**Source 2:** from a future Democratic President of the United States

**Source 3:** from a future Secretary of Energy appointed by a Republican US president

**Source 4:** from a future Secretary of Energy appointed by a Democratic US president

**Source 5:** from a nuclear power engineer

**Source 6:** from a phone alert message

### **Group C: Non-acute threat**

**Message:** Do not be worried about nuclear waste storage at local Ruca Mountain storage facility. Limited nuclear radiation release has been contained.

**Source 1:** from a future Republican President of the United States

**Source 2:** from a future Democratic President of the United States

**Source 3:** from a future Secretary of Energy appointed by a Republican US president

**Source 4:** from a future Secretary of Energy appointed by a Democratic US president

**Source 5:** from a nuclear power engineer

**Source 6:** from a phone alert message

**Group D: Control**

**Message:** Please be cautious on the roads and in the air. Safety is important during National Transportation Week!

**Source 1:** from a future Republican President of the United States

**Source 2:** from a future Democratic President of the United States

**Source 3:** from a future Secretary of Energy appointed by a Republican US president

**Source 4:** from a future Secretary of Energy appointed by a Democratic US president

**Source 5:** from a nuclear power engineer

**Source 6:** from a phone alert message

// Wave 3

1. Within the next three years, how likely do you think there will be a problem with the power grid that will leave many Americans without electricity for a month or more?  
Extremely likely/ Moderately likely/ Slightly likely/ Neither likely nor unlikely/ Slightly unlikely/ Moderately unlikely/ Extremely unlikely
  
3. What do you think is the likelihood of a nuclear disaster in the U.S. in the next three years?  
Extremely likely/ Moderately likely/ Slightly likely/ Neither likely nor unlikely/ Slightly unlikely/ Moderately unlikely/ Extremely unlikely
  
4. How likely do you think it is that the government is well prepared to respond to a nuclear disaster?  
Extremely likely/ Moderately likely/ Slightly likely/ Neither likely nor unlikely/ Slightly unlikely/ Moderately unlikely/ Extremely unlikely
  
5. How likely do you think it is that the government is well prepared to respond to a natural disaster?  
Extremely likely/ Moderately likely/ Slightly likely/ Neither likely nor unlikely/ Slightly unlikely/ Moderately unlikely/ Extremely unlikely
  
6. How would you rate your trust of government in general?  
High/ Some trust/ Neutral/ Not much trust/ Very low/ Not sure
  
7. Considering past and future US presidential administrations, how would you rate your trust of the executive branch of government in general?  
High/ Some trust/ Neutral/ Not much trust/ Very low/ Not sure

8. How well would you rate your knowledge of nuclear technology such as nuclear power plants or missiles?  
High/Some knowledge/Neutral/Not much knowledge/Very low/Not sure

Thank you for your participation so far. For the final section of the survey, please answer some questions about politics.

9. Generally speaking, do you usually think of yourself as a Republican, a Democrat, an Independent, or something else? Republican/Democrat/Independent/Something Else
10. If you think of yourself as a Democrat, would you call yourself a strong Democrat or a not very strong Democrat? Strong/Not Very Strong/I do not think of myself as a Democrat
11. If you think of yourself as a Republican, would you call yourself a strong Democrat or a not very strong Republican? Strong/Not Very Strong/I do not think of myself as a Republican
12. If you think of yourself as an Independent, do you think of yourself as more similar to Republicans than Democrats, more similar to Democrats than Republicans, or equally similar to Republicans and Democrats? More similar to Republicans than Democrats/More similar to Democrats than Republicans/Equally similar to Republicans and Democrats/I do not think of myself as an independent.

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Click this link to enter your e-mail address to receive an e-mail regarding the purpose of the study.

You may contact the UTA Research Office with general questions or concerns: [regulatory services email and phone contact information]. In addition, I am personally available to answer any questions you may have, at [e-mail address] or through the MTurk platform. Feel free to contact me about anything regarding this study. Thank you,

Ian Trevor Owens

Note: the end of the survey will include a random code assigned to every individual for the purpose of ensuring that only respondents who complete the survey are paid. Respondents will see a message like this:

*Thank you for completing our survey.*

*Your response has been recorded.*

*Your MTurk completion code is:*

*49414556*

## RECRUITMENT MESSAGE SCRIPT

Hi everyone,

My name is Trevor and I'm a student at the university. For my thesis project, I have designed a survey for a study that focuses on technology and government.

Your participation is voluntary, so you may choose not to participate. I hope you will participate, because the survey only takes three minutes to complete, and your participation means a lot to me. Your personal data will never be collected, so the survey is completely anonymous. This means that your answers will help me with my project, but they can never be traced back to any individual.

As a fellow student, I know your time is valuable. If you can donate three minutes of your day to answer a few questions, I would be grateful. I am available to answer any questions you may have, so please feel free to email me with any questions at [email address]

Please click this link to take survey: [survey link]

Thank you,

Ian Trevor Owens

## DEBRIEFING SCRIPT

I know your time is valuable and your help is very much appreciated. While this survey was offered as a "Technology and Government Survey," it is a scientific study focused on public trust in government and how it relates to politicized message sources. Some participants received a hypothetical message about a nuclear disaster, while others did not, and responses will be compared.

I am interested in how a message is received when it comes from a source that people perceive to be politicized. This research will help scholars understand how government can be effective in times of crisis, and has the potential to affect the way in which government informs the public during a disaster.

I would like to once again offer my gratitude for your participation, without which I would have no project at all. Please feel free to respond to this e-mail with any direct questions; I am happy to follow up with you regarding this study.

Thank you, Trevor Owens

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