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NUCLEAR (IN)SECURITY IN A POST-COLD WAR WORLD: PUBLIC PERCEPTIONS OF
NUCLEAR RISK, IDENTITY, AND POLICY PREFERENCES

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KAITLIN BROOK PEACH
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BY THE COMMITTEE CONSISTING OF

Dr. Hank Jenkins-Smith, Chair

Dr. Joseph Ripberger

Dr. Colin Barry

Dr. Charles Nicholson

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Acronyms

CI	Cooperative Internationalism
CTBT	Comprehensive Test Ban Treaty
FMCT	Fissile Material Cut-off Treaty
INF	Intermediate Range Nuclear Forces Treaty
JCPOA	Joint Comprehensive Plan of Action
MI	Militant Internationalism
NATO	North Atlantic Treaty Organization
NNSA	Nuclear Security Administration
NPT	Treaty on the Non-Proliferation of Nuclear Weapons
NSE	Nuclear Security Enterprise
SLCM-N	Nuclear-Armed Sea-Launched Cruise Missile
START	Strategic Arms Reduction Treaty
TPNW	Treaty on the Prohibition of Nuclear Weapons

Abstract

Despite the relative lack of attention paid to nuclear issues in the post-Cold War era, new security threats, such as China's rise as a nuclear peer, and an increased potential for proliferation by Iran, have amplified nuclear risks. Furthermore, the US is facing domestic nuclear challenges, such as aging infrastructure and insufficient workforce. New threats and domestic challenges may require the US to re-evaluate its nuclear weapons policies. This dissertation examines the context of the post-Cold War nuclear security environment and its influence on US public perceptions of nuclear war risk, the role of nuclear weapons in US identity, and the public's nuclear policy preferences. This dissertation advances the microfoundations of international relations in three ways. First, by examining issues aside from nuclear use, such as identity and policy preferences related to programmatic spending, treaty support, and arsenal size. Second, through demonstrating the applicability of Sagan's three models of proliferation to other nuclear decisions and the ways the public engages with the models. Third, by examining the microfoundations of the Sagan and Waltz debate on proliferation and stability.

Chapter 1: Introduction

1.1 US Nuclear Security Challenges Since the End of the Cold War: A Two-Level Game

Since the end of the Cold War, new security issues emerged that replaced nuclear weapons and war as pressing foreign policy issues, particularly in the eyes of the public, such as international and domestic terrorism, climate change, and cybersecurity. In the early 1990s, the end of the Cold War brought hope for reducing nuclear risk through arms control treaties, such as the Strategic Arms Reduction Treaty (START) I and II, New START, The Comprehensive Test Ban Treaty (CTBT), and the Treaty on the Nonproliferation of Nuclear Weapons (NPT). In 2009, President Obama gave a speech envisioning “a world without nuclear weapons” (Obama 2009). These events made it appear that nuclear risks had been reduced or were at least less pressing.

However, despite the optimism and attention turning to other pressing security issues, the risk of nuclear use never disappeared. Instead, nuclear weapons have continued to be an ever-present feature of American national security and foreign policy, and there have been moments when the risk of use has escalated. Furthermore, the US faces a two-level game in nuclear issues, with international and domestic politics contributing to both risk and risk reduction. The international community faces numerous challenges, such as Russian nuclear threats in Ukraine. At the same time, the United States is also confronting domestic issues, including a nuclear security enterprise that has been severely challenged in its ability to develop and maintain the stockpile needed for today’s security demands.

The international risk is reflected in the *Bulletin of the Atomic Scientists* Doomsday Clock, a symbol reflecting existential risks, particularly nuclear ones. While the Doomsday Clock may have its critiques, it is one method for communicating risk to the public. The clock

was farthest from midnight at the end of the Cold War (17 minutes), and now, the clock reflects that we are 89 seconds from midnight (Doomsday Clock Timeline 2025), the closest it has ever been. There are numerous examples of events that reflect the escalation of nuclear risks. India and Pakistan tested nuclear weapons, and, at times, tensions between the two states could have led to nuclear war (Robock et al. 2019). North Korea began testing nuclear weapons in 2006 and most recently tested in 2017 (Nikitin 2024). Concerns about Iranian proliferation have persisted, particularly with heightened tensions between Iran and Israel (Reuters 2024). Russia invaded Ukraine twice, and in 2022, following its full-scale invasion, threatened nuclear use (Sanger, Troianovski, and Barnes 2022), changed its nuclear doctrine to lower the threshold for use (Davies 2024), suspended its participation in the New START Treaty (Chappell 2023), and moved nuclear weapons into Belarus (Osborn 2023). China has begun building up its nuclear weapons stockpile and emerged as a nuclear peer for the United States and Russia (Center for Global Security Research Study Group 2023). Finally, over concern about the US’s commitment to treaty and non-treaty allies, there have been concerns that Ukraine and South Korea could build their own nuclear weapons programs (Sang-Hun 2024; Starcevic 2024).

On the domestic front, the nuclear security enterprise (NSE) has continuously faced challenges, as it “has been asked to take on more work than any time since the Cold War,” (GAO 2025, 1). The high demand, paired with inadequate infrastructure and workforce, has placed a strain on the NSE and made it challenging for the enterprise to meet the needs of the current security environment. Many modernization efforts have exceeded their budget and are behind schedule (Creedon et al., 2023)¹. Furthermore, the new Trump Administration has already

¹ From the 2023 Strategic Posture Commission Report: “The Commission believes that due to previous years of neglect and a dangerous threat environment, the infrastructure (facilities and workforce) that enables development and fielding of strategic capabilities needs to be overhauled. This will require nothing short of a government-wide focus akin to the U.S. moonshot of the 1960s,” (p. 51).

brought disruptions to the NSE through its Department of Government Efficiency (Marsh and Nilsen 2025) and has the potential to disrupt the global nuclear order. In his first term in office, Trump had a tumultuous relationship with North Korean leader Kim Jong-Un, which, at times, presented optimism for a denuclearized North Korea and, at others, escalated nuclear tensions. Trump pulled out of the Joint Comprehensive Plan of Action (JCPOA), the arms control agreement with Iran, and withdrew from the Intermediate-Range Nuclear Forces Treaty (INF). While it is too early in the second Trump Administration to determine its impact on nuclear policy, the Administration faces challenges related to the aging arsenal and expensive modernization plans and deterrence in a tri-polar world. Project 2025 proposes that the US should “Reject ratification of the Comprehensive Test Ban Treaty and indicate a willingness to conduct nuclear tests in response to adversary nuclear developments if necessary. According to this proposal, the National Nuclear Security Administration would be directed to move to immediate test readiness...” (quoted in Drollette 2024). At the same time, Trump has indicated a willingness to restart arms control talks with Russia (Herman 2025).

These events reflect a changing nuclear security environment with implications for the risk of nuclear war, the role of nuclear weapons in US security and leadership, and US nuclear policy. While nuclear risks and policy are typically examined at the macro level, this dissertation explores the stability and changes of these issues at the micro level through the eyes of the American public and the implications of public opinion for American nuclear policy in a changing security environment. This introduction will provide an overview of the literature, and then, the three dissertation chapters will be detailed.

1.2 Nuclear Weapons and the Public

Public participation in nuclear security policy differs from other policy domains, such as healthcare, immigration, and education. Public involvement has been limited but not non-existent. This is in part due to the secretive nature of nuclear weapons but also the complex nature of nuclear weapons technology and policy and the lack of personal experience the public has with nuclear policy, particularly in the post-Cold War era, where nuclear war preparedness is not a feature of daily life (Herron and Jenkins-Smith 2006; Kenausis et al. 2018). Nuclear weapons and nuclear war are abstract and difficult concepts for most of the public, and some policy makers, to understand (Cohn 1987). Despite the portrayal of nuclear weapons and war in pop culture and the fact that nuclear weapons have been around for the majority of Americans' lives, the risk is not always evident or understandable.

Yet, the public forms policy preferences and perceptions of risk, and whether they realize it or not, are deeply impacted by nuclear policy choices. The public's perceptions and preferences matter despite a lack of knowledge or direct involvement. The public may hold policymakers accountable if they perceive that policymakers have not acted appropriately in a nuclear crisis. Most importantly, the consequences of nuclear use impact the public. As Brodie (1965, 233) noted:

“a speculation about the probability of war is a speculation not about what the gods will do but about what men will do ... it is important especially for the citizens of a great power like the United States to bear in mind, that within wide margins delimiting the choices available to us, what happens to us is largely affected by what we do.”

1.3 Literature Review and Dissertation Framework

This dissertation employs public opinion data to explore American public perspectives on nuclear issues through the lens of some foundational pieces on nuclear weapons in the international relations literature. It builds upon the literature on public opinion on nuclear weapons, theories of proliferation and the role of nuclear weapons in creating global stability and security, and the constructivist literature on state identity.

A primary theoretical framework for this dissertation is Sagan's foundational (1996) "Why do States Build Nuclear Weapons?: Three Models in Search of a Bomb." In this article, Sagan (1996) proposes three models to explain why states choose to proliferate or not (the "security model," "the domestic politics model," and "the norms model). I hypothesize that these models can also help us understand other nuclear policy choices, and the public likely engages with these frameworks, whether or not they realize they are doing so.

The first chapter draws upon the "security model" and Sagan and Waltz's (1995, 2002, 2012) foundational debate on the degree to which the spread of nuclear weapons creates security or risk. The second chapter draws upon "the norms model," exploring perceptions of nuclear weapons' role in maintaining US identity. The third chapter of this dissertation examines how physical security threats, in the form of nuclear war risk perceptions, perceptions of the US's identity, and socioeconomic, demographic, and ideological characteristics influence policy preferences. Other relevant literature is included in each chapter. This section provides a broad overview of the literature on public opinion on nuclear weapons.

Nuclear Weapons and Public Opinion

Since the bombings of Hiroshima and Nagasaki, polling organizations, news outlets, and academics have studied public opinion on nuclear weapons (Kramer, Kalick, and Milburn 1983).

During much of the Cold War, this research centered on three thematic areas: Production and Use, Perceptions of the Arms Race, and Personal Fears and Apprehensions (Kramer, Kalick, and Milburn 1983). Scholars have recently turned to survey experiments to explore public opinion on nuclear weapons and to test the micro-foundations of key international relations theories. A sample of this literature is included in Table 1.1 below. This review indicates that much of the post-Cold War era research has focused on one of the most predominant questions in international relations: Why have nuclear weapons not been used since 1945? Are there conditions under which the public would deem nuclear use acceptable? These studies examine the public's internalization of the "nuclear taboo" norm. However, scholars have begun to explore other issues, including proliferation (Kwong 2023), arms control treaty support (Herzog, Baron, and Gibbons 2022), and extended deterrence (Allison, Herzog, and Ko 2022).

The sample of this work is limited to studies published in English, and most of these studies rely on US samples. This is beginning to shift, with studies examining public opinion in European states, particularly North Atlantic Treaty Organization (NATO) countries, such as Germany (Onderco, Smetana, and Etienne 2023) and the Netherlands (Onderco et al. 2021) and non-Western nuclear weapons states, including Israel (Horschig 2022), Russia (Smetana and Onderco 2023), and China (Egel and Hines 2021).

Table 1.1: Selected Public Opinion on Nuclear Weapons Literature (Post-Cold War Era)

Author(s)	Title	Year	Population Sampled	Theme/Concepts
Allison, Herzog, and Ko	Under the umbrella: Nuclear crises, extended deterrence, and public opinion	2022	US, South Korea, Japan	Extended Deterrence
Baron, Gibbons, Herzog	Japanese Public Opinion, Political Persuasion, and the Treaty on the Prohibition of Nuclear Weapons	2020	Japan	Treaty on the Prohibition of Nuclear Weapons
Dill, Sagan, and Valentino	Kettles of hawks: Public opinion on the nuclear taboo and noncombatant immunity in the United States, United Kingdom, France, and Israel	2022	US, Britain, France, Israel	Nuclear Taboo
Egel and Hines	Chinese views on nuclear weapons: Evidence from an online survey	2021	China	First survey on Chinese public opinion; Possession and Use
Herron and Jenkins-Smith	Critical masses and critical choices: Evolving public opinion on nuclear weapons, terrorism, and security	2006	US	Risks, Policy
Horschig	Israeli Public opinion on the use of nuclear weapons: Lessons from terror management theory	2022	Israel	Nuclear Use
Kwong	Messaging and the bomb: public attitudes toward nuclear proliferation	2024	US	Proliferation: AUKUS, Iran
Lytle and Karl	Understanding Americans' Perceptions of Nuclear Weapons Risk and Subsequent Behavior	2020	US	Risk perceptions
Press, Sagan, Valentino	Atomic aversion: Experimental evidence on taboos, traditions, and the non-use of nuclear weapons	2013	US	Nuclear Taboo
Smetana and Onderco	From Moscow with a mushroom cloud? Russian public attitudes to the use of nuclear weapons in a conflict with NATO	2023	Russia	Nuclear Use
Spektor, Fasolin, Camargo	Public support for nuclear proliferation: Experimental evidence from Brazil	2022	Brazil	Proliferation

However, limited work exists on risk perceptions, the role of nuclear weapons in perceptions of state identity, and policy preferences other than use, such as spending and arsenal size. Much of the specific policy preference literature draws upon the same dataset used in this study (Herron and Jenkins-Smith 2006; Herron and Jenkins-Smith 2014).

This literature has revealed interesting findings, which are sometimes inconsistent with what scholars might expect. Traditionally, scholars have argued that because foreign and national security policies are challenging policy areas for the public to understand, the public could not have well-formed preferences and that the public's preferences reflect the preferences of policy actors (Almond 1950; Morgenthau 1948). However, studies have demonstrated that the public can form policy preferences distinct from policy elites and have at least a baseline understanding of national security and foreign policy (Herron and Jenkins-Smith 2014; Kertzer and Zeitzoff 2017). For example, Herron and Jenkins-Smith (2006) found that, contrary to expectations, Americans in the early post-Cold War era perceived a deteriorating security environment and placed continued—if not increased—value on the US nuclear arsenal (36).

The Public's Role and Why Public Opinion Matters

There is a growing body of work on the domestic influences (including public opinion) on foreign policy decisions, including work that demonstrates that members of the public are “also... actor[s] in the nuclear drama” (Carnesdale et al. 1983, 10). In other words, the public is impacted by nuclear decisions—whether it be production, testing, strategic posture choices, or use. In this dissertation, I examine the role of the public in nuclear decisions through the lens of Sagan's (1996) three models of proliferation, primarily the security and norms model, and in crisis scenarios, through the theory of audience costs.

Although Sagan's (1996) models were designed to explain macro-level behavior related to proliferation, they also offer valuable insights into other nuclear policy decisions.

Furthermore, I argue that the public, while they may not realize it, engages with these models as they form nuclear policy preferences. The public's preferences are influenced by threats to the US, the norms they believe the US should follow, and the role it has in the world, as well as by domestic politics that may condition their support for national security and foreign policy decisions.

First, relating to the "security model," previous research demonstrates that the public has a broad understanding of the international security environment, including nuclear risks, which shapes policy preferences and how they expect policy elites to behave (Herron and Jenkins-Smith 2006). Second, relating to the "norms model," the public perceives the expected behavior and role(s) of the United States in the world, which can influence the perceived value and symbolism of nuclear weapons. Furthermore, the public internalizes norms that may influence policy support. For example, I hypothesize that if the public has not strongly internalized the nuclear taboo norm and instead values nuclear weapons as important for aspects of US identity, such as military superiority, the public is less likely to support arms control efforts but more likely to support modernization. Finally, relating to the "domestic politics model," the public's concern over domestic challenges, such as the cost of health care or deteriorating transportation infrastructure, may influence the public's willingness to support, for example, increased spending on modernization. This dissertation does not examine the links between domestic political and economic policy concerns and willingness to support nuclear policies. Furthermore, the "domestic politics" model examines how domestic political actors, primarily the policy elite, may shape proliferation concerns but the public is also a domestic actor in the nuclear policy

subsystem. However, its role may depend on “leaders widening the circle of nuclear policymaking, perhaps because they need other actors to obtain the nuclear outcome they want” (Saunders 2019, 151).

Policy actors should pay attention to public opinion on nuclear security for two primary reasons. The public may impose audience costs on elected officials, and nuclear decisions impact the public. In a crisis, members of the public may impose audience costs on elected leaders (Fearon 1994; Smith 1998). Audience costs have typically been measured as the decrease in support for policymakers when they are inconsistent in their threats and subsequent actions. Kertzer and Brutger (2016) argue that threatening the use of force can also result in decreased public support. Some examples related to nuclear crises in which audience costs may be imposed are: (1) a President escalates a situation and threatens nuclear use, (2) a President draws a “red line” but does not follow through on threats if that “red line” is crossed, (3) a President misinterprets a situation and uses nuclear force, or (4) the President fails to act at all.

Nuclear decisions, including those aside from use, impact the public. Communities around the world have faced health and environmental impacts from the US NSE, from production and testing (Bolton and Minor 2021). Nuclear use would likely have an impact on the public and members of the military in combat. Additionally, the NSE is a large employer, employing over 60,000 federal and contractor employees across eight sites across the country (Fink 2025)². Pressure to rapidly modernize the nuclear arsenal places pressure on that workforce, whereas decisions to cut programs may result in hundreds or thousands facing unemployment. While the NSE’s goal is the production and maintenance of nuclear weapons,

² This number does not include those who work on nuclear weapons in other agencies and departments across the government, such as the Department of Defense (DOD) and intelligence agencies. This number is also subject to change because of recent government job cuts.

many of its sites are also key to scientific and technological advancement that have the potential to benefit the public, such as advancements in fusion technology at Lawrence Livermore National Laboratory.

This section demonstrates that public opinion matters for nuclear policy. However, the degree to which it can influence policy may be constrained by policy actors decisions to take public opinion into account or not. This dissertation does not explore the degree to which the public influences nuclear policy but instead focuses on their opinions and perceptions, the influences of those opinions and perceptions, and why that matters for policy. Future research should engage with the question: To what degree does the public influence nuclear policy?

Influences of Public Opinion

This dissertation explores how risk perceptions, demographic and socioeconomic characteristics, and foreign policy attitudes (measured by the Holsti and Rosenau 1990 four types) influence views on (1) the role of nuclear weapons in US and international security, (2) the role of nuclear weapons in US identity, and (3) nuclear policy preferences. The sociodemographic characteristics and world views included are age, education, a dichotomous race variable (white/nonwhite), gender, political party, and a cooperative internationalism and militant internationalism index. Holsti (1996) states that demographics can be tools for understanding foreign policy beliefs because “the public may effectively use simple, or even simplistic, guidelines to help them make some sense of the complex and remote actors, issues, and events that constitute foreign affairs,” (129).

In the nuclear policy space, age will likely play a significant role in shaping risk perceptions and policy preferences. Holsti (1996) states that “members of each generation view the world in light of the critical events that marked their coming to maturity” (156). For example, older respondents, particularly those with memories of the Cold War, are likely to have different

perceptions of risk, value nuclear weapons differently, and have different policy preferences than those without those memories. A 2017 Pew poll found that older Americans were more concerned about the North Korean nuclear threat than younger Americans (Poushter 2017). Furthermore, older individuals may view nuclear weapons as more critical for security than those of non-Cold War generations. Meanwhile, younger respondents may view nuclear weapons as less of a threat and be more supportive of disarmament movements (Lytle and Karl 2020; Rigby, Metzger, and Dietz 1990).

Scholars have long examined nuclear weapons through a gendered lens, often portraying them as symbols of masculinity and strength (Cohn 1987). Furthermore, conversations about the role of women in nuclear policy have often been limited to that of actors in the disarmament coalition, victims of nuclear weapons, and the effects of the nuclear security enterprise, and are missing entirely from the field (Wattenberg 2024). These narratives lead to the expectation that women are more likely to have more dovish foreign policy attitudes than men, thus likely to be less supportive of nuclear weapons and more supportive of arms control treaties (Barnhart et al. 2020; Onderco et al. 2021). However, the reality is that women are involved in every aspect of the nuclear security enterprise (Egeland and Taha 2023). Therefore, while there may be instances where there is a gender gap, the effect of gender on nuclear weapons attitudes may be more complex. Studies have yielded mixed results regarding gender (Fite, Genest, and Wilcox 1990). For example, studies have demonstrated that women may have hawkish views as well (Sagan and Valentino 2017) and that the gender gap in national security policy preferences may not always be as pronounced as we may expect (Eichenberg and Stoll 2012).

Although some have argued that foreign and national security policies are perhaps more bipartisan than domestic policy, partisanship impacts foreign policy attitudes (Holsti 1996).

However, “partisan types vary considerably across different foreign policy issues, but are generally less distinct and less intense than in domestic political issues,” (Kertzer, Brooks, and Brooks 2021, 1779). In the nuclear space, there is evidence of some partisan difference. For example, studies on nuclear use have shown that Republicans are more likely to approve of nuclear use than Democrats (Press, Sagan, and Valentino 2013; Koch and Wells 2021).

Last, the literature on foreign policy attitudes engages with two dimensions: cooperative and militant internationalism. These two dimensions, the Wittkopf-Holsti-Rosenau model, create four types of beliefs: hard-liners, internationalists, isolationists, and accommodationists (Wittkopf 1986; Wittkopf 1990; Holsti and Rosenau 1990). Using factor analysis, respondents receive scores for the two dimensions and then are categorized by the four types. An individual’s alignment with the types is influenced by one’s values, morals, and background characteristics (Holsti 1996; Kertzer et al. 2014; Rathbun et al. 2016). Internationalists support engagement in the international system through “a combination of conciliatory and conflictual strategies.” Isolationists “oppose both types of international involvement.” Accommodationists “embrace the tenets of cooperative internationalism,” whereas hard-liners embrace militant internationalism (Wittkopf 1990, 22-26).

1.4 Dissertation Outline

This dissertation consists of three related research articles. All three articles employ data from the University of Oklahoma Institute for Public Policy Research and Analysis National Security Survey. The “survey series began in 1993, looking at the evolution of public preferences about multiple dimensions of security, such as nuclear weapons, nuclear disarmament, non-proliferation, and terrorism” (National Security 2024). Initially, responses were gathered by phone (1993-2003), then by phone and online survey platform (2005-2011), and are now

gathered exclusively by online survey platform (2015-Present). The survey was not administered from 2012 to 2014, limiting analysis during the Obama years, which includes Russia's invasion of Crimea. The survey sample is repeated, cross-sectional, and representative of the American public. Weighting is used to account for any differences between the sample and Census estimates. It has been conducted annually since 2005, except for 2012-2014.

The survey covers a range of national security topics, from terrorism (Herron and Jenkins-Smith 2006) to nuclear weapons (Ripberger, Rabovsky, and Herron 2011) to disinformation (Peach et al. 2024). It includes general questions and, in some iterations, survey experiments (Peach et al., 2025). The sample is based on a repeated cross-sectional design rather than a panel design, creating some challenges for analysis. However, these data provide insight into the changes or stability in nuclear war risk perceptions and the international environment in the post-Cold War era.

The following sections detail the research questions and provide a broad overview of the results found in each chapter.

Chapter One

In the first chapter of this dissertation, I examine public perceptions of nuclear war risk and how those perceptions relate to US international and domestic security perceptions. Then, I analyze how risk perceptions influence the public's understanding of the Sagan and Waltz debate: Do nuclear weapons make the world safer?

The research questions posed in this chapter are: (1) Is a higher perceived risk of nuclear war associated with a less or more secure world? Next, following the Sagan and Waltz (1995) debate: (2) Does the public view nuclear weapons, in general, as making the world safer? (3)

Last, what other factors influence how people evaluate the role of nuclear weapons in making the world safer?

This chapter finds that respondents were moderately concerned about the risk of nuclear war during the survey period. Respondents were primarily concerned with Iran and North Korea, until the last few years, when mean risk perceptions for all four states began to converge. Nuclear war risk perceptions and both national and international security are weakly correlated. Until 2016, correlation coefficients were positive, indicating that higher perceptions of nuclear war risk were associated with increased perceptions of insecurity. However, recent correlation coefficients have been negative, indicating an association between high nuclear war risk perceptions and perceptions of security. In alignment with the literature, the results indicate that identifying as older, Republican, hard-liners, and higher nuclear war risk perceptions are associated with believing nuclear weapons make the world safer.

Chapter Two

The second chapter explores the role of nuclear weapons in perceptions of the US's state identity. The US was the first state to build, test, and the only state to use the bomb. For some, nuclear weapons were, and still are, an important tool in shaping the way the way the US perceived its role in the world and the way others perceived it following World War II and beyond. Nuclear weapons not only protect the US and its allies but also project power and signal a state's ability influence. For others, nuclear weapons are a symbol that contradicts what they desire US identity to be and the way power is projected.

This chapter addresses the following questions: (1) How does the public value nuclear weapons in relation to the US's identity or role in the world? In other words, does the US public feel that nuclear weapons are important tools for military superiority, as well as being a leader in

the world? Or does the public see disarmament and moral and normative leadership as a tool for US leadership? (2) What influences how people think about nuclear weapons' role in these identities?

The results indicate that the American public believes nuclear weapons are important for maintaining the US's identity as a military superpower and leader in the world. Age, Republican party affiliation, and hard-liner attitudes are associated with the perception that nuclear weapons are important for US military leadership. Identifying as male, highly educated, older, Republican, and hard-liner attitudes are associated with valuing nuclear weapons for US status as a leader and influence abroad. Finally, those with higher levels of education and accommodationist attitudes are associated with viewing disarmament as

Chapter Three

The final chapter examines the public's nuclear policy preferences and the influences of those preferences. This chapter addresses the following research questions: (1) What are the public's nuclear weapons policy preferences? (2) How do nuclear war risk perceptions, general foreign policy attitudes, and sociodemographic characteristics shape nuclear policy preferences?

This chapter finds that, on average, the public supports spending on nuclear programs to remain about the same, has moderate support for arms control treaties, and that less than 1,550 deployed nuclear weapons are sufficient for deterrence. Higher nuclear war risk perceptions are associated with increased support for policies, regardless of whether they are for deterrence or arms control (Herron and Jenkins-Smith 2006). This finding is interesting in the Sagan and Waltz debate context, as risk perceptions drive both arguments. Placing higher importance on nuclear weapons for maintaining US leadership and influence in the world is associated with

increased support for arms control treaties, except for disarmament, increased spending across all four categories, and a larger arsenal size (within New START limits).

1.5 Contribution to the Literature

This dissertation explores several understudied areas of public opinion on nuclear weapons: risk perceptions, state identity, and policy preferences other than nuclear use in conflict. The results provide new insight into how the public thinks about nuclear weapons and the policies they are likely to support. Furthermore, the results add to the microfoundations literature by exploring topics other than use and by engaging with Sagan's (1996) models of proliferation and the Sagan and Waltz debate.

In sum, these results demonstrate the public's aggregate risk and identity perceptions and policy preferences. The results indicate nuances between people with different sociodemographic characteristics, ideologies, and world views. These results also demonstrate the public's ability to form coherent perceptions about the international security environment and perceptions and policy preferences related to nuclear weapons.

1.6 Future Research

This research creates a foundation for future research on several subjects, including (1) public opinion related to nuclear knowledge or the public's (and policy elites') "nuclear IQ"; (2) domestic constraints on nuclear policy preferences; (3) the role of focusing events and media attention in risk perceptions and policy preferences; and (4) perceptions of multipolar threats and policy preferences.

These results reflect perceptions and policy preferences but not knowledge and understanding. Scholars and practitioners must use caution in thinking of nuclear weapons and

the impacts of nuclear use in the abstract, and so should the public. We require more information about the public's knowledge of nuclear weapons and the consequences of use and to develop methods for educating the public about nuclear matters. In all nuclear policy discussions, real lives are impacted—whether it be the communities where nuclear weapons are developed and where nuclear weapons were previously tested or the potential lives at risk when we talk about deterrence and nuclear policy.

Second, as discussed in the literature review, domestic political issues may influence the public's nuclear policy preferences. For example, if the public is concerned about the rising costs of goods at home more than international nuclear threats, they may be less inclined to support spending. While the survey questions in this study engage with broad support for policies, nuclear policy does not operate in a vacuum, or only at the international level. Therefore, future research should examine how domestic conditions may change policy preferences.

Third, one limitation of this dissertation was that it did not incorporate the influence of news media or elite narratives. There are some indications in the data that the public may be reacting to events (e.g., the 2022 Russian invasion of Ukraine). Thus, future research should examine how media attention on nuclear events or nuclear-related events impact risk perceptions and policy preferences.

Last, a feature of the current nuclear security environment is the multipolar deterrence problem. The US now faces two nuclear peers, China and Russia, and nuclear threats from North Korea and potentially Iran. This leads to the questions: (1) How does the public perceive multipolar nuclear risks? And (2) What policies does the public support for mitigating these risks (e.g., tripolar arms control discussions or increased focus on modernization)?

Chapter 2: Perceptions of Nuclear War Risks and the International Security Environment

2.1 Introduction

Nuclear weapons and deterrence are fundamentally about risk—objective physical risks and perceptions of those risks (Jervis 1982). The realist perspective puts the management of physical security threats among nations at the heart of international relations. Realists contend that the world is anarchic, full of risk and uncertainty, and a state must pursue the means it deems necessary to protect itself. This argument is foundational to our understanding of nuclear deterrence, proliferation, and global stability. The argument that nuclear weapons make the world safer is the subject of a critical debate in international relations theory and practice (Sagan and Waltz 1995). Still, both Sagan and Waltz (1995) highlight a key feature—risk. Waltz argues that nuclear weapons make the world safer by reducing risk, whereas Sagan argues nuclear weapons make the world more dangerous by increasing risk. Although risk perceptions play a crucial role in our understanding of these major international relations theories, there is limited research on how micro-level risk perceptions impact how individuals (be they policymakers or members of the public) evaluate the effectiveness of deterrence and think of nuclear weapons as either a stabilizing or destabilizing force. Thus, it is one of the primary explanations for why a state (and its citizens) may or may not believe deterrence is effective and valuable. This dissertation examines two of these explanations—(1) physical security threats and material power and (2) norms and identity—with the focus of this chapter being physical security. This dissertation chapter explores the impacts of perceived nuclear war risks on global security and whether US residents believe nuclear weapons make the world safer.

According to the security model of proliferation, states' perceptions of security risks, particularly nuclear risks, fundamentally shape desires to proliferate, maintain, and improve nuclear weapons programs (Sagan 1996). This is evident in the United States' race to develop the atomic bomb during World War II and has been apparent since in cases of proliferation or expressions of desire to proliferate, not only in the US but around the world. For example, the arms race between the Soviet Union and the US during the Cold War was a result of the perceived risk of the other's nuclear use and a need to balance power. North Korea claims it needed to develop a nuclear weapons program because of perceptions of insecurity (Bennett 2023), while South Korea is contemplating pursuing a nuclear arsenal for the same reason (Mackenzie 2023). This creates a paradox that has divided scholars and practitioners: On one hand, some believe that the very existence of nuclear arsenals increases the risk of accidental use (or of intentional use based on misperceptions) that could lead to an all-out nuclear war. By this view, the reduction and eventual elimination of nuclear weapons is necessary to reduce the risk of global nuclear catastrophe. In contrast, some scholars and practitioners argue that the existence of nuclear weapons is a stabilizing force in the world, one that reduces not only the chances of great power war but also regional conflict (Mearsheimer 1993). From this perspective, returning to a world without nuclear weapons is dangerous and would result in making global conflict more likely (Schelling 2009; Harvey 2003).

With risk being inherent in our theoretical understandings of nuclear weapons and their influence on international politics, it is reasonable to assume that members of the public, who have little technical expertise on the risks of nuclear war, rely on heuristics³, like fear and perceived risk, to develop opinions on nuclear weapons and deterrence. While the public is not

³ Heuristics are shortcuts people use to make judgements and decisions without evaluation all information.

directly involved in shaping nuclear policy, public opinion data can help us understand macropolitical trends and illustrate “how macropolitics gets enacted, embodied, and embedded” (Solomon and Steele 2016, 270).

The mechanisms through which public opinion can play a role in nuclear weapons policies in both the short and long term can be illustrated by examples. In the short term, suppose a conflict, such as the Ukraine-Russia war or the potential invasion of Taiwan by China, were to threaten to go or go nuclear. In that case, policymakers and the public (relying on intelligence data and press reports, respectively) would form perceptions of the risks that conflict poses to the US. Furthermore, US policymakers would likely consider involvement in some form. However, in a representative political system, decision-makers need to be responsive to public opinion as they may face costs, such as losing a future election, by making an unpopular decision. In the longer term, policymakers may seek public support for such initiatives as the development of new nuclear weapons systems or engaging in negotiations with adversaries in pursuit of disarmament. Understanding public risk perceptions can help policymakers either build support for a policy or attempt to attenuate or amplify perceived risks in ways that lead the public to favor their approach.

Despite the prominence of these arguments in international relations theory, there are few studies on the public’s risk perceptions (for exceptions, see Herron and Jenkins-Smith 2006; Lytle and Karl 2020). Instead, much of the focus on public opinion and nuclear weapons has been on the nuclear taboo (Press, Sagan, and Valentino 2013) or specific aspects of nuclear policy, such as extended deterrence (Allison, Herzog, and Ko 2022) and support for arms control or disarmament (Baron, Gibbons, and Herzog 2020). Using repeated, cross-sectional survey data of the American public, this study seeks to address this gap by examining how public perceptions

of the risk of nuclear war risk are linked to their views of the role that nuclear weapons and deterrence play in international security and stability. In doing so, this study adds a micro-level perspective to the Waltz and Sagan debate: Do nuclear weapons make the world safer or more dangerous? Furthermore, it provides insight into who tends to agree with one side or the other of the argument.

Using American public opinion data from the Institute for Public Policy Research and Analysis 'annual National Security Survey (NS), this study will examine three research questions. The first focuses on the public's perceptions of global security and how perceptions of the risks of nuclear war relate to security views. Three questions are posed here. (1) Is a higher perceived risk of nuclear war associated with a less secure world? Next, following the Sagan and Waltz (1995) debate: (2) Does the public view nuclear weapons, in general, as making the world safer? (3) Last, what other factors influence how people evaluate the role of nuclear weapons in making the world safer?

This dissertation chapter will first highlight the literature on nuclear war risk perceptions and international security, as well as the enduring Sagan and Waltz debate. Then, the data and method will be described. Finally, the results will be presented and discussed.

2.2 Literature Review

One of the key debates in international relations and international security concerns the existence of nuclear weapons and whether they contribute to international stability and security or pose enormous risks with minimal benefits. This debate is notably explored in a series of books by Sagan and Waltz (1995, 2002, 2012). One perspective, rooted in the structural realism school of thought, argues that nuclear weapons make the world safer and that their proliferation is beneficial. In contrast, another perspective, grounded in organizational theory, asserts that

nuclear weapons make the world less safe, and that global security would improve without them. Despite these differing theoretical foundations, both arguments share a common theme: perceptions of risk. Jervis (1982) suggests that deterrence and nuclear weapons are not only about physical threats but also about perceptions of risk and beliefs regarding nuclear weapons, which are crucial for understanding their impact.

Nuclear weapons, deterrence, and related risk perceptions have profoundly shaped the international system. Although there is growing interest in using public opinion data in international relations research, little attention has been given to examining public perceptions of risk and their influence on security, especially in the post-Cold War era. Much of the existing research focuses on public approval of nuclear weapons use and the associated taboo (Sagan and Valentino 2017; Dill, Sagan, and Valentino 2022) or issues related to nonproliferation and disarmament (Baron, Gibbons, and Herzog 2020), rather than on deterrence or the broader impact on perceptions of global stability.

Nuclear Weapons and Deterrence: Risks and Benefits

One of the key debates in international relations relates to the role of nuclear weapons in global stability and conflict reduction. The following section provides an overview of the primary perspectives in this debate, which in part, shape the Sagan and Waltz debate.

Some argue that the existence of nuclear weapons and the possession of nuclear weapons, particularly by major world powers, has made the world safer and more stable. Proponents of this argument often refer to the reduction in conflict and the absence of open military conflict between the US and the Soviet Union during the Cold War (Waltz 1964; Gaddis 1986). In part, they argue, this is because nuclear weapons create higher costs for states and non-state actors (non-nuclear and nuclear-armed alike) through threats of nuclear retaliation (Schelling 2008;

Zagare 1996). Even if a war is intended to be conventional, the probability of nuclear use in a conflict is not zero. Therefore, there is an incentive to maintain global stability and avoid conflict (Waltz 1993). Furthermore, academics, policymakers, and military leaders have pointed to a reduction in conflict-related deaths since the invention of the atomic bomb as evidence that nuclear weapons serve as a conflict-reduction tool (see Joseph and Lehman 1998; OSD 2018). Not all agree that nuclear deterrence has been an effective tool for global stability or that deterrence will continue to be an effective tool, as the failure of deterrence could be catastrophic. This is because simply the existence of nuclear weapons has inherent risk (Sagan and Waltz 1995). There are opportunities for misinterpretation of other states' actions, leading to first use or accidental launch based on human error. Furthermore, critics of nuclear deterrence argue that deterrence, that while it may have been effective in preventing nuclear war thus far, it has not been effective in reducing conventional warfare or conflict-related deaths. Instead, critics argue statistics have been misinterpreted or misrepresented in visualizations (Ice, Scouras, and Toton 2022). For example, both Russia and the United States have been involved in conflicts with non-nuclear states and non-state actors, in which nuclear weapons would not have been a practical military strategy, nor were they effective in making adversarial actors back down or end conflict (Wilson 2008). Furthermore, there are critiques of the interpretations of the statistical evidence used to defend deterrence and its role in stability (Ice, Scouras, and Toton 2022).

Nuclear War Risks: Reality and Perceptions

The Waltz and Sagan debate encompasses the debate over US nuclear weapons that is as old as the existence of the technology itself. While the two sides reach different conclusions, a shared explanation and concern is the risk of conventional or nuclear conflict. The risk of nuclear war is challenging for many in the public, and even policymakers, to comprehend. As use has

been fortunately limited to two times in history and testing in the United States ended in 1992, understanding the likelihood of nuclear war or even the destructive potential of nuclear weapons is a challenging thought exercise requiring people to think in abstractions about the potential for mass casualties and destruction. This abstraction, coupled with the fact that for many, the risk of nuclear war is reminiscent of the past, evoking images of mushroom clouds, duck and cover drills, and fallout shelter signs that defined the Cold War Era, is not as concerning as images of new national security challenges, such as climate change, cyber-attacks, and international and domestic extremism, make nuclear war a less salient issue. This is evident in public opinion research. For example, Lytle and Karl (2020) found that most Americans do not think about nuclear war, and the Chicago Council (2023) found that most Americans are not familiar with nuclear issues, ranging from the effects to the cost of nuclear weapons programs. As another indication of declining concern for the risk of nuclear war, (Liska et al. 2017) find that mentions of nuclear war, nuclear weapons, and nuclear winter in books are declining in the post-Cold War Era compared to the Cold War era. In contrast, the number of books discussing climate change is rising.

However, the reality is that nuclear weapons have been a constant presence and risk in the lives of Americans since 1945, even if it is not an issue at the forefront of the public's concerns, in part brought about by the perceived reduction in risk brought about by the fall of the Soviet Union and implementation of arms control agreements (Herron and Jenkins-Smith 2014). Despite lower numbers of nuclear weapons as compared to the Cold War, the risk of nuclear use and war may be increasing. In 2024, the Federation of American Scientists estimated that six of the nine nuclear-armed states are increasing the number of warheads they have stockpiled (Kristensen et al. 2024). Rhetoric from world leaders also alludes to the fact that the risk has not

necessarily been reduced. During the Trump administration, Trump and Kim Jong Un made statements about their nuclear buttons (Neuman 2018). Since the 2022 Russian invasion of Ukraine, Russian President Vladimir Putin has made numerous nuclear threats, moved nuclear weapons to Belarus, and withdrew from the New START treaty (Karmanau et al. 2022; Osborn 2023). In the last few years, China has demonstrated its desire to expand and modernize its stockpile, causing the US to re-evaluate its deterrence strategies (Center for Global Security Research Study Group 2023).

The emergence of new national security threats, alongside stabilizing factors such as globalization, during the post-Cold War era, made nuclear war appear to be an anomaly. Thus, if the public perceives a higher risk of nuclear war risk, it may be seen as destabilizing and causing an increased sense of insecurity in the international system. As risk has become more publicly salient in the last few years and potentially in the near future, nuclear war may appear to less of an anomaly.

Since the use of nuclear weapons in Hiroshima and Nagasaki, public opinion polling has centered on approval of the use of nuclear weapons (Saad 2016) or concern about the threat posed by nuclear weapons and support for arms reduction (Klineberg 1984). This has required people to think about a rare real-world occurrence—nuclear war. Nuclear use and war are not necessarily impossible to imagine, even for those who do not have memories of the Cold War. There are videos and images of many of the 1,054 nuclear weapons tests the United States conducted before the Comprehensive Test Ban Treaty. Movies such as *Oppenheimer*, *The Day After*, and *Dr. Strangelove Or: How I Stopped Worrying and Learned to Love the Bomb* demonstrate the effects and destructive power of nuclear weapons. Furthermore, projects such as

Alex Wellerstein's NUKEMAP enables the public to explore the potential impacts of nuclear weapons in their communities.⁴

To reduce abstraction in public opinion research on nuclear weapons, the international relations literature has emphasized using surveys and experiments with detailed scenarios to study the approval of use to examine the nuclear taboo in different contexts, such as the US (Sagan and Valentino 2017), Europe (Dill, Sagan, and Valentino 2022), and others, such as Israel (Horschig 2022) and China (Egel and Hines 2021). Nuclear use is, fortunately, rare. Thus, this literature has significantly contributed to our understanding of the taboo. However, the literature does not connect microfoundations in nuclear attitudes and beliefs to other macro-level theories and concepts, such as nuclear deterrence or strategic stability, or even more specific policy preferences, such as programmatic spending (see Chapter 3). However, there are exceptions to this. Scholars are beginning to use surveys and survey experiments to explore attitudes towards proliferation and non-proliferation (Gibbons and Petrovics 2024), treaty support (Onderco et al. 2021), and extended deterrence (Allison, Herzog, and Ko 2022). Furthermore, despite being a key element in shaping both public and policymaker perspectives on nuclear weapons, understanding broad risk perceptions has been less of a focus. Many experimental studies tend to focus on developing hypothetical scenarios that describe a risk rather than focusing on real-world risk perceptions (for example, Press, Sagan, And Valentino 2013; Sagan and Valentino 2017). These scenarios are useful as they help respondents imagine what a nuclear use scenario may look like, but they have also been critiqued for their inability to completely detail the complexities and consequences of nuclear use.

⁴ You can view NUKEMAP here: <https://nuclearsecrecy.com/nukemap/>

This leads to the question: what do the public's risk perceptions look like today, and are they consistent with real-world events and expert opinion? From polling and literature, we know that the American public has moderate to low concern about nuclear weapons and nuclear war. Drawing upon the same longitudinal survey series used in this piece, Herron and Jenkins-Smith (2014) found that the public expressed more concern for nuclear war with Iran and North Korea than either China or Russia. More recently, a 2020 poll found that millennials who did not grow up under the threat of the Cold War ranked concern about nuclear weapons last in a survey of global issues but indicated that they believed a nuclear attack would be likely (Lin 2024). A 2023 survey found that about 20% of Americans are uncertain whether nuclear weapons make the US safer (Smeltz, Kafura, and Weiner 2023). These findings are indicative of a few themes. First, the public is relatively uninformed about the risk of nuclear war, potentially due to a lack of focus on it by policy elites or major news media. Second, the public may be apathetic to nuclear risk (Lytle and Karl 2020) and/or may not have the time or resources to learn about what appears to be a more unlikely risk than something like terrorism or extreme weather. Finally, this indicates that although the salience of nuclear war has risen with Russia's nuclear threats and escalating tensions between Israel and Iran, nuclear war is not the most salient or important issue to the American public.

Influences of Public Opinion

Other variables include the four types of foreign policy attitudes, as defined in the introduction (Holsti and Rosenau 1990; Wittkopf 1990), socio-economic and demographic characteristics (Holsti 1996; Herron and Jenkins-Smith 2014), and partisan affiliation. While the concept of suffragist peace may indicate that women may be more opposed to nuclear weapons and conflict (Barnhart et al. 2020), there are mixed results on the influence of gender on foreign

policy and national security attitudes (Herron and Jenkins-Smith 2006; Holsti 1996). Age has also yielded mixed results (Herron and Jenkins-Smith 2006; Herron and Jenkins-Smith 2014; Lytle and Karl 2020). As for partisanship, Herron and Jenkins-Smith (2014) found that while there is some bipartisan support on certain foreign policy issues, partisan affiliation can significantly influence foreign policy preferences, especially in today's polarized environment (Holsti 1996). More conservative ideologies or identifying as Republican may make someone more likely to view nuclear weapons as essential to making the world safer. Policy elites and media cues also affect public opinion on foreign policy and national security, although research shows mixed results on how elite cues impact policy preferences (Kertzer and Zeitzoff 2017). Although this study does not examine these factors, they represent important avenues for future research.

H1a: Higher nuclear war risk perceptions are associated with lower perceptions of international security.

H1b: Higher nuclear war risk perceptions are associated with lower perceptions of national security.

H2: Individuals who perceive a higher risk of nuclear war are more likely to believe the world is safer without nuclear weapons.

H3: Older individuals are more likely to believe that nuclear weapons make the world safer.

H4: Individuals with higher levels of education are less likely to believe that nuclear weapons make the world safer.

H5: Hard-liners are more likely than internationalists to believe that nuclear weapons make the world safer.

H6: Republicans are more likely than Democrats to believe that nuclear weapons make the world safer.

H7: Women are more likely than men to believe that the world is safer without nuclear weapons.

Why Does Public Opinion Matter?

Scholars have argued that the public has difficulties forming coherent foreign policy beliefs or that their views merely reflect those of policy elites (Almond 1950; Morgenthau 1948; Sniderman, Brody, and Tetlock 1991). Similar arguments in the realm of national security and nuclear weapons suggest that public opinion on these issues is often inconsistent, underdeveloped, or irrelevant. This is partly because nuclear weapons policy is highly secretive, technical, and perceived as beyond public influence since the public is not directly responsible for pushing the button (Gibbons and Petrovics 2024; Herron & Jenkins-Smith 2006; Herron and Jenkins-Smith 2014). Although public opinions on nuclear weapons and the risk of nuclear war may not always align with expert assessments or reality (Herron and Jenkins-Smith 2006; Slovic 2012), they still matter, especially in a democratic context like the United States. Contrary to claims that the public cannot form meaningful views, research shows that people can develop opinions on complex policy issues (Hurwitz and Peffley 1987; Herron and Jenkins-Smith 2002; Herron and Jenkins-Smith 2006; Holsti 1996). Public perceptions of the risk of nuclear war and related policy preferences can provide valuable insights for policymakers about public views on the international security environment. Herron and Jenkins-Smith (2014) argue, “Public opinion can help identify areas of expected support and opposition and can help justify or question strategic directions” (111). While the public does not directly influence nuclear decision-making, they can support or constrain leaders’ actions on issues such as proliferation, nuclear use, disarmament, and the establishment of international norms (Gibbons and Petrovics 2024; Sagan and Valentino 2017). Elected officials, particularly the President, may face audience costs if they make nuclear-related decisions that the public perceives as poor in light of existing risk perceptions (Fearon 1994; Kertzer and Brutger 2016). For instance, if public risk perceptions are

high, a presidential candidate advocating for disarmament may lose support if the public views nuclear weapons as essential for national and international security.

2.3 Data & Methods

Data

This study employs data from the Institute for Public Policy Research and Analysis Annual National Security Survey. This survey has been conducted since 1993 and annually since 2005 (skipped in 2012, 2013, and 2014), with a nationally representative sample ranging from around 1,000 to approximately 2,000 in the last several years.⁵ Quotas were used during recruitment to ensure the sample closely matched Census estimates. Weighting is employed to handle any discrepancies between the sample and Census estimates.

The survey questions utilized in this study are presented in Table 2.1 below. First is the international security (intnow) variable, which measures perceptions of international security. While the international security question does not directly ask about stability, the variable indirectly measures perceptions of global stability. Second, the national security variable (usnow) measures perceptions of US national security. These two variables are recoded for analysis so that 10 is an indication of insecurity and 0 is an indication of security. Next, the question providing contrasting statements about the impact of nuclear weapons on making the world safer (safewrld) serves as a measure of support for either the Sagan or Waltz argument.

Nuclear war risk perceptions are measured by the potential risk of nuclear war between the US and one adversarial state (Russia, China, Iran, and North Korea) on a 0 to 10 scale, with 0 indicating no risk and 10 indicating extreme risk. Iran is the only non-nuclear armed state in this

⁵ See Appendix for sample sizes.

group but is often associated with nuclear risk due to its potential to build a nuclear weapon quickly. This measurement only accounts for the risk of war between dyads and does not account for the potential of nuclear war between three states (i.e., the US and China/Russia). Two different risk indexes are created using factor analysis to account for the complexities of nuclear war risk. The first index combines all countries. The second index represents the two-peer problem, combining Russia and China. Risk perceptions by state are examined individually and through a risk score created using factor analysis. The dimensions of internationalism, cooperative internationalism (CI), and militant internationalism (MI) are measured with three questions. Then, using factor analysis, the three CI questions and three MI questions are combined to create an overall MI and CI score.⁶ CI and MI are not necessarily mutually exclusive (Holsti and Rosenau 1990). Following factor analysis, respondents were placed into one of four categories: Hard-liners (High MI, Low CI), Accommodationists (High CI, Low MI), Isolationists (Low MI, Low CI), and Internationalists (High CI, High MI).⁷ Demographic variables include age (verbatim response), education (ranging from less than a high school diploma to PhD/JD/MD), gender, and political party affiliation. While many factors can influence one's perception of deterrence, including cues from policy actors and traditional, social, and entertainment media, the selected variables provide a foundation for understanding these influences.

⁶ Full question text for and scales for all variables are available in the Appendix.

⁷ See Appendix for the distribution of respondents across all four categories, pooled and by year. The Appendix also includes more information on the sorting of respondents into categories.

Table 2.1: Dependent and Independent Variables

Variable Name	Question	Response Options	Survey Years
intnow	Considering international security as a whole, using a scale from zero to ten, where zero means <i>not at all secure</i> and ten means <i>completely secure</i> , how do you rate <i>international</i> security today?	0-10 (Not at all secure to completely secure)	2005-2011; 2015-2023
usnow	Using the scale from zero to ten, where zero means <i>not at all secure</i> and ten means <i>completely secure</i> , how do you rate the security of the <i>United States</i> today?	0-10 (Not at all secure to completely secure)	2005-2011; 2015-2023
safewrld	These statements contrast views about the effects of a world free of nuclear weapons.	(1) A world without nuclear weapons would be safer than today because the destructive power of nuclear weapons would no longer be a threat. (2) A world without nuclear weapons would be more dangerous than today because, without the deterrence provided by nuclear weapons, countries could again conduct large-scale wars like World Wars I and II to settle disputes	2010-2023
rus	How do you rate the risk of the U.S. being involved in a nuclear war with Russia in the next ten years?	0-10 (No risk to extreme risk)	2005-2011; 2015-2023
china	How do you rate the risk of the U.S. being involved in a nuclear war with China in the next ten years?	0-10 (No risk to extreme risk)	2005-2011; 2015-2023
irrisk	Now consider the case of Iran. For this question, assume that Iran possesses nuclear weapons. On the scale from zero to ten, where zero means <i>no risk</i> and ten means <i>extreme risk</i> , how do you rate the risk of the U.S. being involved in a nuclear war with Iran in the next ten years?	0-10 (No risk to extreme risk)	2005-2011; 2015-2023

Table 2.1 Continued: Dependent and Independent Variables

Variable Name	Question	Response Options	Survey Years
nkrisk	Now consider the case of North Korea. On the scale from zero to ten, where zero means <i>no risk</i> and ten means <i>extreme risk</i> , how do you rate the risk of the U.S. being involved in a nuclear war with North Korea in the next ten years?	0-10 (No risk to extreme risk)	2005-2011; 2015-2023
ci_index	CI_1: Unless directly attacked, the US should not use its military force without authorization from the United Nations. CI_2: Like the citizens of many other countries, officials and citizens of the United States, including members of the military, should be subject to criminal proceedings under the International Criminal Court in Europe. CI_3: The US should agree to accept internationally established limits on its production of carbon dioxide and other greenhouse gases thought to cause global warming.	1 - Strongly disagree to 7 - Strongly agree	2005-2011; 2015-2023
mi_index	MI_1: The US can never entrust its security to international organizations such as the United Nations. MI_2: Even though allies are important, the US must be willing to act alone to protect American interests. MI_3: The US must be willing to act preemptively by using military force against those that threaten the United States <i>before</i> they can attack it.	1 - Strongly disagree to 7 - Strongly agree	2005-2011; 2015-2023
edu	What is the highest level of education you have COMPLETED?	1 - Less than High School 2 - High School / GED 3 - Vocational or Technical Training 4 - Some College — NO degree 5 - 2-year College / Associate's Degree 6 - Bachelor's Degree 7 - Master's degree 8 - PhD / JD (Law) / MD	2005-2011; 2015-2023
gend	Are you male or female?	0 - Female 1 - Male	2005-2011; 2015-2023

Table 2.1 Continued: Dependent and Independent Variables

Variable Name	Question	Response Options	Survey Years
race	Which of the following best describes your race?	1 - White 2 - Black or African American 3 - American Indian or Alaska Native 4 - Asian 5 - Native Hawaiian or Pacific Islander 6 - Two or more races Note: recoded as White or Nonwhite	2005-2011; 2015-2023
party	Generally speaking, do you usually think of yourself as a Republican, a Democrat, an Independent, or what?	1 - Democratic 2 - Republican 3 - Independent 4 - Other party (Please specify	2005-2011; 2015-2023
age	How old are you?	verbatim	2005-2011; 2015-2023

Methods

This study uses two approaches to explore the impact of risk perceptions on international and national security and perspectives on whether or not nuclear weapons make the world safer. First, correlation coefficients are used to explore the relationship between risk and global security. Second, multivariate logistic regression is used to examine the influences of risk perceptions, demographics, and the dimensions of internationalism on the question of: Do nuclear weapons make the world safer? In this model, variables are standardized so coefficients can be easily compared. Bivariate models were also checked, any notable differences in the size, direction, and significance of effect are noted. This paper presents models in two ways. First, a pooled model of all years. Second, separate models for each year demonstrate the consistency of direction and strength of the independent variables over time. Unfortunately, due to data limitations, this model cannot account for other influences, such as media saliency, elite rhetoric in policy, and others. Although yearly models based on repeated cross-sectional data may not offer the same insight as tracking variable consistency over time as panel data models, this study makes a unique contribution to the microfoundations literature, as it goes beyond the typical reliance on a single-year, cross-sectional survey.

One challenge with this analysis is the direction of causation between international security and nuclear war risks. Does security or insecurity impact perceptions of nuclear war risks, or do nuclear war risks impact perceptions of international security? In a less secure international environment, conflict (conventional or nuclear) may be more likely. In contrast, an increase in the likelihood of nuclear war between two adversaries may lead to insecurity in the international environment. Or does each play a role in influencing the other? Examining the role

nuclear weapons and nuclear war risk perceptions play in influencing perceptions of global stability may require further survey question development.

2.4 Results

Survey Results Over Time

Before discussing the correlation and OLS results, examining perceptions of nuclear war risk and views of international and US national security is important. Figure 2.1 shows the mean perceptions of nuclear war risk by potential nuclear adversary from 2005 to 2023.⁸ The data is presented in dyads, which do not account for the emerging two-peer problem in recent years.⁹ Respondents were asked: How do you rate the risk of the US being involved in a nuclear war with [Russia/China/North Korea/Iran] in the next ten years? Risk perceptions are measured on a 0 to 10 scale where a mean risk perception of 0 indicates no risk, while 10 indicates extreme risk. Although mean risk perceptions generally range from just below 3 to slightly above 7 during this period, there are notable differences between states. For most of the time, the perceived risk of nuclear war with Iran and North Korea was higher than that with Russia and China. This is unsurprising, given that data collection began in 2005, shortly after President George W. Bush's "axis of evil" speech (Bush 2002). During this time, Iran and North Korea, as well as non-state terrorist groups such as al-Qaeda, became more salient issues, whereas concern for Russia dropped with the end of the Cold War and subsequent arms control efforts. However, starting in 2015, perceptions of risk from China and Russia steadily increased, likely influenced by events

⁸ Risk perception questions were first included in the survey in 2005.

⁹ The two-peer problem is the phrase that refers to the problem of deterring two nuclear peers simultaneously. In this case, Russia and China. See the Center for Global Security Research at Lawrence Livermore National Lab Report, "China's Emergence as a Second Nuclear Peer: Implications for U.S. Nuclear Deterrence Strategy," for more information.

such as Russia's invasions of Ukraine in 2014 and 2022 and China's growing aggression toward Taiwan.

Figure 2.2 shows the mean ratings for perceptions of international and national security. While this study focuses on international security perceptions, national security perceptions are included to highlight the public's differing views on these two areas. These are indicative In these questions, a score of zero indicates no at all secure, while ten indicates complete security. Mean ratings range from four to seven throughout the period, with national security consistently rated higher than international security. This difference likely reflects the US's greater influence over its territory compared to the global security landscape. Interestingly, the mean values for the two questions follow a similar trend: increases in perceptions of US national security are often mirrored by increases in perceptions of international security, and vice versa.

Figure 2.1: Mean Nuclear War Risk Perceptions

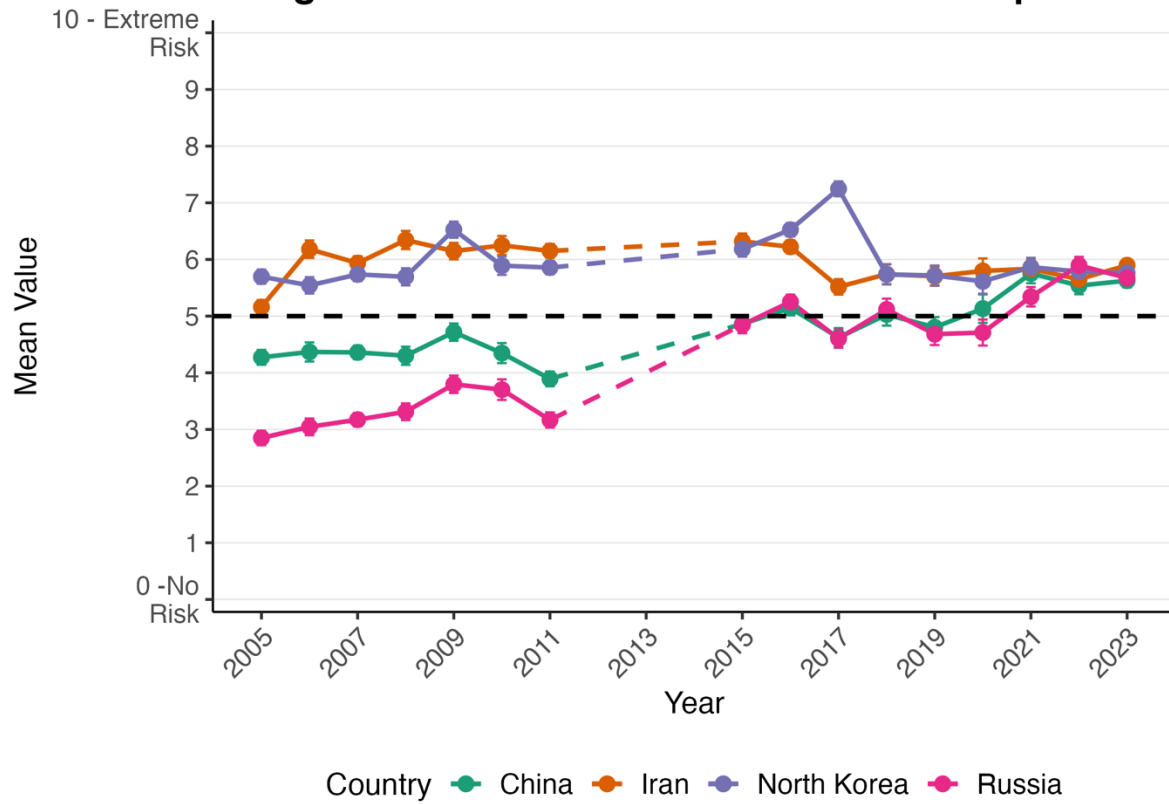


Figure 2.2: Perceptions of International and US National Security

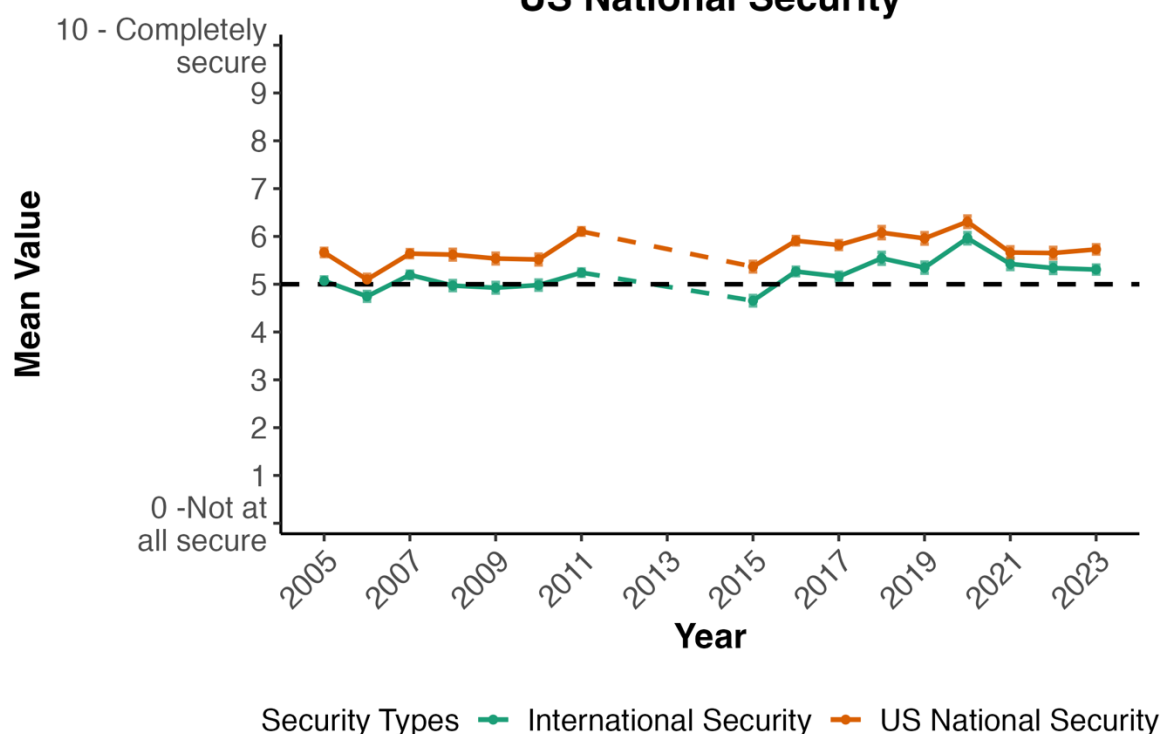
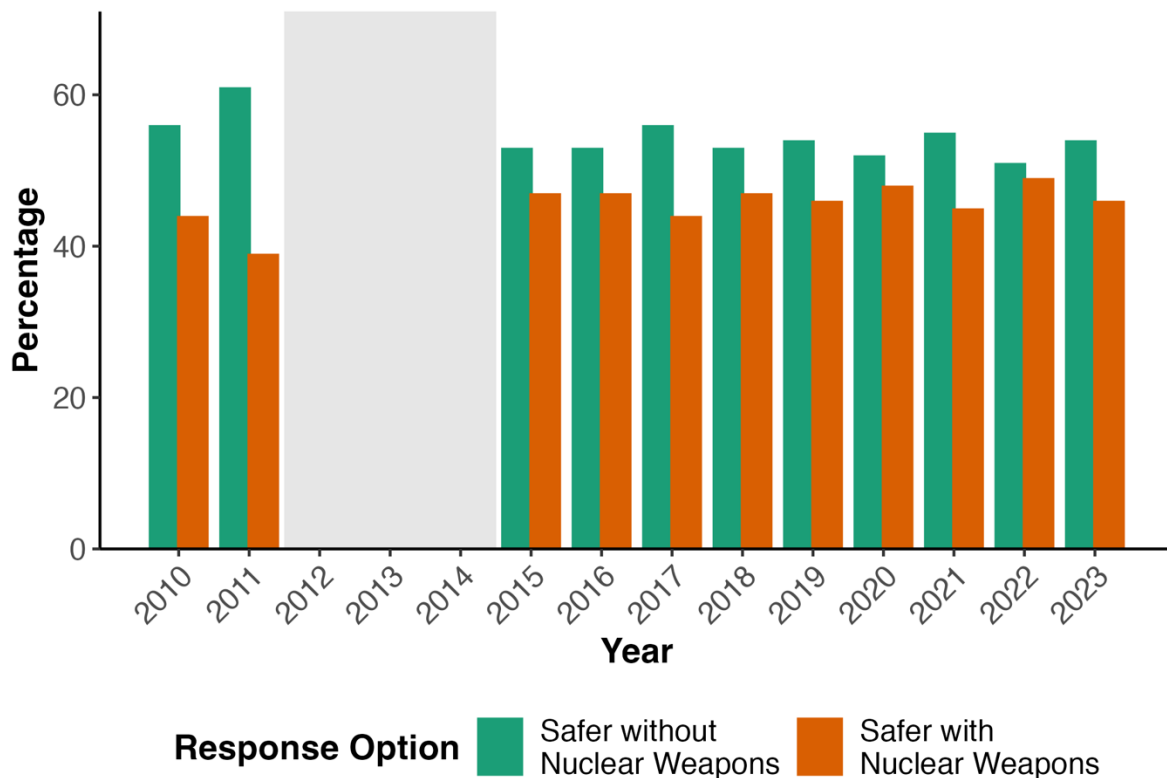


Figure 2.3 displays the proportions for the question: Is a world with or without nuclear weapons safer? Across all years, there is almost an even split between those who think nuclear weapons make the world safer and those who do not. However, slightly more respondents agreed with the statement: “A world without nuclear weapons would be safer than today because the destructive power of nuclear weapons would no longer be a threat,” indicating a slight preference for the Sagan argument.

Figure 2.3: Do Nuclear Weapons Make the World Safer?



Note: Grey indicates no survey was conducted in that year.

The fact that the results of this set of questions remain relatively stable over time may indicate that the public is less reactive to international events and media and elite cues in the realm of nuclear weapons and deterrence. As Herron and Jenkins-Smith (2014) state, this indicates that “mass public opinion can exhibit the kinds of consistency and coherence once thought to be exclusive to policy experts and opinion elites” (125).

Figure 2.4: Correlation Coefficients: Nuclear War Risk and US Security

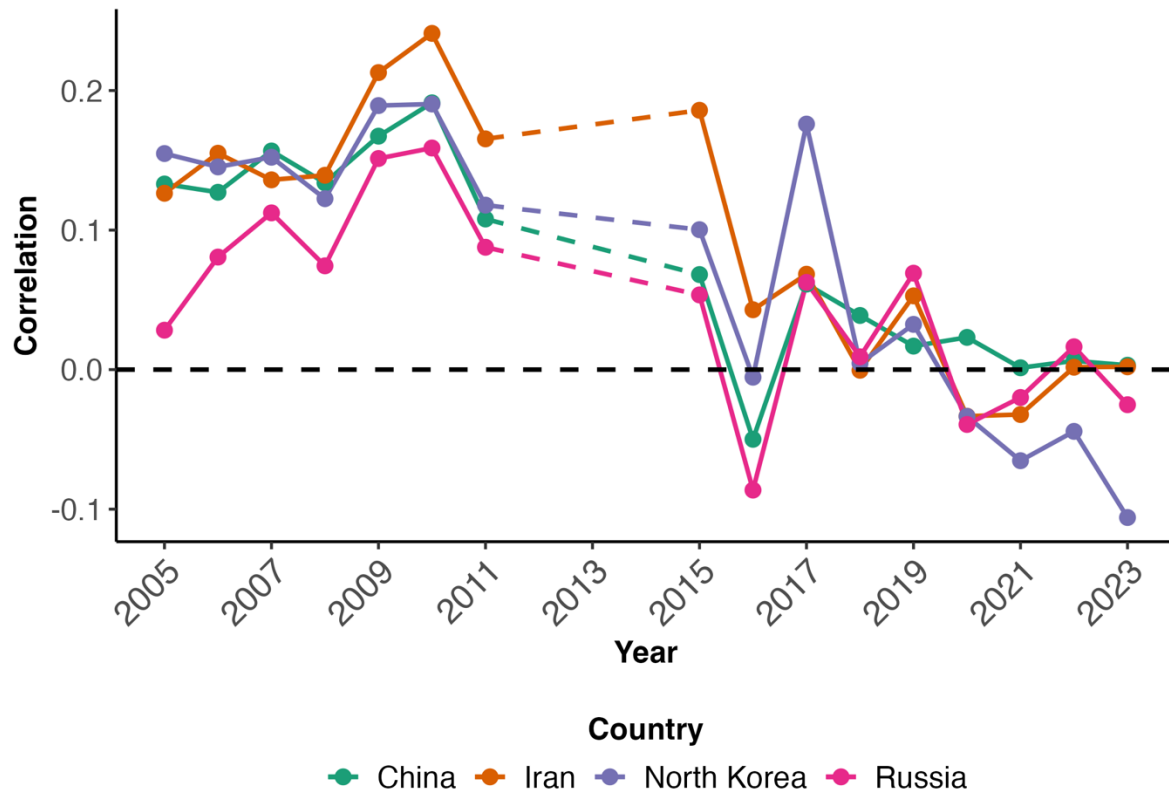
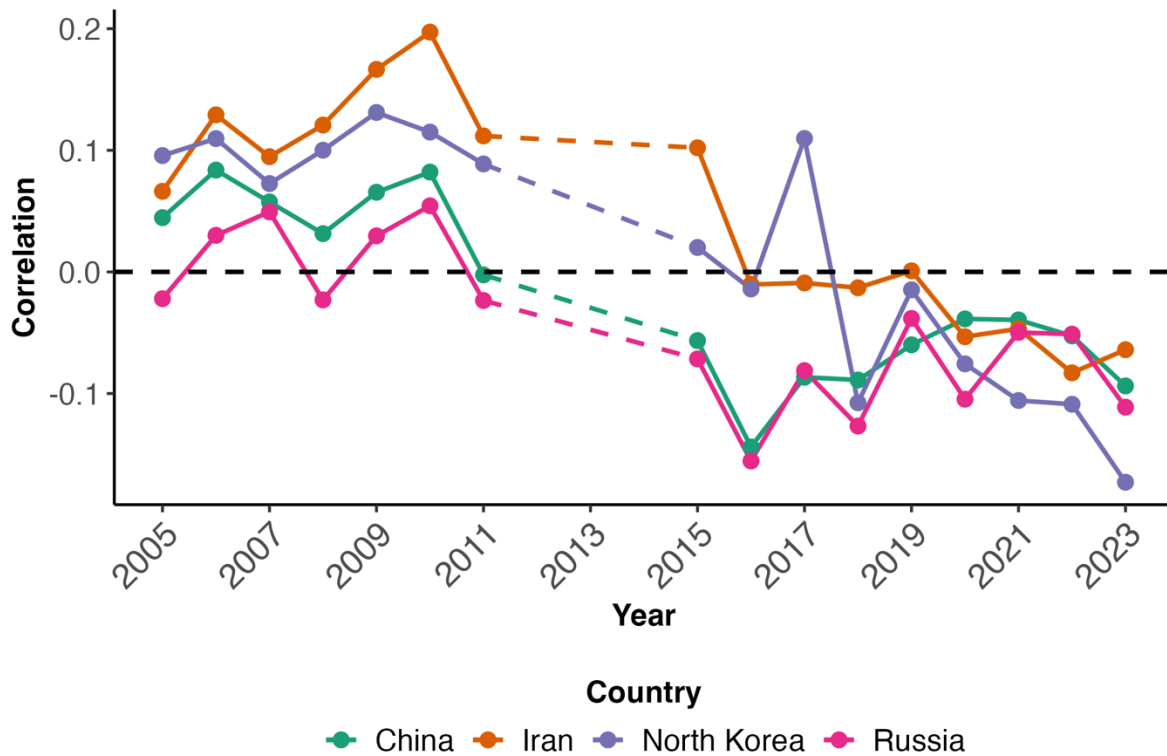


Figure 2.5: Correlation Coefficients: Nuclear War Risk and International Security



Correlation Between Nuclear War Risk and US and International Security

Figure 2.4 displays the correlation coefficients between 2005 and 2023 for the relationship between nuclear war risk with Russia, China, Iran, North Korea, and US national security, respectively. As a reminder, the scale for US national security is 0 being completely secure and 10 being insecure. The correlation between national security and nuclear war risk perceptions for each state tends to be weak but positive. In other words, an increase in nuclear war risk perceptions leads to an increase in perceptions of US insecurity. However, beginning in 2020 for all countries but China, nuclear war risk perceptions and US national security are weak and negatively correlated, indicating increased risk perceptions are associated with a more secure US. Figure 2.5 indicates similar patterns for the correlation between nuclear war risk and

international security. From 2005 to 2016, nuclear war risk perceptions and international instability were positively but weakly correlated. Since 2020, nuclear war risk perceptions and international instability have been negatively, but weakly correlated.

The weakness of the relationship is surprising, given that theoretical expectations indicate that nuclear war risk should strongly correlate with perceptions of US and international insecurity and instability. Although the relationship is weak, the direction of and the trending change in the direction of this relationship provides some insight. International security is not only shaped by nuclear war risk. For example, before a shift in the satisfaction of globalization and an increasingly interconnected global economy may make it appear as if risks are reduced or that nuclear threats are an anomaly. For most of the period, correlation coefficients were positive, indicating that higher risk perceptions are associated with higher perceptions of international and US insecurity.

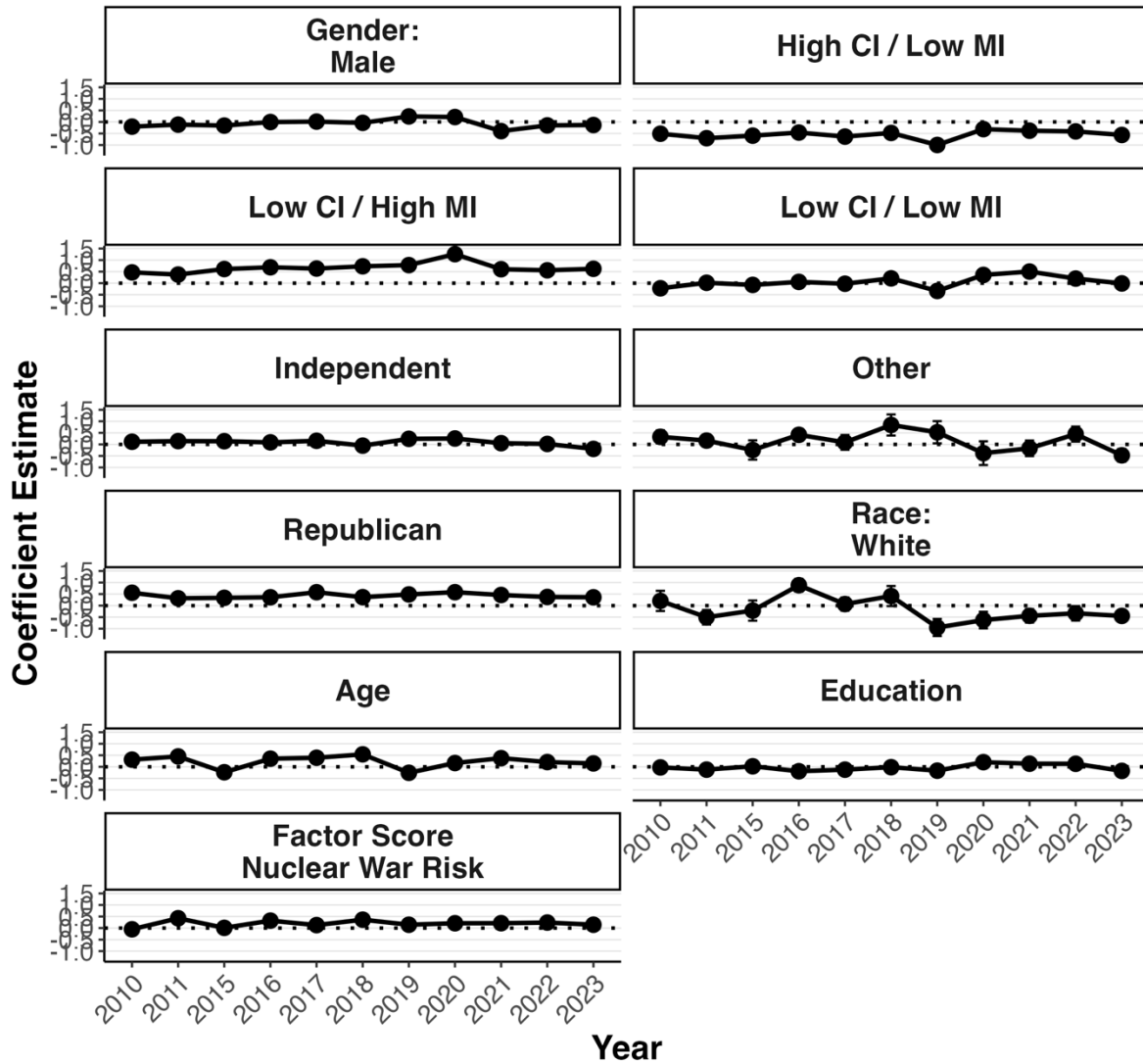
Logit Model Results

The results of the pooled logit model, which includes all factors that influence whether people believe the world is safer with or without nuclear weapons, are presented in Table 2.2 below. Models by individual year are presented in Figure 2.6 to demonstrate the consistency of the direction and effect of the independent variables over time. Identifying as Republican (as compared to Democrat), older, hard-liner (as compared to Internationalists) and having higher nuclear war risk perceptions increase the log-odds of someone believing the world is safer with nuclear weapons. Identifying as male and as an accommodationist decreases the log-odds of believing the world is safer with nuclear weapons.

Table 2.2: Do Nuclear Weapons Make the World Safer? Pooled, Full Model Logit Results

<i>Dependent variable:</i>	
	0 = Safer Without; 1 = Safer With
Gender: Male	-0.075** (0.034)
Race: White	-0.151 (0.094)
Education	-0.045 (0.032)
Age	0.270*** (0.033)
Party: Republican	0.434*** (0.043)
Party: Independent	0.067 (0.043)
Party: Other	0.132 (0.096)
High CI / Low MI: Accommodationists	-0.526*** (0.048)
Low CI / High MI: Hard-liners	0.630*** (0.048)
Low CI / Low MI: Isolationists	0.083* (0.047)
Nuclear War Risk	0.223*** (0.035)
Constant	-0.204** (0.098)
Observations	16,619
Log Likelihood	-10,621.920
Akaike Inf. Crit.	21,267.850
<i>Note:</i>	*p<0.1; ** p<0.05; *** p<0.01

Figure 2.6: Yearly Logit Models



Note: Coefficients are standardized.

Table 2.3 displays how risk perceptions by each adversarial country and risk perceptions of conflict with China and Russia (the US's two nuclear peers) influence an individual's views. As each potential nuclear adversary and the dyad comprised of Russia and China pose unique challenges, it is important to examine them separately to determine whether or not there are differences between overall risk and risk by adversary. Increased nuclear war risk perceptions

with Russia and North Korea decrease the log-odds that a person believes the world is safer with nuclear weapons.¹⁰ Increased nuclear war risk perceptions with China and Iran increase the log-odds that a person believes the world is safer with nuclear weapons. The model that includes the index to account for the two-peer problem, or perceptions of nuclear war risk between the three major powers, indicates that higher perceptions of a triadic nuclear conflict increase the log-odds that someone will say the world is safer with nuclear weapons. However, the effect size is small for all countries. Yearly models, displayed in Figure 2.7 and Figure 2.8 (tables are in the Appendix), demonstrate that although the effect size is small, the risk of nuclear war with Iran is the only state consistently positively associated with nuclear weapons making the world a safer place. This could be in part because there is the most uncertainty surrounding the Iranian nuclear program.

¹⁰ Coefficients for Russia (0.010*) and North Korea (0.011*) are positive for respective bivariate models.

Table 2.3: Do Nuclear Weapons Make the World Safer? Pooled, Nuclear War Risk Perceptions Logit Model Results

<i>Dependent variable:</i>		
	0 = Safer Without; 1 = Safer With	
	(1)	(2)
Russia	-0.025*** (0.008)	
China	0.030*** (0.009)	
North Korea	-0.032*** (0.007)	
Iran	0.067*** (0.007)	
Great Power		0.055*** (0.015)
Constant	-0.404*** (0.040)	-0.183*** (0.015)
Observations	21,112	21,288
Log Likelihood	-13,552.570	-13,737.690
Akaike Inf. Crit.	27,115.130	27,479.380
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01	

Figure 2.7: Coefficient Estimates for Nuclear War Risk By Country

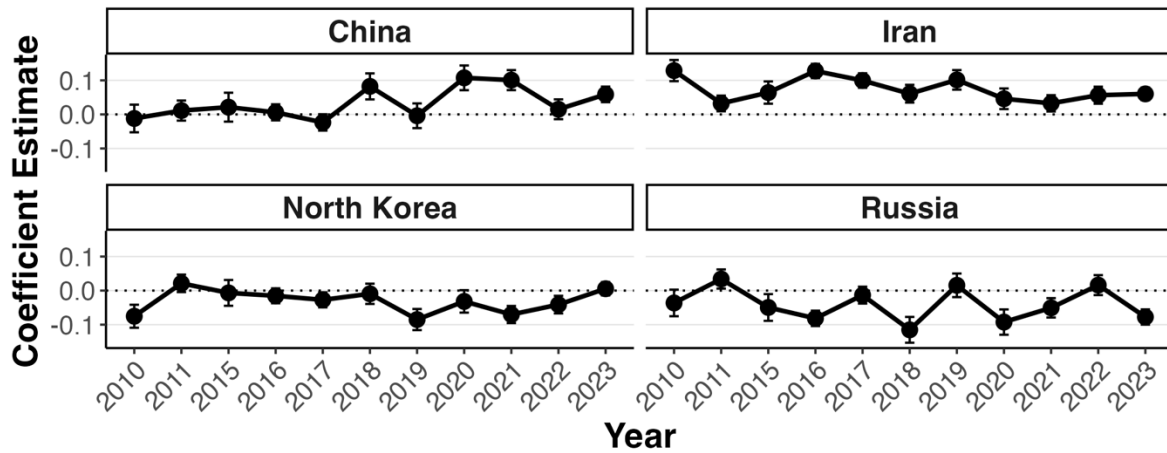
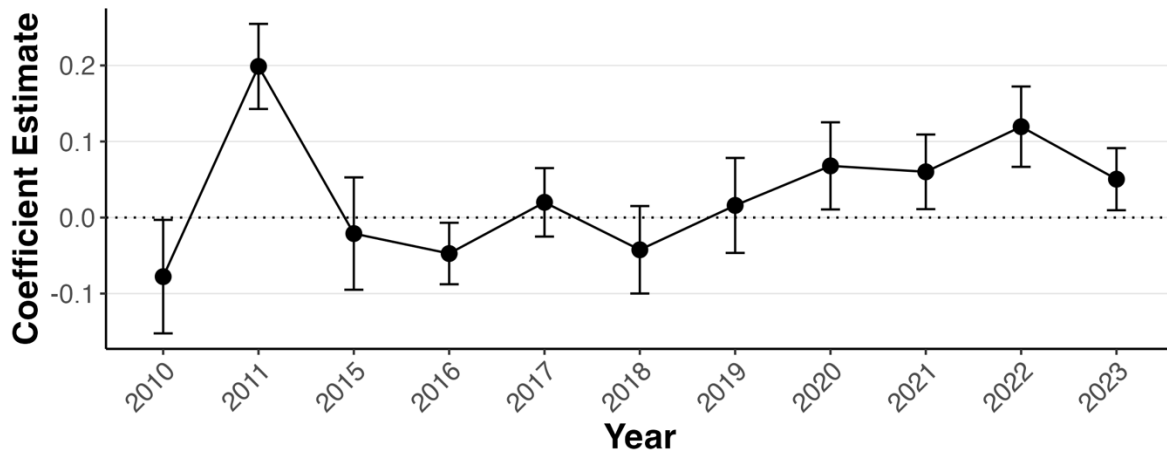


Figure 2.8: Coefficient Estimates for Great Power Nuclear War Risk Perceptions



2.5 Discussion

The correlation coefficients for international security, nuclear war risk perceptions, and the logit models on whether nuclear weapons make the world safer suggest that the public holds a weak view of nuclear risks and their impact on global stability. This is likely indicative of the fact that other factors such as globalization, democratization, other security issues or focusing events, and the overall structure of the international system influence perceptions of security and

stability. The relationship between US national security, as well as international security, and nuclear war risk perceptions are weakly correlated. However, for the most part, the perceived risk of nuclear war has been correlated with international and US insecurity. The shift to a negative correlation indicates nuclear war risks being associated with international and US security, perhaps suggesting some evidence that the threat of nuclear war may have a stabilizing effect. While early correlation trends align more with Sagan's (1995) argument, more recent results align with Waltz's (1995) argument that more nuclear weapons may be better.

While trends for all countries in the study tend to follow a similar pattern, there are some interesting differences. For example, in 2017, the correlation between North Korean nuclear war risk perceptions and international insecurity was almost a point higher than all other countries. Differences in correlations between Great Powers and security and states like North Korea and Iran and security indicate that these threats are perceived differently. Why is it that higher perceptions of the risk of nuclear war with Great Powers are associated with security and stability, whereas states like Iran and North Korea tend to be associated with insecurity? Russia and China have much larger arsenals and therefore should be a larger threat and pose more risk to the international system.

There are two potential explanations. First, threat credibility, as well as the predictability of a particular state's actions, may potentially explain this difference. Following the Cold War logic, China and Russia may be perceived as making more credible threats. In contrast, Iran and North Korea are more likely to be perceived as rogue actors and likely to be more unpredictable and, therefore, pose more risk. Furthermore, most of the survey waves took place during a time of heightened concern for terrorism, including state-sponsored terrorism and the attribution of Iran and North Korea as members of the "Axis of Evil." In an era defined by terrorism risk, the

salience of terrorism might likely be driving these views. Second, Russia and China pose greater global and US security threats than Iran and North Korea, which primarily threaten their own regions. Finally, around 2017, correlation coefficients for all states began to trend positively, though still weakly. This shift raises further questions, highlighting the need for new survey questions and qualitative data to better understand the reasons behind this change and the directionality of the relationship between risk perceptions and international security.

Turning to the logit models, several demographic characteristics and foreign policy attitude measures align with previous literature. As Holsti (1996) indicated, some demographic characteristics are less consistent or weaker predictors of deterrence beliefs. Foreign policy attitudes had the strongest effect on belief that nuclear weapons make the world safer. Despite women often describing themselves as doves (Holsti 1996) and the general gap between women and men in support of conflict (Barnhart et al. 2020), men were more likely to say that a world without nuclear weapons would be safer. However, the gender gap was small. Older individuals, especially those who lived through the Cold War, are more likely to believe that nuclear weapons make the world safer. Risk perceptions also show some nuance in this line of thinking. Although the index of risk perceptions suggests that such perceptions are generally associated with the belief that a world without nuclear weapons is dangerous, there is variation depending on the specific adversary. Furthermore, the two-peer risk index supports the Cold War era school of thought that indicates nuclear weapons serve as a stabilizing force in the world. Many of the coefficients are small, indicating that other variables may impact how people think about nuclear weapons and global stability that are not measured in this study.

It is important to note that demographic characteristics do not exist in isolation and likely interact with other variables not measured in these models, such as policy elite cues, media cues,

and global events. Future research should consider these factors through direct measures, such as the number of articles on the risk of nuclear war with a given adversary or survey experiments. While this study provides insights into the public's perspective on deterrence, it has several limitations. This article examines how the perceived risk of nuclear war between the US and another state influences perceptions of international security. However, the nuclear environment is rapidly changing. Although nuclear deterrence and related risk perceptions between dyads remain important, they should not be the sole focus of public opinion research. For instance, the two-nuclear-peer problem necessitates considering how perceptions of potential conflict with Russia and China affect views of global stability (Center for Global Security Research Study Group 2023).

Moreover, focusing only on dyads involving the US limits the analysis and our understanding of global security. Other dyads, such as India and Pakistan, also face the risk of nuclear war, impacting regional and global security. While the US public may be less aware of relations between states where the US is not directly involved, they may still form opinions and believe these relationships affect international security somehow. Additionally, this study only reflects the views of the US public. While valuable, these findings should be supplemented by research in other nuclear-armed and non-nuclear states and by surveys of policy elites. This broader approach is challenging but important to highlight.

2.6 Conclusion

This study provides insights into nuclear weapons and their impact on views of deterrence and international security from a microfoundations perspective over time. Despite a changing nuclear and international security environment, the factors influencing views on the role of nuclear weapons in international security remain relatively stable. These results can

inform policymakers not only of the public's perspectives on nuclear weapons and international security but also of narratives that can be used to garner policy support. For example, the findings suggest that an increased perception of the risk of nuclear war with Russia and North Korea is associated with a higher likelihood of believing that nuclear weapons make the world safer. This may support arguments in favor of maintaining nuclear arsenals. Policymakers advocating for stockpile development could use these perceptions to argue for a modernized or larger stockpile to reduce risk.

These results also raise additional questions. The role of physical security and threat perceptions is only one explanation for support or opposition to deterrence and nuclear weapons. Another important factor is state identity. Given that nuclear weapons are deeply intertwined with US foreign policy and its projection of power, it is important to understand how the public perceives this identity and what factors influence these views. Therefore, the next chapter in this dissertation asks: (1) How does the US public view the role of nuclear weapons in shaping the US identity? (2) What socioeconomic, demographic, and other factors influence how the public thinks about nuclear weapons and US identity? These questions will be explored in the next chapter of this dissertation. The influence of physical security threats and state identity perspectives helps explain broad views on deterrence and specific policy preferences.

Chapter 3: Public Perceptions of the Importance of Nuclear Weapons for US Identity

3.1 Introduction

The possession (or lack) of nuclear weapons can be as crucial to a state's physical security as it is to the identity and values it seeks to project to the world and its citizens. For nuclear-armed states and their citizens, nuclear weapons represent the ultimate material military power and may signal aspirations of global or regional hegemony. In contrast, for non-nuclear states and their populations, the absence of nuclear weapons may symbolize a commitment to leadership through peace and human rights. Because nuclear weapons can be closely tied to a state's identity, this can influence a state's willingness to pursue nonproliferation policies or, for non-nuclear states, proliferation policies. Ultimately, the role of nuclear weapons in shaping a state's identity is constructed by the values and image the state seeks to project. However, it is important to note that state identities, including nuclear identities, are not always straightforward, and states may have more than one identity that aligns with different goals or identities that may conflict with one another. Therefore, nuclear policy decisions are not only a function of external security threats. Beyond examining how external security threats shape policy preferences, we must also understand how people perceive the connection between nuclear weapons and a state's identity—and how that perception influences policy decisions. This dissertation chapter explores how the American public views the relationship between nuclear weapons and US national identity, as well as the factors that shape these perceptions.

The first dissertation chapter examined the role of perceived security threats in shaping the public's views on the role of nuclear weapons in increasing or decreasing security. The first chapter primarily examined nuclear weapons from the realist perspective. The realist framing

dominates the study of nuclear weapons in international politics. This school of thought provides an informative framework for analyzing nuclear decisions based on material power and physical security. While valuable, international relations scholars from the neoliberal and constructivist perspectives argue that this explanation is incomplete. While perceptions of physical security and material power are important, other factors, including non-material ones such as norms, domestic politics, values, ontological security, and perceptions of identity, also influence nuclear policy decisions.

In his foundational piece, Sagan (1996) argues that there are three models of proliferation—security, norms, and domestic politics.¹¹ This chapter draws upon the norms model, which posits that nuclear weapons and the decision to proliferate have “important symbolic functions—both shaping and reflecting a state’s identity” (73). Sagan (1996) states that the norms model suggests that “weapons acquisition, or restraint in weapons development, provides an important normative symbol of a state’s modernity and identity” (55). Although non-material, ideational factors have traditionally been overlooked in studies of nuclear decision-making, there is evidence from both nuclear and non-nuclear states that highlights the role nuclear weapons play in influencing how states project their identity and power and, therefore, influence state behavior.

Examples of the role of nuclear weapons in state identity, as well as the complexities involved, can be seen around the world. Japan’s nuclear identity, for instance, is complicated, and sometimes its behavior may appear contradictory to its identity. Japan has committed to promoting disarmament and nonproliferation, identifying as a non-nuclear state and a leader in nonproliferation. However, the country is also part of the US nuclear-extended deterrence

¹¹ See the introduction chapter for a full description of the models.

umbrella as it faces threats from nuclear-armed states in the region (Akimoto 2018). In contrast, one of those regional threats, North Korea, has argued that its nuclear weapons program is critical for recognition as a regional power (van Wyk et al. 2007).

State identities are complicated and multifaceted, and they are a product of both how the state identifies itself and how the state is perceived by others (Wendt 1999). While these identities are often projected at the macro level and seemingly influenced by policy elites and policy decisions, public opinion can be a valuable tool for examining state identity. In democratic states, the public can be “an amplifier of the norms related to nuclear weapons” (Frey 2006, 14). The public may reflect the norms and roles established at the macro level but can also reinforce an existing identity or advocate for an alternative one. Public opinion is also valuable as it demonstrates the nuances of perceptions of identity. While a state may project a particular identity and idea of its role and values, members of the public from various backgrounds may have very different ideas of that identity.

As discussed in the first chapter regarding risk perceptions, policymakers need to understand how the public views nuclear weapons and state identity, as this can inform policy narratives and the security policies they support (or undermine). Additionally, examining the consistency of these beliefs over time can be informative for policymakers. If public opinions shift from year to year, it may be easier to persuade the public of a policy’s value, such as disarmament. However, if beliefs remain stable, policymakers may face greater difficulty convincing the public that a policy change is necessary. Conversely, policymakers may be able to justify decisions by pointing to steady, high levels of support for nuclear weapons.

This study looks beyond support or opposition to nuclear weapons to begin to understand the specific role the American public believes nuclear weapons play in shaping the identity of the

US in the world. Using American public opinion data from the post-Cold War Era and following the constructivist literature on state identity, this paper addresses the following research questions: (1) How does the public value nuclear weapons in relation to the US's identity or role in the world? In other words, does the US public feel that nuclear weapons are important tools for military superiority, as well as being a leader in the world? (2) What influences how people think about nuclear weapon's role in these identities?

This chapter will proceed as follows: first, the literature review will provide an overview of non-material explanations of nuclear weapons decisions, focusing on state identity and related public opinion. Next, the chapter presents the data, methods, and analysis, and then discusses the results. Then, the policy implications will be described and evaluated. The following chapter of this dissertation will build upon Chapter 1 and this chapter's analysis by exploring how demographics, risk perceptions, and state identity shape the American public's nuclear weapons policy preferences.

3.2 Literature Review

Complementary Approaches to Realist Explanations of Nuclear Weapons Decisions

While structural realist theory dominates the study of nuclear weapons and offers valuable insights into the perceived and objective realities of physical security threats and the resulting drive to acquire material power, it provides an incomplete explanation for why states choose to proliferate, disarm, or remain non-nuclear and make other nuclear-related policy decisions (Sagan 1996; Lupovici 2010). Others argue that domestic politics shape states' nuclear decisions, such as economics and democratic norms and institutions (including public support or opposition to policies) (Sagan 1996; Solingen 1994). The domestic politics explanation still provides a primarily structural explanation yet begins to examine how non-material influences,

such as democratic norms, may influence policy decisions. Neither can fully explain the variation in nuclear postures observed across states, though empirical studies have supported both explanations.

As a result, scholars have proposed complementary approaches using non-materialist and constructivist theories to examine states' decisions regarding nuclear weapons. The literature has highlighted the importance of non-material factors such as norms and behavior (Sagan 1996; Tannenwald 1999; Sagan and Valentino 2017), symbols (Frey 2006; Noda 2022), beliefs and preferences (Long and Grillot 2000), perceptions (Jervis 1982), trust (Ruzicka and Wheeler 2010), and state identity (Müller 2003; Ritchie 2010; Mohebbi 2017) in explaining proliferation, deterrence, and other nuclear weapons policy decisions. While there is growing interest in non-material explanations of nuclear-related behaviors, these remain understudied compared to the security and domestic politics schools of thought (Noda 2023).

State Identity and Nuclear Weapons

The constructivist approach to international relations examines the social processes that shape state behavior and identity (Onuf 1998; Wendt 1999). While this approach has typically focused on non-material factors, such as ideas and norms, it is evident that non-material as well as material elements (e.g., nuclear weapons) and structures shape identity and state interaction (Srivastava 2020). Identities are “relatively stable, role specific understandings and expectations about self” (Wendt 1992, 397). While identities are stable, they are not permanent and can change as dynamics within the international system change. Instead of being shaped solely by external factors, such as the structures inherent in the international system or domestic politics, identities are socially constructed both by the actor and through social interaction in the international system (Wendt 1994).

Additionally, while a state may project an identity, it is not always agreed upon and is often shaped by contestation (Abdelal et al. 2006). This study demonstrates how nuclear weapons are seen collectively as a symbol of identity, as well as the contestation that may occur among the public, as different subgroups have different perspectives of the value of nuclear weapons. States can hold multiple identities, each of which may align with specific behaviors or policies, though scholars continue to debate how strongly identity influences state behavior (Lebow 2016).

Hymans (2006) explores identity and nuclear weapons using the concept of “national identity conceptions” (Wendt 1994; Holsti 1970; Hymans 2006). In his study, Hymans (2006) defines national identity conceptions as “an individual’s understanding of the nation’s identity—his or her sense of what the nation naturally stands for and how high it naturally stands, in comparison to others in the international arena” (18-19). These conceptions are “individual, or subjective, sets of choices about how to interpret the collective symbols and memories common to all in the nation, but often highly multivalenced in their potential meanings and significance” (Hymans 2006, 18-19). Thus, nuclear weapons are a clear manifestation of material power but also influence how states perceive their own identity and the identity of others (Chafetz, Spirtas, and Frankel 1998).

The shaping, or the mutual co-constitution, of identities and nuclear weapons is dynamic and based on factors such as the international environment, leaders, relations between states, and even technological capabilities. The symbolism assigned to nuclear weapons may be positive or negative (Frey 2006a). Thus, nuclear identities are not merely about whether or not a state possesses nuclear weapons but also the meaning states and others assign to them. Noda (2023) defines a “nuclear identity” as “a set of understandings a state has (and portrays) of itself and its

role within the overarching structures of the international system, in relation to others in the domain of nuclear politics and nuclear weapons” (74). These understandings shape how a state sees itself or how others view it. They also guide behavior and policymaking (Lupovici 2010; Tannenwald 2007). States may pursue nuclear technology for peaceful purposes, consider developing a weapons program, or advocate for nonproliferation and disarmament. A state may maintain a nuclear arsenal but decide to pursue no-first-use policies and not to test nuclear weapons, even without treaty obligations, as the US has done.¹² These actions reflect nuclear identity, shaped by how a state views itself and interacts with other states. For example, as of mid-October 2024 (Stewart and Landay 2024), Iran does not possess nuclear weapons. Does this mean it lacks a nuclear identity? No, Iran has a nuclear identity, as it has expressed interest and demonstrated its ability to develop nuclear weapons. Furthermore, Iran’s nuclear decisions have been related to its desire to project an identity as a regional superpower and modern state (Mohebbali 2017). However, its nuclear identity differs from that of other non-nuclear weapons states, such as Jordan, which focuses on nuclear energy and supports a WMD-free zone in the region (Jordan Overview 2015).

Understanding state identity, including nuclear identity, is important because identities play a role in “institutionalizing certain understandings and practices, shaping interpretation of events, assigning particular meanings to material objects such as nuclear weapons, and constructing certain policy outcomes as feasible and appropriate while dismissing others” (Ritchie 2010, 467-68). Therefore, understanding how the public views identity can be as valuable as understanding risk perceptions when crafting policy narratives. For example, if a presidential candidate wants to increase spending on nuclear weapons programs, it would be

¹² The US is a signatory to the Comprehensive Test Ban Treaty but not ratified it.

beneficial for the candidate to know how the US public views both risk perceptions and state identity. If perceived risk is low, but the public feels there are strong ties between nuclear weapons and identity, the candidate could argue that increasing spending improves programs and maintains the US's role as a global military leader.

Although states may use various forms of material power to express their identities, nuclear weapons hold a distinct position, as identity is shaped by both possession and non-possession, and only a select number of states possess them. Furthermore, while nuclear weapons have not been used since 1945, they have instead been used as deterrents and as symbols and political tools (Frey 2006; Koch 2023). Symbolic meanings, like identity, are socially constructed. For some, nuclear weapons symbolize prestige, power, and modernity (O'Neill 2006). Others view them as symbols of destruction and are seen as antithetical to modern society. For others, they are deemed "morally prohibitive...[and] incompatible with a country's identity and international outlook" (Frey 2006, 4). Thus, for some states, nonproliferation norms may symbolize of or reinforce a state's identity (Price and Tannenwald, 1996).

The US Public, Nuclear Weapons, and Identity

The US has often employed nuclear weapons to project its identity as a global leader and military power. As Noda (2023) notes, the US narrative surrounding nuclear weapons has related to its power and leadership since the invention of the bomb:

"the US presents itself as the lead: not only was the US the only possible nation to have achieved this outstanding scientific endeavor, but also the US was the 'right' nation to harness its power and influence world peace," (108).

Thus, nuclear weapons can be tools of influence and power, supporting the identity of a global leader, military power, and scientific leadership (Atkinson 2010; Ritchie 2010). This study focuses on the US's identities as a global leader and military power, using measures of public

opinion to understand how nuclear weapons are tied to those perceptions of identity (or how the public sees itself). The public shapes or reinforces state identity by holding specific values and forming perceptions about how the United States should project its image to the world. Thus, a micro-level exploration of the ties between nuclear weapons and state identity can offer insights into the foundations of state identity and reveal what policies might be popular among the public and specific subgroups. Additionally, decision-makers and the public in other states can understand how the US public perceives its identity. This is particularly important for nuclear policies that may affect allies, such as extended deterrence, or signal to adversaries the US government's level of public support for its nuclear decisions.

While a micro-level study of beliefs about identity could be fascinating in nuclear-armed states or those contemplating proliferation, the US is a unique case. While eight other states currently possess nuclear weapons, and others have possessed them but later disposed of them, the US was the first to develop and test the bomb, the only state to use them, and thus the first to use nuclear weapons to project identity. These events and the country's role in pioneering nuclear technologies likely had two competing effects on how people understand US identity. On the one hand, nuclear weapons contributed to the construction of the US identity as a global hegemon and military power. This role remains vital to some policy elites and members of the public. This identity has been further amplified through popular media. On the other hand, to others, nuclear weapons and the surrounding complex are associated with imperialism and harm and seen as antithetical to what the US identity should be: a leader in peace and democracy, especially considering the harmful effects the nuclear enterprise has had on communities across the country (Gómez 2022). Those opposing the existing role nuclear weapons play in US identity

may instead advocate for an identity that embraces nonproliferation and moral leadership, thus using normative, not material, tools to project power and leadership.

We can observe evidence of the use of nuclear weapons to symbolize identity and how the behavior of the US and other states constructed each other's nuclear identity throughout the history of nuclear weapons. This is demonstrated in the identities and behaviors of nuclear states, aspiring nuclear states, and non-nuclear weapons states.

Nuclear weapons were developed not only out of security concerns but a desire to project power and leadership. For example, in terms of a scientific and technological leader identity, following the bombing of Hiroshima, President Truman highlighted the bomb as a symbol of scientific achievement, stating, "What has been done is the greatest achievement of organized science history" (Truman 1945). Most important for this study, nuclear weapons are perhaps most notably associated with great power status, influence, and prestige (Frey 2006; Frey 2007; Ritchie 2010).

The US's development and use of nuclear weapons changed the global order. The Soviet Union responded to these changes by pursuing its own nuclear weapons program to attempt to end the US's monopoly on nuclear power and challenge US hegemony. The Soviet Union's pursuit of a nuclear weapons program established its role as a global superpower. Similarly, China felt it needed a nuclear weapons program to establish international status, with Mao stating: "As for the atomic bomb, this big thing, without it people say you don't count for much. Fine, then we should build some" (cited in Johnston 1995, 8).

Proliferation also occurred among the US's allies (France, UK, Israel, and India), with allies expressing similar, identity, power, and security concerns. For example, part of France's nuclear weapons plan stated proliferation was important "to ensure that in 10 years' time France

will still be an important country,” (document quoted in Sagan 1996, 78). However, this proliferation was deemed acceptable because the US views these states as friendly. Based upon the constructivist framework, it is possible that the construction of these states (or our own) as friendly could change and thus the acceptability of being a nuclear weapons state may change.

The vast majority of states during the Cold War or the present day pursued nuclear weapons to symbolize identity. Instead, non-nuclear states reacted to the events in the international system by internalizing norms against nuclear weapons. There are a few instances where states denuclearized, but these cases demonstrate how nuclear identity can evolve. For example, South Africa had concerns that it could not rely on others if it were attacked, leading it to develop its own nuclear weapons program. In the late 1980s, South Africa’s leadership felt that in order to be viewed as a Western state, it needed to give up its nuclear weapons (Long and Grillot 2000).

Nuclear identities are not permanent; identity construction is a process. For example, President Trump once proclaimed in a Tweet¹³ that he had a larger nuclear button than Kim Jong Un to demonstrate the US’s material power and identity as a superpower and North Korea’s identity as a smaller nuclear state without much global influence (Neuman 2018; Trump 2018). The US’s and other states are continuously constructing their nuclear and global identities, whether that be reinforcing or altering. A 2025 example of this ongoing process can be seen in the interactions between the US and the rest of NATO, particularly France. As the US re-evaluates its global identity and its relations with NATO, France is re-evaluating its nuclear identity and the role it plays in the protection of NATO, both the physical security of NATO members and the continuation of the NATO identity (Rich 2025).

¹³ Formerly Twitter, now X.

What influences perceptions of identity?

Nuclear weapons are a highly divisive issue around the world and in the US. Therefore, while there may be a predominant perception of how nuclear weapons impact US identity in the world, it is likely to be nuanced. In general, the US has projected identities such as “global leader,” “military power,” “economic leader,” and “democracy,” to name a few. As previously mentioned, the identities of interest in this study are global leader, using nuclear weapons or non-material power (values, morals, norms) to project that identity, and military power, using nuclear weapons to project that identity.

These identities are reflected in hawkish foreign policy decision-making that has been core to much of US foreign policy. Hawkishness (typically aligning with militant internationalism, found in internationalist and hard-liner attitudes) has been ingrained primarily in the conservative approach to foreign policy, with proponents often advocating for maintaining peace through military leadership¹⁴ (e.g., Washington 1793). While not necessarily correlated, Republicans tend to be more hawkish. However, hawkishness can be bipartisan. Friedman (2023) finds that American voters care deeply about leaders pursuing hawkish policies even if they do not necessarily agree with those policies, as they make the US and a given leader appear strong. Thus, for much of the voting public, the image the US portrays is as important, if not more important, than actual policy (Friedman 2023). Republicans tend to support nuclear use (Sagan and Valentino 2017) and are, therefore, more likely to believe nuclear weapons are important for projecting US identity.

In contrast, a more dovish (typically measured through cooperative internationalism and found in internationalist and accommodationist attitudes) approach would pursue leadership and

¹⁴ “Peace through strength” foreign policy is not unique to American foreign policy.

peace through norms, diplomacy, and collaboration in international organizations to prevent or end conflict. To those following this approach, in the nuclear realm, leading through efforts such as the adoption of treaties and disarmament is likely more important than maintaining a nuclear arsenal. An example of this is Sweden's decision not to develop nuclear weapons in part because of the value the public was placing on nonproliferation norms (Koch 2023).

Finally, isolationists oppose both cooperative internationalism and militant internationalism, rejecting most methods of interacting in the international system. Hypotheses related to the dimensions of internationalism and party affiliation are detailed below.

H1a: Republicans are more likely than Democrats to believe that nuclear weapons are important for maintaining military superiority.

H1b: Republicans are more likely than Democrats to believe that nuclear weapons are important for maintaining the United States' status as a global leader.

H1c: Republicans are less likely than Democrats to believe that the United States should lead through nuclear disarmament as a form of moral leadership.

H2a: Hard-liners are more likely to believe that nuclear weapons are important for maintaining military superiority.

H2b: Hard-liners are more likely to believe that nuclear weapons are important for maintaining the United States' status as a global leader.

H2c: Hard-liners are less likely to believe that the United States should lead through nuclear disarmament as a form of moral leadership.

While partisanship and internationalist orientations play a significant role in shaping views on nuclear weapons, other factors, such as education, gender, race, and age, can also influence views on state identity and nuclear weapons policy (Herron and Jenkins-Smith 2006; Herron and Jenkins-Smith 2014). There have been mixed results on the role of gender in foreign policy beliefs. There is often a perception that women favor more dovish policies, while some studies have shown that women support hawkish policies as much as men (Sagan and Valentino

2017). While not captured in this study, elite and media cues and global international security events may also influence how the public thinks about nuclear weapons and identity.

H4a: Older individuals are more likely to believe that nuclear weapons are important for maintaining military superiority.

H4b: Older individuals are more likely to believe that nuclear weapons are important for maintaining the United States' status as a global leader.

H4c: Older individuals are more likely to believe that the United States should lead through nuclear disarmament as a form of moral leadership.

H5a: Men are more likely than women to believe that nuclear weapons are important for maintaining military superiority.

H5b: Men are more likely than women to believe that nuclear weapons are important for maintaining the United States' status as a global leader.

H5c: Men are less likely than women to believe that the United States should lead through nuclear disarmament as a form of moral leadership.

Last, identity constructions occur both as a result of social interactions and the structure of the security environment, as demonstrated in the discussion of nuclear identity and behavior being shaped by others' nuclear behaviors and the threats they pose. Therefore, the nuclear war risk index established in Chapter 2 is included as an independent variable.

H6a: Individuals with higher nuclear war risk perceptions are more likely to believe that nuclear weapons are important for maintaining military superiority.

H6b: Individuals with higher nuclear war risk perceptions are more likely to believe that nuclear weapons are important for maintaining the United States' status as a global leader.

H6c: Individuals with higher nuclear war risk perceptions are more likely to believe that the United States should lead through nuclear disarmament as a form of moral leadership.

3.3 Data & Methods

Data

This paper uses data from the Institute for Public Policy Research and Analysis Annual National Security (NS) Survey. The survey, fielded in 1993 and conducted annually since 2005 (except for 2012-2014), offers an over-time perspective on the various national security eras following the end of the Cold War. This chapter uses data from the 2005 survey onward because the questions used to measure the importance of nuclear weapons for US leadership and status as a military superpower were first included in 2005 (Herron and Jenkins-Smith 2006; Herron, Jenkins-Smith, and Sliva 2012; Herron and Jenkins-Smith 2014). It collects information on public views on many national security topics, ranging from nuclear weapons to terrorism to disinformation. During survey recruitment, quotas were applied to match the sample to US Census estimates, and post-stratification survey weights were applied to account for differences.

The dependent variables are detailed in Table 3.1 below. The three identity variables relate to projections of prestige and power in the world, with nuclear weapons as a material tool for projecting that identity. The third variable diverges from the first two in that norms and morals are used to project leadership and strength.

The first dependent variable, referred to going forward in the paper as US military superiority, measures the importance of nuclear weapons for US military superiority. The second dependent variable, referred to as US Status as a Leader, measures the importance of nuclear weapons for maintaining US leadership in the world. These two variables tie nuclear weapons to identity, primarily the collective identity of the United States. As Atkinson (2010) explains, although nuclear weapons represent material power, they “are used in an ideational sense by the United States because they serve to construct a collective identity between nuclear and non-nuclear powers whereby the nuclear powers exert latent power over those that do not possess

nuclear weapons,” (842). In contrast, the third variable, Lead Through Disarmament, measures the desire for US leadership to be projected through disarmament. This variable uses norms to project latent power and collective identity (Atkinson 2010).

These variables do not account for all potential ways nuclear weapons may be tied to identity. The US often pursues multiple collective identities, including scientific and technological leadership, economic leadership, and human rights leadership, to name a few. Lebow (2016) indicates that identities are more complex and that states often have multiple, meaning that it can be challenging to point to one identity as the cause for state behavior. For example, does the US maintain its stockpile to project military leadership and power, or are there other reasons? Thus, this examination of US collective identity and nuclear weapons is incomplete but provides an avenue for future research.

Independent variables include demographic characteristics, such as age, gender, educational attainment, political party affiliation, and the four foreign policy attitudes. The dimensions of internationalism are measured across ratings of three related statements, and overall CI and MI scores are created using factor analysis. Then, respondents were categorized into the four types, as described in Chapters 1 and 2. These variables are detailed in Table 3.1 and the Appendix.

Table 3.1: Dependent and Independent Variables

Variable Name	Question	Response Options	Years
ussup	On the same scale from zero to ten, where zero means <i>not at all important</i> and ten means <i>extremely important</i> , how important are nuclear weapons for maintaining U.S. military superiority?	0-10	2005-2011; 2015-2023
usstat	On the same scale from zero to ten, where zero means <i>not at all important</i> and ten means <i>extremely important</i> , how important are nuclear weapons for maintaining U.S. influence and status as a world leader?	0-10	2005-2011; 2015-2023
warhds5	Regardless of what others do, the U.S. should eliminate all of its nuclear weapons as soon as possible. This would put the U.S. in a position of moral leadership by setting an example for others; it would bring the U.S. into compliance with a key objective of the Nuclear Nonproliferation Treaty; and it would make the world safer.	1 (Strong Disagree) to 7 (Strongly Agree)	2008-2011; 2015-2023
Nuclear War Risk Index	Factor Score of the four nuclear war risk questions. See Appendix for details	NA	2005-2011; 2015-2023
CI Index	CI_1: Unless directly attacked, the US should not use its military force without authorization from the United Nations. CI_2: Like the citizens of many other countries, officials and citizens of the United States, including members of the military, should be subject to criminal proceedings under the International Criminal Court in Europe. CI_3: The US should agree to accept internationally established limits on its production of carbon dioxide and other greenhouse gases thought to cause global warming.	1 - Strongly disagree to 7 - Strongly agree	2005-2011; 2015-2023

Table 3.1 Continued: Dependent and Independent Variables

Variable Name	Question	Response Options	Years
MI Index	MI_1: The US can never entrust its security to international organizations such as the United Nations. MI_2: Even though allies are important, the US must be willing to act alone to protect American interests. MI_3: The US must be willing to act preemptively by using military force against those that threaten the United States <i>before</i> they can attack it.	1 - Strongly disagree to 7 - Strongly agree	2005-2011; 2015-2023
edu	What is the highest level of education you have COMPLETED?	1 - Less than High School 2 - High School / GED 3 - Vocational or Technical Training 4 - Some College — NO degree 5 - 2-year College / Associate's Degree 6 - Bachelor's Degree 7 - Master's degree 8 - PhD / JD (Law) / MD	2005-2011; 2015-2023
gend	Are you male or female?	0 - Female 1 - Male	2005-2011; 2015-2023
race	Which of the following best describes your race?	1 - White 2 - Black or African American 3 - American Indian or Alaska Native 4 - Asian 5 - Native Hawaiian or Pacific Islander 6 - Two or more races Note: recoded as White or Nonwhite	2005-2011; 2015-2023
party	Generally speaking, do you usually think of yourself as a Republican, a Democrat, an Independent, or what?	1 - Democratic 2 - Republican 3 - Independent 4 - Other party (Please specify)	2005-2011; 2015-2023
age	How old are you?	Verbatim	2005-2011; 2015-2023

Methods

First, the overall trends in these identities will be described. These trends can inform policymakers of the public's overall mood on these questions over time, but they do not provide much detail as to who is more likely to have particular attitudes about identity and nuclear weapons. Next, I use multivariate Ordinary Least Squares (OLS) regression to examine how the abovementioned variables influence these perceptions of identity. The OLS models provide more nuance as to who among the public tends to tie nuclear weapons to US identity abroad. The models are presented in two ways. First, models are pooled, meaning all data across all years is included. Then, full models are separated by year and displayed in the figures.¹⁵ Tables of the yearly models are provided in the appendix to demonstrate the stability of the size and direction of the effect over time. Bivariate models were also checked, any notable differences in the size, direction, and significance of effect are noted. These data are repeated, cross-sectional rather than panel, meaning it can be challenging to compare one year to another as the sample differs yearly. However, the OLS models still provide insight into public perceptions of state identity over time.

¹⁵ Full, yearly model tables are included in the Appendix.

3.4 Results

Figure 3.1: US Status as a Leader and Military Superiority Over Time

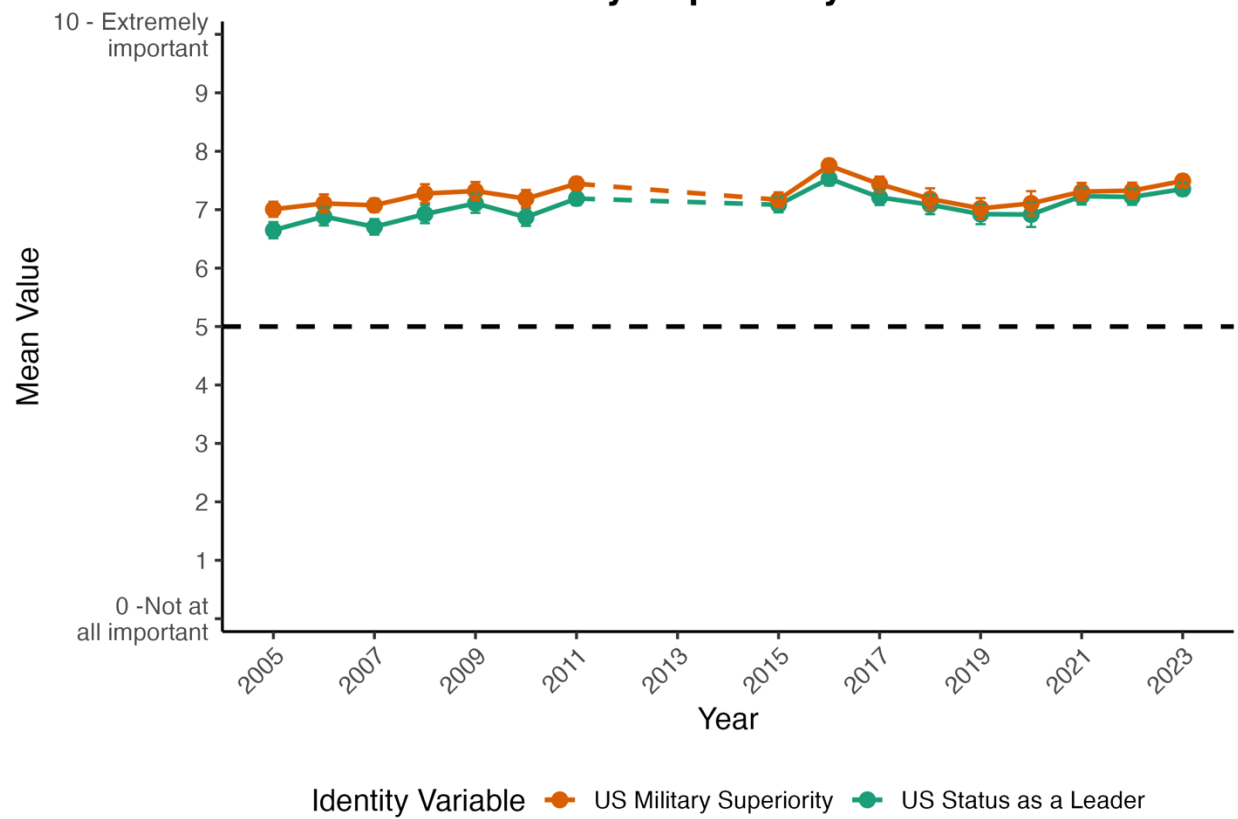


Figure 3.2 US Leading Through Disarmament Over Time

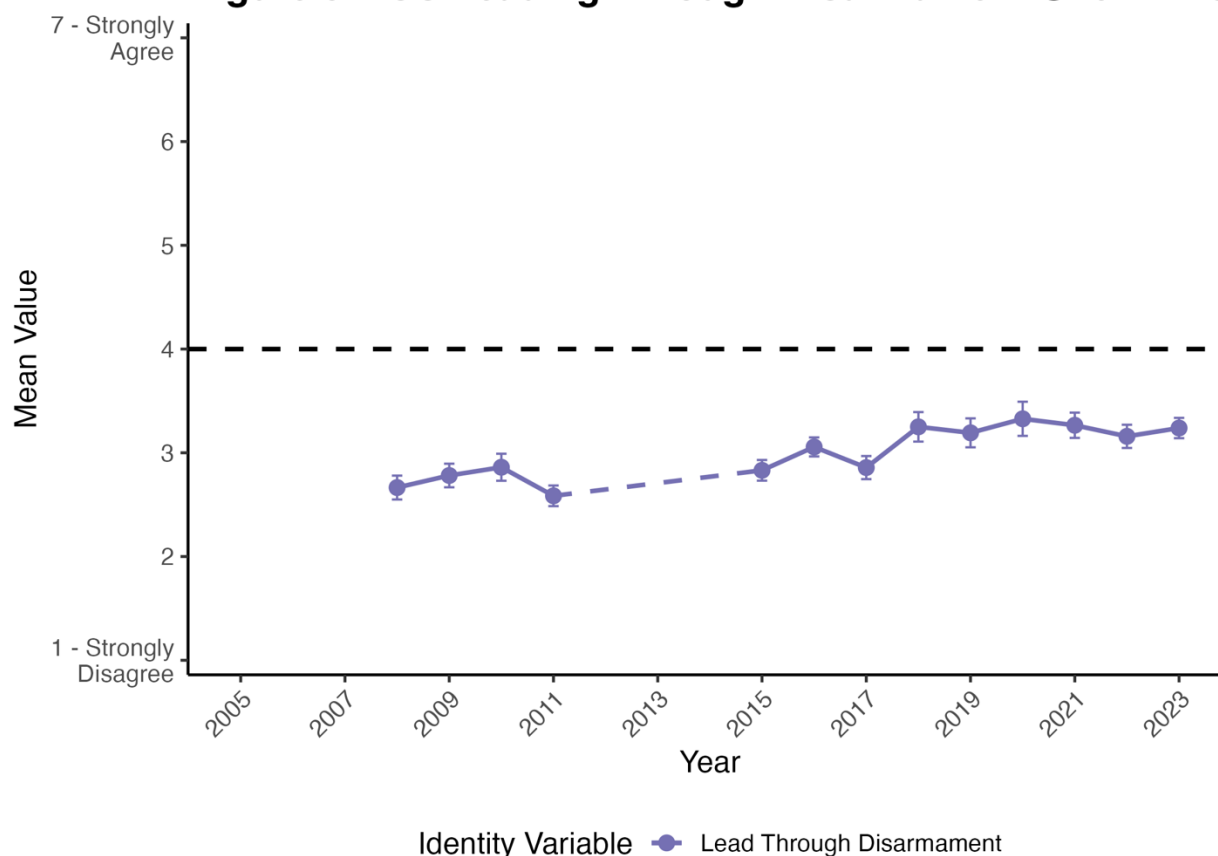


Figure 3.1 demonstrates the mean results of the three dependent variables over time, with the black dashed line indicating the midpoint on the scale. The US public tends to rate nuclear weapons as very important for US military superiority and for the US to maintain its status as a world leader. Between 2005 and 2023, the average rating by year for these two questions ranges between 6 and 8, with the importance of nuclear weapons for US military superiority being rated slightly above the importance of nuclear weapons for maintaining US status as a world leader. While on a different scale, the Lead Through Disarmament variable indicates the public's value of the role of disarmament norms in its leadership identity. Since the question was first included in the survey in 2008, the public has consistently had a mean answer of between 2 to slightly above 3, which indicates the public does not agree that the US should lead through the moral example of disarmament. These results support the idea that the public believes nuclear weapons

are tied to two parts of US identity—military superiority and its status as a leader. The views on all three questions are relatively stable over time, aligning with the conceptualization of identities, that they are “relatively stable, role specific understandings and expectations about self,” (Wendt 1992, 397). Therefore, it is likely that these perspectives on identity will likely remain stable for some time, or perhaps nuclear weapons will be seen as more important for identity. Conversely, a moral disarmament stance will be even less important if risks escalate or a major focusing event occurs.

Beyond providing insight into US identity, these results may be useful to policymakers. The public is much more likely to support policies in favor of maintaining and/or modernizing the arsenal because they view them as important for identity. In contrast, policymakers pursuing arms control, reduction, or disarmament may face public pushback, as these behaviors counter perceptions of identity and expected behaviors. These results suggest that policy narratives that tie nuclear weapons to not only physical security but to the role of the US in the world are likely persuasive to the public. However, the overall views are only one part of the identity story. As with risk perceptions (see Chapter 2) and policy preferences (see Chapter 4), the public’s perceptions of US state identity differ across subgroups.

OLS Models

The following tables and figures display OLS models for the three identity variables—US military superiority, US status as a leader, and US leadership through disarmament. The tables present the pooled models, and the figures display coefficients for each model for each year. Yearly models are multivariate. For full yearly model tables, reference the appendix. The tables and figures display standardized coefficients.

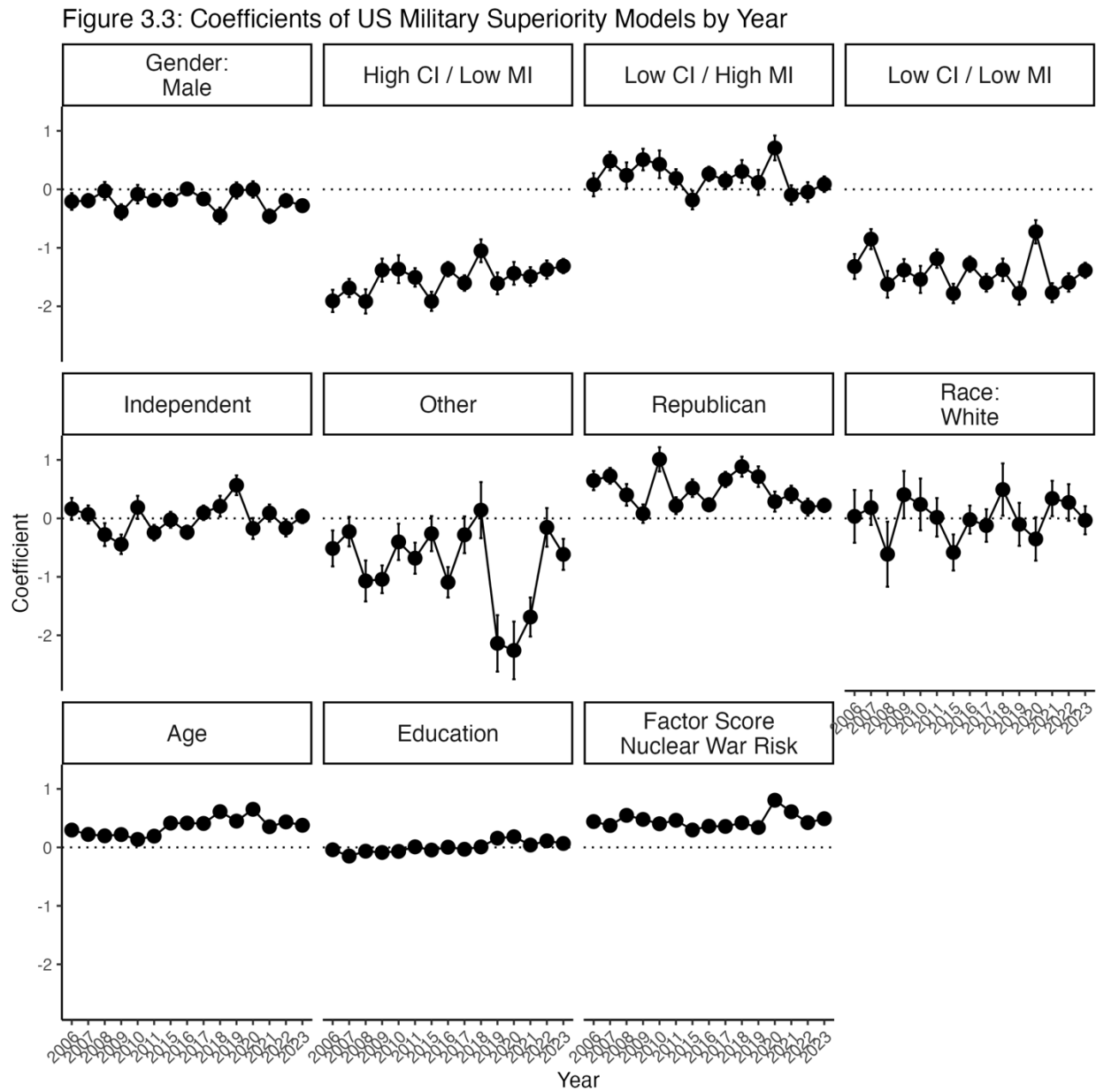
The multivariate OLS models for the first identity variable, the importance of nuclear weapons for US military superiority, are presented in Table 3.2 and Figure 3.3. In the full model, men are significantly less likely than women to believe that nuclear weapons are important for US military superiority, but gender differences disappear when risk is not included in the model. Age and identifying as a Republican (compared to Democrat) have significant, positive effects on the importance of nuclear weapons for US military superiority. Those with an Other party identification are less likely to believe nuclear weapons are important for US military superiority, compared to Democrats. Accommodationist and Isolationist (compared to internationalist) attitudes have a strong, negative effect. Hard-liner attitudes have a small positive effect, in the full model only. Nuclear war risk perceptions in both the full and risk only models have a strong, positive effect, providing evidence that the behavior of other states, and perhaps the international system structure, influence identity construction. Education and race had non-significant effects. There is very little difference between men and women, aligning with Sagan and Valentino's (2017) findings that women are not always dovish.

Table 3.2: Importance of Nuclear Weapons for US Military Superiority, Pooled OLS Models

	<i>Dependent variable:</i>		
	US Superiority		
	(1) Full Pooled ¹⁶	(2) Demographics and World View	(3) Risk Only
Gender: Male	-0.199*** (0.031)	-0.050 (0.030)	
Race: White	0.036 (0.085)	0.022 (0.086)	
Education	0.022 (0.030)	-0.0001 (0.030)	
Age	0.714*** (0.030)	0.599*** (0.030)	
Party: Republican	0.444*** (0.038)	0.452*** (0.039)	
Party: Independent	-0.030 (0.038)	-0.059 (0.039)	
Party: Other	-0.690*** (0.079)	-0.764*** (0.080)	
High CI / Low MI: Accommodationists	-1.552*** (0.042)	-1.803*** (0.042)	
Low CI / High MI: Hard-Liners	0.212*** (0.043)	0.039 (0.043)	
Low CI / Low MI: Isolationists	-1.432*** (0.044)	-1.640*** (0.044)	
Nuclear War Risk	0.892*** (0.032)		0.966*** (0.028)
Constant	7.962*** (0.089)	8.067*** (0.090)	7.276*** (0.014)
Observations	23,497	23,789	32,636
R ²	0.205	0.178	0.034
Adjusted R ²	0.205	0.178	0.034
Residual Std. Error	2.177 (df = 23485)	2.216 (df = 23778)	2.427 (df = 32634)
F Statistic	551.806*** (df = 11; 23485)	515.863*** (df = 10; 23778)	1,164.061*** (df = 1; 32634)
<i>Note:</i> * p<0.1; ** p<0.05; *** p<0.01			

¹⁶ Notable differences in bivariate models: Age (0.95***), Republican (0.92***).

Figure 3.3 demonstrates trends for full models, separated by year. Foreign policy attitudes, particularly Accommodationist and Isolationist views, consistently have the largest negative effects on the importance of nuclear weapons for US military superiority. Age, identifying as Republican, nuclear war risk perceptions, and hard-liner views consistently have the largest positive effects. This is consistent with expectations found in previous literature.



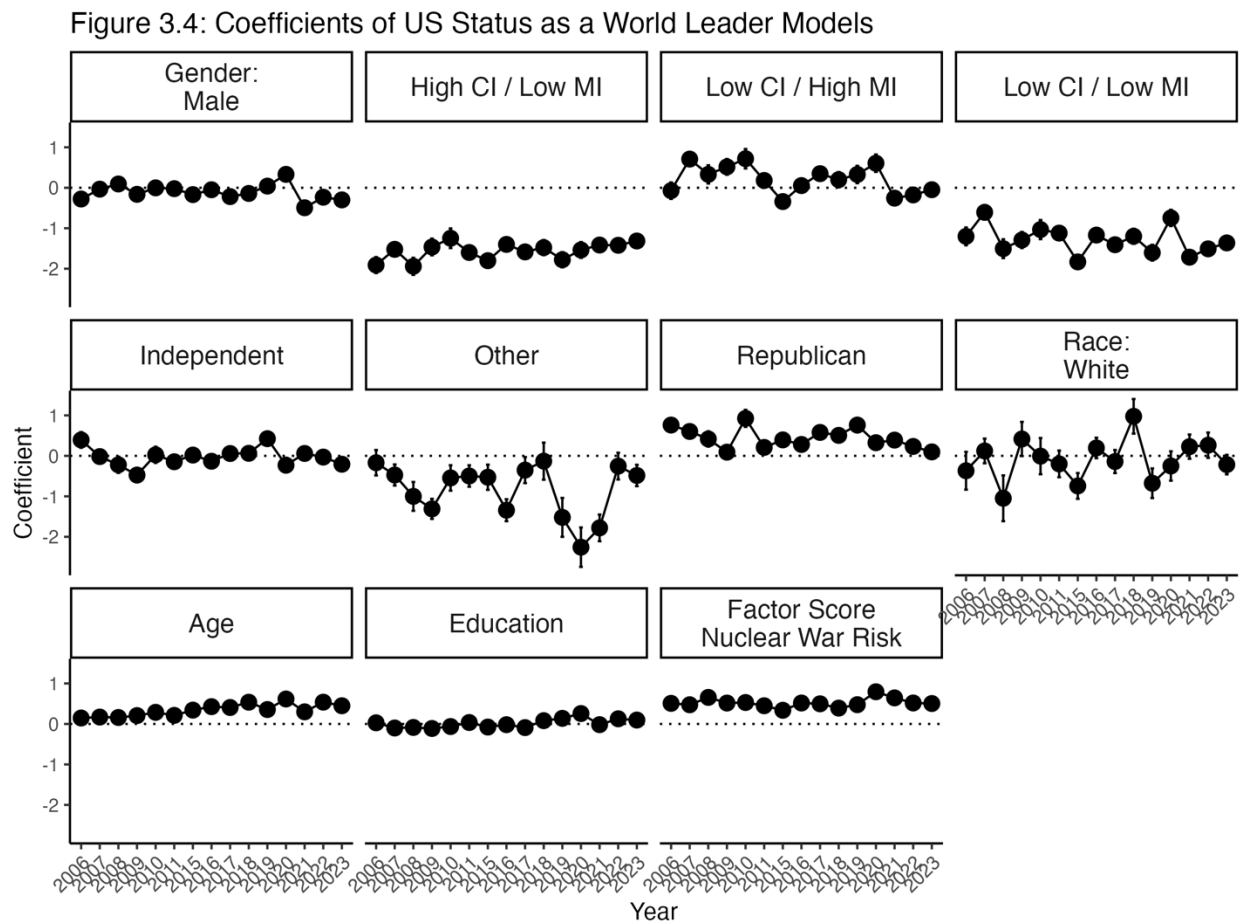
The multivariate OLS models for the following identity variable, US influence and status as a leader, are presented in Table 3.3 and Figure 3.4. Similar to the previous model, men are less likely than women to believe that nuclear weapons are important for US leadership and influence, but gender differences disappear in the second model. Older respondents are more likely to view nuclear weapons as important for US leadership and influence. Race and education have no effect, similar to the previous models. Republicans, compared to Democrats, place a higher value on the importance of nuclear weapons for US leadership. Accommodationists and isolationists, compared to internationalists, are likely to believe nuclear weapons are less valuable for US global leadership. Hard-liner attitudes have a small, positive effect in the full model, but this effect disappears in the second model. Nuclear war risk perceptions are a strong, positive predictor of a respondent's value of nuclear weapons for US leadership.

Table 3.3: Importance of Nuclear Weapons for US Status and Influence, Pooled OLS Models

	<i>Dependent variable:</i>		
	US Status as a Leader		
	(1) Full Pooled ¹⁷	(2) Demographics and World View	(3) Risk Only
Gender: Male	-0.141*** (0.031)	0.029 (0.031)	
Race: White	-0.054 (0.087)	-0.087 (0.088)	
Education	0.047 (0.030)	0.021 (0.031)	
Age	0.699*** (0.030)	0.565*** (0.030)	
Party: Republican	0.402*** (0.039)	0.417*** (0.039)	
Party: Independent	-0.049 (0.039)	-0.085** (0.040)	
Party: Other	-0.757*** (0.080)	-0.850*** (0.081)	
High CI / Low MI: Accommodationists	-1.578*** (0.043)	-1.869*** (0.043)	
Low CI / High MI: Hard-Liners	0.175*** (0.044)	-0.037 (0.044)	
Low CI / Low MI: Isolationists	-1.319*** (0.045)	-1.564*** (0.045)	
Nuclear War Risk	1.046*** (0.032)		1.131*** (0.029)
Constant	7.827*** (0.091)	7.973*** (0.092)	7.061*** (0.014)
Observations	23,416	23,704	32,507
R ²	0.202	0.165	0.046
Adjusted R ²	0.201	0.165	0.046
Residual Std. Error	2.209 (df = 23404)	2.260 (df = 23693)	2.453 (df = 32505)
F Statistic	537.489*** (df = 11; 23404)	469.167*** (df = 10; 23693)	1,557.200*** (df = 1; 32505)
<i>Note:</i> * p<0.1; ** p<0.05; *** p<0.01			

¹⁷ Notable differences in bivariate models: Race: White (0.21*), Age (0.88***), Republican (0.88***), Isolationists (-1.66***).

Turning to the full, yearly models, age and militant internationalism consistently have positive effects on the importance of nuclear weapons for US influence and status as a leader when holding all other variables in the model constant. Accommodationist and Isolationist attitudes consistently have the strongest negative effects, whereas nuclear war risk perceptions and Republican party affiliation have the strongest positive effects. Once again, these results are consistent with previous literature, as well as the results presented in the previous models, demonstrating consistency in identity construction among subgroups.



The multivariate OLS models for the final identity variable, leadership through disarmament, are displayed in Table 3.4 and Figure 3.5. This model also supports consistent views on identity construction, as the results are almost inverse of the previous two models. In

the first two models, men are less supportive than women and white respondents are less supportive than non-white respondents of leadership through disarmament. Higher education is associated with greater support. Age is one of the strongest, negative predictors. It is likely that there is a cohort effect occurring, where those who experience the Cold War are reluctant to disarm. Republicans and Independents are less supportive than Democrats of leadership through disarmament. Accommodationists are supportive in the full model, but are slightly opposed in the second model, suggesting an interaction with risk perceptions. Hard-liners and isolationists, compared to internationalists, oppose leadership through disarmament. Nuclear war risk perceptions are a strong, positive predictor of supporting leadership through disarmament.

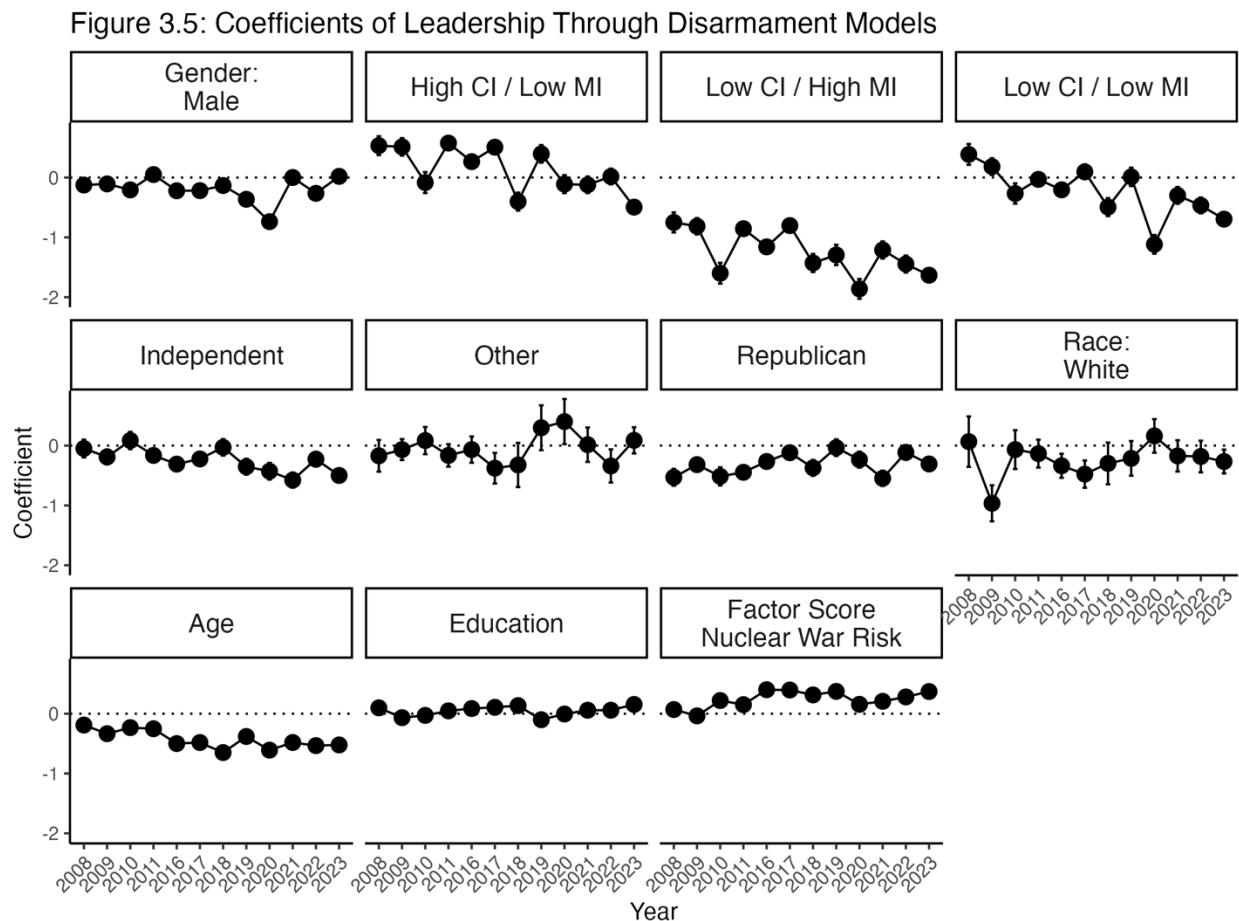
Table 3.4: Support for Leadership Through Disarmament, Pooled OLS Models

	<i>Dependent variable:</i>		
	Leadership Through Disarmament		
	(1) Full Pooled ¹⁸	(2) Demographics and World View	(3) Risk Only
Gender: Male	-0.168*** (0.026)	-0.072*** (0.026)	
Race: White	-0.299*** (0.073)	-0.327*** (0.073)	
Education	0.236*** (0.025)	0.219*** (0.025)	
Age	-0.875*** (0.025)	-0.955*** (0.025)	
Party: Republican	-0.330*** (0.033)	-0.324*** (0.033)	
Party: Independent	-0.286*** (0.033)	-0.321*** (0.033)	
Party: Other	-0.137** (0.069)	-0.179** (0.070)	
High CI / Low MI: Accommodationists	0.094*** (0.036)	-0.093*** (0.036)	
Low CI / High MI: Hard-liners	-1.286*** (0.037)	-1.430*** (0.037)	
Low CI / Low MI: Isolationists	-0.286*** (0.037)	-0.452*** (0.037)	
Nuclear War Risk	0.610*** (0.027)		0.812*** (0.025)
Constant	3.809*** (0.076)	3.942*** (0.076)	2.967*** (0.013)
Observations	20,032	20,297	25,497
R ²	0.211	0.191	0.040

¹⁸ Notable differences in bivariate models: Gender: Male (0.03), Race: White (-0.74***), Education (0.13***), Age (-1.18***), Republican (-0.83***), Hard-liners (-1.75***).

Adjusted R ²	0.210	0.191	0.040
Residual Std. Error	1.733 (df = 20020)	1.758 (df = 20286)	1.896 (df = 25495)
F Statistic	485.846*** (df = 11; 20020)	479.539*** (df = 10; 20286)	1,071.554*** (df = 1; 25495)
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01		

Figure 3.5 displays the trends for the coefficients in the lead through disarmament models. Hard-liner attitudes consistently have a relatively large, negative effect on believing the US should pursue disarmament. Surprisingly, isolationist attitudes, particularly in the last few years, also have a negative effect.



3.5 Discussion

These results demonstrate some of the microfoundations of the construction of US nuclear identity in the post-Cold War era. As described in the literature review, identities, tend to be stable understandings of a state's self (and how others perceive a state), that are constructed and maintained through social interaction (Wendt 1992, Wendt 1999). The results in Figure 3.1 demonstrate that the US public believes that nuclear weapons are important for maintaining two of the US's identities, that of military superpower and leader in the world. These views are relatively stable and, while the survey does not dive into mechanisms, likely the result of the US's sustained hegemonic identity in the post-World War II era, in part driven by nuclear competition the US, and its Cold War adversary, the Soviet Union. Although the Soviet Union collapsed, the need for nuclear weapons to maintain this identity have persisted with the rise of other adversarial states such as China, Russia, and North Korea.

Figures 3.1 and 3.2 demonstrate that the public may assign positive symbolism to nuclear weapons (Frey 2006), as they associate them with leadership and prestige (O'Neill 2006), and strength and power, whereas disarmament is associated with weakness (Cohn 1987). The public, on average, believes that the US should not pursue disarmament and leadership through anti-nuclear norms. That is not to say norms, values, and morals are unimportant for this identity or lack any value for representing other identities. In the context of other identities, such as "leader of the free world," norms and values, such as freedom of speech or equality, may have more weight in shaping that identity than nuclear weapons.

The OLS results indicate more complexity in the micro-level construction of identity and that identity. While identity perceptions may be stable in aggregate, is not agreed upon by all of a states' citizens. Thus, identity construction may also result not only from state interactions with one another but also from domestic political discourse. These results demonstrate that divides are

based on beliefs and sociodemographic characteristics, such as foreign policy attitudes, age, and political party affiliation. While leaders ultimately shape the way a state constructs and maintains its identity, the public plays a role in this construction by electing leaders and making their voices heard through public discourse, such as protests.

In 2025, the US is experiencing a shift in a global identity and role in the world order. The US's global identity and its function in the post-World War II global order have often been taken as a given due to the over 70-year period of relative stability. In this shift, partisanship is increasingly shaping how people think of the US's identity in the world and defining foreign policy and national security preferences. Therefore, understanding how Democrats and Republicans perceive US identity can provide insight into the policies the two parties may support and why they support them. At the time of writing, the Trump Administration is redefining the parts of the US's identity, particularly that of "leader of the free world," by demonstrating support for Russia, turning away from Ukraine, and eliminating foreign aid programs (Tharoor 2025). The Trump Administration appears to be shifting to a militant internationalist and, at times, isolationist foreign policy. Project 2025 indicates that nuclear weapons might be a key part of the Trump Administration's vision for US identity. While there is no public opinion data yet, anecdotally, these actions are politically divisive. As polarization deepens, so too will the public divide on the perceived role of the US in the world. While voters vote for many reasons, the US's global identity will likely have implications for future elections. These potential shifts indicate identity and the structure of international politics, being what states make of it (Wendt 1992). Identities, while they may be well established, are functions of domestic and international factors, and we should not assume that they will remain stable.

Implications for Policy and Theory

Perspectives on identity could impact whether the American public supports or opposes policies. Based on these results, we can infer that policies that maintain or improve the nuclear weapons stockpile might be supported, as nuclear weapons are important symbols or tools for maintaining identity. Conversely, arms control or disarmament may be unpopular policies. While these results, and those included in Chapter 4, may provide some indication of what policies might be supported, it is not yet clear what the implications of Trump's reconstruction of US identity will be, either at the micro, domestic level or for macro-level politics.

Turning to constructivist frameworks for identity, the conceptualization and operationalization of identity are challenging, particularly when it comes to weighing the given versus constructed nature of identity (Zehfuss 2005). In many ways, the US's nuclear identity has been constructed, but it is also the result of factors aligning with structural realists' understanding of the world. The US never would have constructed a nuclear identity had there not been a security threat to do so. This is demonstrated in the different influences that comprise an individual's views on nuclear identity, including security threats.

Furthermore, these results demonstrate that although state identity is often constructed through macro-level interactions in the international environment and communicated to the public, it is also reinforced (and possibly altered) at the micro-level. Thus, whether or not members of the public are experts on a particular foreign policy topic, they have perceptions about the expected identity and role of the US in the world. Therefore, public opinion, particularly longitudinal data, can be a valuable tool for exploring the construction, stability, and changes of a state's identity.

Limitations and Future Research

This study provides insight into the public's perspective on nuclear weapons as symbols of identity, which lays the foundation for future research but also has gaps. First, respondents

were not asked about the symbolism they associate with nuclear weapons, which often helps shape their perspective on their ties to identity. Thus, future research should examine what the public believes nuclear weapons are symbolic of—do they view them positively (e.g., symbolic of great power status, scientific achievements) or in a negatively (e.g., destructive, harmful). Then, how do these understandings of symbolic means shape the way they relate to identities, such as military superiority and global leadership? Or are these symbolic understandings incompatible with how the public views what US identity should be? Second, state identity is complex, and this study engaged only with two types of identities: a military superpower and world leader, and one symbol or tool to project those identities. The US has other identities, including those related to economic power, value-based (e.g., democracy and human rights), and scientific leadership. From this study, it is not apparent what the role of nuclear weapons is in these identities. Nor is it evident how the public values different identities more generally or if there are certain situations in which the public values one identity over another. Furthermore, nuclear weapons are not the only tools for projecting identities, including the military superpower identity.

The gaps in this research raise additional questions that could guide future research. For example, are nuclear weapons more important for maintaining an identity as a military superpower than other technologies, such as conventional weapons or space forces? Does the public view nuclear weapons as a symbol of a modern, technological, and scientific leader, or are there other technologies that better represent these identities? Which identities does the public view as more important or representative of the US, military superpower or promoter of democracy? How does the public view the relations between these identities and the role nuclear weapons play in these identities? Finally, how do members of the public in other states (allies and adversaries) perceive the ties between nuclear weapons and the US's identity?

Finally, identities can be shaped by world views and used to shape policy preferences. Therefore, identities can inform policymakers of what policies may be supported. Future research should explore the effectiveness of integrating identity into policy narratives surrounding national security issues.

3.6 Conclusion

This study explores two topics related to identity: (1) the degree to which the public believes nuclear weapons play an important role in maintaining aspects of US identity, including general global leadership and influence and military superiority, and (2) which world views and sociodemographic characteristics of the public are most likely to lead someone believe that nuclear weapons are important for these identities.

The results indicate that the public believes that nuclear weapons are fairly important for maintaining the US's general leadership in the world and military superiority. In contrast, a stance of moral leadership through disarmament has little appeal to the public, confirming the importance of nuclear weapons in maintaining its global leadership identity over other tools, like norms and values. Nuclear weapons, from the perspective of the public, are important tools of projecting two of the US's identities.

So why does it matter that the US public believes nuclear weapons are important for the US's role as a global leader and military power? These beliefs impact the types of policies the public is likely to support. Policymakers can use public views on identity or risk perceptions to craft policy narratives. This is particularly valuable for policymakers during elections, as they may be trying to project a narrative of strong leadership that aligns with the public's perception of the United States. The following chapter will explore how perceptions of identity, nuclear war

risk perceptions, and demographics influence the American public's nuclear weapons policy preferences.

Chapter 4: The American Public's Nuclear Weapons Policy Preferences

4.1 Introduction

In 2024, the US is facing new nuclear weapons policy challenges, some of which are domestic, such as the lack of plutonium pits (Diaz-Maurin 2024) and an aging arsenal that would require an expensive modernization plan¹⁹ (Hennigan 2024), while others stem from changes in the international environment, such as China's emergence as a nuclear peer. Furthermore, the 2024 election of Donald Trump brings uncertainty to the country's nuclear future. The new President will conduct a Nuclear Posture Review and must grapple with how to address these challenges. While it is not clear yet exactly what the incoming Trump Administration's nuclear policy decisions will be, there are some indicators from Trump's previous Administration (e.g., withdrawal from the Joint Comprehensive Plan of Action and the Intermediate-Range Nuclear Forces Treaty, threats against North Korea paired with attempts to stabilize relations with the country) and the policy proposals in Project 2025. The Trump Administration's actions could result in an upending of global nuclear norms, a resumption of nuclear testing, and along with Russia and China's nuclear decisions, fuel a new nuclear arms race. It is even more uncertain what role public opinion could have. However, understanding the public's perspective on nuclear weapons policy over the last few decades could indicate which policies would be supported or tolerated and which would not. Furthermore, in a crisis, the public may constrain a leader's actions or encourage them to take more aggressive measures.

While nuclear weapons policy decisions are not always highly salient or easy for the public to understand, some recent events that have resulted in increased risks led to a need to re-

¹⁹ The estimated cost is \$1.7 trillion over 30 years (Hennigan 2024).

examine policy are salient, as well as the entry of nuclear weapons back into popular culture in the last few years, with the popular 2023 movie *Oppenheimer*. Furthermore, any drastic change, like a resumption of weapons testing, would likely receive media and public attention. While the public has little direct input into nuclear policy, they are likely to form opinions on these policy changes or have opinions regarding what policy should be. For several reasons, understanding public opinion matters for policymakers, particularly those who are elected. First, existing public opinion can provide policymakers with a baseline understanding of where they may find support or opposition. Second, public opinion can indicate what policy narratives may or may not appeal to the public. Finally, public opinion holds policymakers accountable for their decisions. Although the public is not pushing the button, they are impacted (negatively and positively) by policy decisions. For example, engaging in a potential nuclear conflict puts the public at risk, nuclear weapons programs have environmental impacts, and nuclear weapons programs may have benefits to some, such as the creation of jobs and scientific innovation. Thus, policymakers must be aware of public opinion and the potential audience costs.

The Public and Nuclear Policy

Despite the complex and secretive nature of nuclear weapons, which has often been a barrier to public participation in the field, the public forms opinions and policy preferences on nuclear weapons and related policies, including those related to spending, treaties, and use (Herron and Jenkins-Smith 2014; Ripberger, Rabovsky, and Herron 2011; Sagan and Valentino 2017). Some research has pointed out that these preferences are typically formed top-down rather than bottom-up. This is because of the perception that the public has limited knowledge of foreign policy and national security, much less nuclear weapons. Therefore, the assumption, known as the Almond-Lippmann consensus, was that public opinion is likely to lack stability, be

ill-informed, and cannot or should not impact policy (Almond 1950; Lippmann 1955). Others have demonstrated that the public can form preferences surrounding foreign policy issues, even complex issues not pertinent to the public's day-to-day life, like nuclear weapons (Graham 1988; Holsti 1992; Hurwitz and Peffley 1987; Herron and Jenkins-Smith 2014). The public may form opinions through elite cues, but the public may also rely on mesoscale influences or even influence elite opinion (Kertzer and Zeitzoff 2017). In addition to elite cues, party platforms, and media (news, social, and entertainment), members of the public also rely on heuristics, including world views and risk perceptions, to form policy preferences.

Despite their indirect influence on nuclear policy, policymakers must understand the public's preferences. The public can influence nuclear decisions, constrain policymaker behavior, and impose audience costs. Furthermore, the public is impacted by nuclear policy decisions. There are numerous examples of how the public has influenced nuclear policy around the world, primarily in democratic states. In the United States, public opinion played a role in influencing elite support for the nuclear freeze in the 1980s, with elites arguing that the public wanted a freeze. However, research has demonstrated that this may have been a slight misinterpretation and that the public had a more nuanced opinion beyond broad support (Hogan and Smith 1991). More recently, the Biden Administration consulted public opinion polling during the Nuclear Posture Review (Wilson 2021). Examples outside of the United States include the Netherlands' decision to participate in the meeting of the States Parties to the Treaty on the Prohibition of Nuclear Weapons (TPNW), citing public support for its participation (ICAN 2022). Sweden, who contemplated developing a weapons program, decided against it partly because the public internalized nonproliferation norms (Koch 2023).

Building upon Chapter 2 and Chapter 3, this paper explores the role physical security threats, identity, and demographic play in influencing nuclear weapons policy preferences in the United States. While scholars have studied public opinion on topics such as use (Koch and Wells 2021) and extended deterrence (Allison, Herzog, and Ko 2022), there is a lack of literature on more specific policy preferences, such as support for signing arms control treaties or whether the public feel like the government is spending enough or too much on nuclear weapons programs.

This chapter explores the following questions: (1) What are the public's nuclear weapons policy preferences? (2) How do nuclear war risk perceptions, general foreign policy attitudes, and sociodemographic characteristics shape nuclear policy preferences? This article explores the American public's preferences related to programmatic spending, treaties, and arsenal size, as well as the factors that influence these preferences, such as risk perceptions and demographic characteristics. This study, as well as Chapters 1 and 2, explain what American public opinion looks like, some of the influences of public opinion, and why it may matter to policymakers. However, it does not suggest the degree to which the public should be involved in nuclear decisions or how influential public opinion polling should be. Nuclear policy decisions are complex and carry an immense amount of risk to the public, whether or not they have a direct say.

4.2 Literature Review

Nuclear weapons policy has long been seen as complex and out of reach to the public, with its complex science and secretive nature (Cohn 1987, Herron and Jenkins-Smith 2006, Graham 1988). During the height of the Cold War, highly salient events and public outreach exposed the public to nuclear policy and risks—through moments like the Cuban Missile Crisis, duck and cover drills, the presence of fallout shelter signs, and entertainment media such as *Dr.*

Strangelove or: How I Stopped Worrying and Learned to Love the Bomb. During the Cold War, the public appeared more involved in and knowledgeable of nuclear issues. The public learned protective measures and participated in mass anti-nuclear movements. In the post-Cold War period, while the risk of nuclear war continued, the ever-constant dangers the Cold War presented dissipated, new threats emerged, and nuclear weapons became less of a focus in entertainment media.

Unlike other public policy areas, such as health care or education, the American public has little direct influence on or experience with nuclear weapons policy. However, a 2022 survey by the Chicago Council on Global Affairs found that 62% of people believe the public should have a great deal or fair amount of influence on nuclear weapons policy (Smeltz, Kafura, and Weiner 2023). Along with less direct influence, the public has less knowledge about nuclear weapons than other policy areas, although few studies examine public knowledge. Respondents in that same Chicago Council survey were interested in learning about nuclear weapons policy (Smeltz, Kafura, and Weiner 2023). These results indicate that the public has an interest in nuclear weapons policy and believes the public's voice matters.

The Study of Public Opinion on Nuclear Weapons Policy

A recent trend in international relations literature has been examining theories' microfoundations through surveys and survey experiments. Much of this work has focused on testing the nuclear taboo and the public's preferences surrounding nuclear use (Press, Sagan, and Valentino 2013; (Sagan and Valentino 2017; Koch and Wells 2021). For the most part, this work has found that the American public, while generally preferring conventional responses to crises, does not rule out nuclear use, indicating weak internalization of the taboo norm. However, there have been studies on other policy preferences, such as treaties (Herzog, Baron, and Gibbons

2022). Furthermore, this research has expanded beyond the United States context to Europe (Dill, Sagan, and Valentino 2022), Israel (Horschig 2022), China (Egel and Hines 2021), and Russia (Smetana and Onderco 2023).²⁰

Despite limited direct influence on national security and nuclear weapons policy, public opinion matters. Policymakers, particularly elected officials such as the President, may face audience costs if making an unpopular public-facing nuclear-related decision (Fearon 1994; Kertzer and Brutger 2016). Furthermore, the public is at risk in the event of a nuclear attack. Knowledge of nuclear policy and risks could lead to a better understanding of protective actions or pressure on the administration to avoid risky decisions.

While this study does not speak to it, Pelopidas and Egeland (2023) argue that “future scholarship should explore the relationship between nuclear policy and democracy,” (194). This study is a step towards that, but to better understand that relationship, future work must also examine public knowledge and awareness of nuclear policy and their desire to participate in or influence policy. Beyond a desire to participate, there are questions about whether the public *should* participate in nuclear policy “because nowhere else could errors affect Americans so devastatingly,” (Russett 1990, 9). Thus, there is a delicate balance between leaving nuclear policy to the experts, educating the public, and encouraging participation in nuclear policy.

Influences of Policy Preferences

As detailed in the introduction chapter, worldview, partisanship, and sociodemographic characteristics likely influence nuclear policy preferences. Additionally, nuclear war risk perceptions and the perceived symbolic value of nuclear weapons for US identity may influence policy preferences.

²⁰ See Chapter 1 for a table detailing the nuclear weapons survey literature.

Nuclear decisions are fundamentally about risk perceptions. Risk influences thinking in the nuclear weapons world as arguments for deterrence and arguments for arms control focus on risk. Turning back to Sagan and Waltz's (1995) debate, Sagan argues that proliferation creates risk, whereas Waltz argues that proliferation and deterrence reduce risk. As demonstrated in Chapter 2, the public is almost as divided as the experts on this debate. However, it is likely that when members of the public are considering support for arms control treaties or spending on nuclear weapons programs, they are likely considering the risks in the security environment and evaluating whether or not they believe nuclear weapons will reduce those risks.

H1a: Individuals with higher nuclear war risk perceptions are more likely to support increased nuclear weapons spending.

H1b: Individuals with higher nuclear war risk perceptions are more likely to prefer maintaining or expanding the size of the US nuclear arsenal.

H1c: Individuals with higher nuclear war risk perceptions are more likely to support international nuclear arms control treaties.

While there is a debate as to whether or not state identity influences behavior, the perceived importance of nuclear weapons in state identity likely influences the way people think about nuclear policy. Those who view nuclear weapons as important for US identity are more likely to support policies that maintain or improve existing nuclear weapons. In contrast, those who do not view nuclear weapons as important for US identity may be indifferent about policies or support arms control efforts and reductions in spending and the arsenal size.

Past literature and anecdotal evidence demonstrate how sociodemographic characteristics, partisanship, and world views may influence policy preferences. Age is likely to influence nuclear weapons policy preferences, partly due to the experience gap between those who lived through the Cold War and those born in the post-Cold War era (Holsti 1996). For example, disarmament movements have been primarily youth-led, indicating that younger

respondents may be less likely to support spending increases in any category or a larger arsenal size but may be more likely to support arms control treaties. As for gender, women are less likely to support defense spending and may be more likely to support treaties. Republicans, who are generally more hawkish, are more likely to support a larger arsenal size and increased spending.

H2a: Older individuals are more likely to support increased nuclear weapons spending.

H2b: Older individuals are less likely to support international nuclear arms control treaties.

H2c: Older individuals are more likely to prefer a larger US nuclear arsenal.

H3a: Women are less likely than men to support increased nuclear weapons spending.

H3b: Women are more likely than men to support international nuclear arms control treaties.

H3c: Women are less likely than men to prefer a larger US nuclear arsenal.

H4a: Republicans are more likely than Democrats to support increased nuclear weapons spending.

H4b: Republicans are less likely than Democrats to support international nuclear arms control treaties.

H4c: Republicans are more likely than Democrats to prefer a larger US nuclear arsenal.

As in previous chapters, it is likely that foreign policy attitudes will have a strong influence on policy preferences. Hard-liners, who have high militant internationalism scores, may be more supportive of deterrence policies, including spending and a larger arsenal size. In contrast, accommodationists, who have high cooperative internationalism scores, may be more likely to support arms control efforts. Isolationists, who score low on both militant and cooperative internationalism, are likely to oppose deterrence and arms control efforts. Internationalists, who score high in both categories, are likely to support both deterrence and arms control.

H5a: Hard-liners are more likely to support increased nuclear weapons spending.

H5b: Hard-liners are less likely to support international nuclear arms control treaties.

H5c: Hard-liners are more likely to prefer a larger U.S. nuclear arsenal.

4.3 Data & Methods

This study uses data from the Institute for Public Policy Research Analysis Annual National Security Survey (IPPRA NS), conducted biannually from 1993 until 2005 and annually since 2005 (except for 2011-2014). During recruitment, quotas were employed to ensure the sample closely matched the Census estimates. Weighting is used to account for any discrepancies. The dependent variables of interest are presented in Table 4.1 below, categorized by a particular policy action: (1) spending, (2) treaties, and (3) arsenal size. While these represent only a few areas the IPPRA NS Survey explores, these categories provide insight into the American public's opinion regarding nuclear policy beyond circumstances in which they would approve nuclear use.

Variable Descriptions and Background

The first set of questions focuses on spending related to existing nuclear weapons and the development of new nuclear weapons. Modernization, including the development of new weapons and delivery systems and life extension, has been a priority of the US government in recent years (US Department of Defense 2022). According to the most recent Nuclear Posture Review, the US “is committed to the modernization of its nuclear forces, nuclear command, control, and communications (NC3) system, and production and support infrastructure and to sustaining fielded systems through the transition to their replacements,” (US Department of Defense 2022, 2). This is, in part, a response to rapid arsenal expansion and modernization by

China, which has created a nuclear security environment in which the US is deterring two peers instead of one, as well as other adversarial nuclear states, like North Korea.

The treaty questions ask about three separate arms control treaties. The questions do not include the name of the treaty and instead include a broad description. The first treaty question focuses on the Comprehensive Test Ban Treaty (CTBT). The United Nations General Assembly adopted the CTBT in 1996 but has not entered into force as nine states, including the nuclear weapons states of Israel, the United States, India, North Korea, and Pakistan, have not ratified, and Russia withdrew ratification (Nuclear Threat Initiative 2024). The treaty bans parties from “any nuclear weapon test explosion or any other nuclear explosion, and to prevent any such nuclear explosion at any place under its jurisdiction or control” (CTBTO 2022). Furthermore, parties may not encourage or participate in nuclear testing (CTBTO 2022). The second treaty question focuses on the Fissile Material Cut-off Treaty (FMCT). This proposed treaty is still being negotiated in the Conference on Disarmament because whether the treaty applies to existing materials or future production is being debated (Nuclear Threat Initiative 2024). The US has expressed support for the treaty. The final treaty question focuses on disarmament treaties. Currently, two treaties focus on disarmament: the Treaty on the Nonproliferation of Nuclear Weapons (NPT) and the Treaty on the Prohibition of Nuclear Weapons (TPNW). The NPT states that parties “pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control,” (NPT 1968) However, the NPT allows five nuclear weapons states (US, France, China, Russia, UK) to keep their arsenals. The TPNW, which builds upon the NPT, goes beyond prohibiting non-nuclear

weapons states from proliferating and prohibits states from all related nuclear weapons activities and does not allow nuclear weapons states to keep their arsenals (Erästö 2019).

The arsenal question was part of a battery of questions related to the New START treaty, which limited the number of deployed warheads to 1,550. Before the question, respondents were presented with two arguments: one in favor of keeping deployed warheads at 1,550 and one in favor of decreasing them. Therefore, this question is somewhat limiting, as it does not capture respondents' thoughts about the estimated 3,708 warheads in the stockpile nor how that compares to nuclear allies' and adversaries' stockpiles (Kristensen et al. 2025).

Table 4.1: Dependent and Independent Variables

Policy Area	Variable	Question	Scale	Years
Spending	spend_safety	How should government spending change for ensuring the reliability and safety of existing U.S. nuclear weapons?	1-7 (Substantially decrease to Substantially increase)	2011; 2015-2017; 2022
Spending	spend_improve	How should government spending change for improving the precision or effectiveness of existing nuclear weapons?	1-7 (Substantially decrease to Substantially increase)	2015-2017; 2022
Spending	spend_develop	How should government spending change for developing new nuclear weapons?	1-7 (Substantially decrease to Substantially increase)	2015-2017; 2022
Spending	spend_test	How should government spending change for testing new nuclear weapons?	1-7 (Substantially decrease to Substantially increase)	2015-2017; 2022
Treaty	ctbt	Using a scale from one to seven where one means <i>strongly oppose</i> and seven means <i>strongly support</i> , how do you feel about the U.S. participating in a treaty that bans all nuclear test explosions?	1-7 (Strongly oppose to strongly support)	2007-2011; 2015-2023
Treaty	fmc	On the same scale from one to seven where one means <i>strongly oppose</i> and seven means <i>strongly support</i> , how do you feel about the U.S. participating in a treaty that bans the production of nuclear materials that could be used to make nuclear weapons?	1-7 (Strongly oppose to strongly support)	2010-2011; 2015-2023

Table 4.1: Continued: Dependent and Independent Variables

Policy Area	Variable	Question	Scale	Years
Treaty	disarm	Again, using the same scale from one to seven, where one means <i>strongly oppose</i> and seven means <i>strongly support</i> , how do you feel about the U.S. agreeing to a provision that requires the U.S. to eventually eliminate all of its nuclear weapons?	1-7 (Strongly oppose to strongly support)	2010-2011; 2015-2023
Arsenal Size	arsenal	Assuming zero is the minimum number and 1,550 is the maximum number, how many ready-to-use, long-range nuclear weapons do you think the United States needs to prevent other countries or terrorist groups from using nuclear weapons against the U.S. and its key allies?	Sliding scale: 0 to 1,550	2010-2011; 2016-2023
NA: Independent Variable	usstat	On the same scale from zero to ten, where zero means <i>not at all important</i> and ten means <i>extremely important</i> , how important are nuclear weapons for maintaining U.S. influence and status as a world leader?	0-10	2005-2011; 2015-2023
NA: Independent Variable	Nuclear War Risk Index	Factor Score of the four nuclear war risk questions. See Appendix for details	NA	2005-2011; 2015-2023

Table 4.1: Continued: Dependent and Independent Variables

Policy Area	Variable	Question	Scale	Years
NA: Independent Variable	MI Index	MI_1: The US can never entrust its security to international organizations such as the United Nations. MI_2: Even though allies are important, the US must be willing to act alone to protect American interests. MI_3: The US must be willing to act preemptively by using military force against those that threaten the United States <i>before</i> they can attack it.	1 - Strongly disagree to 7 - Strongly agree	2005-2011; 2015-2023
NA: Independent Variable	CI Index	CI_1: Unless directly attacked, the US should not use its military force without authorization from the United Nations. CI_2: Like the citizens of many other countries, officials and citizens of the United States, including members of the military, should be subject to criminal proceedings under the International Criminal Court in Europe. CI_3: The US should agree to accept internationally established limits on its production of carbon dioxide and other greenhouse gases thought to cause global warming.	1 - Strongly disagree to 7 - Strongly agree	2005-2011; 2015-2023

Table 4.1: Continued: Dependent and Independent Variables

Policy Area	Variable	Question	Scale	Years
NA: Independent Variable	edu	What is the highest level of education you have COMPLETED?	1 - Less than High School 2 - High School / GED 3 - Vocational or Technical Training 4 - Some College — NO degree 5 - 2-year College / Associate's Degree 6 - Bachelor's Degree 7 - Master's degree 8 - PhD / JD (Law) / MD	2005-2011; 2015-2023
NA: Independent Variable	gend	Are you male or female?	0 - Female 1 – Male	2005-2011; 2015-2023
NA: Independent Variable	race	Which of the following best describes your race?	1 - White 2 - Black or African American 3 - American Indian or Alaska Native 4 - Asian 5 - Native Hawaiian or Pacific Islander 6 - Two or more races Note: recoded as White or Nonwhite	2005-2011; 2015-2023
NA: Independent Variable	party	Generally speaking, do you usually think of yourself as a Republican, a Democrat, an Independent, or what?	1 - Democratic 2 - Republican 3 - Independent 4 - Other party (Please specify)	2005-2011; 2015-2023
NA: Independent Variable	age	How old are you?	Verbatim	2005-2011; 2015-2023

Methods

First, I examine the mean preference for each policy area over time to describe where the public stands overall and to explore trends. Then, using multivariate Ordinary Least Squares (OLS) regression, the influences of policy preferences will be examined. In the results section, models are first pooled and then separated by year to examine coefficient trends. The yearly models are full models, representing multivariate relationships. These influences include risk

perceptions with potential nuclear adversaries, demographic characteristics, political party affiliation, and the four foreign policy attitudes. Continuous variables are standardized to allow for coefficient comparison. Bivariate models were also checked, any notable differences in the size, direction, and significance of effect are noted in the results section.

4.4 Results

The following figures present the mean results over time. Figure 4.1 displays spending preferences, Figure 4.2 displays support for treaties, and Figure 4.3 displays arsenal size preferences.

While the spending questions were not included in the survey as frequently as other variables, the results indicate stable preferences related to spending over time. These questions asked respondents how spending should change related to: (1) developing new nuclear weapons, (2) improving existing nuclear weapons, (3) improving the precision or effectiveness of existing nuclear weapons, (4) ensuring the reliability and safety of existing US nuclear weapons, and (5) testing new nuclear weapons. Over time, the means for all variables hovered around the midpoint of the scale (4, on a scale of 1 to 7), indicating that the public generally believes spending should remain the same. However, the highest mean was spending on the reliability and safety of existing nuclear weapons, and the lowest related to both questions about new nuclear weapons.

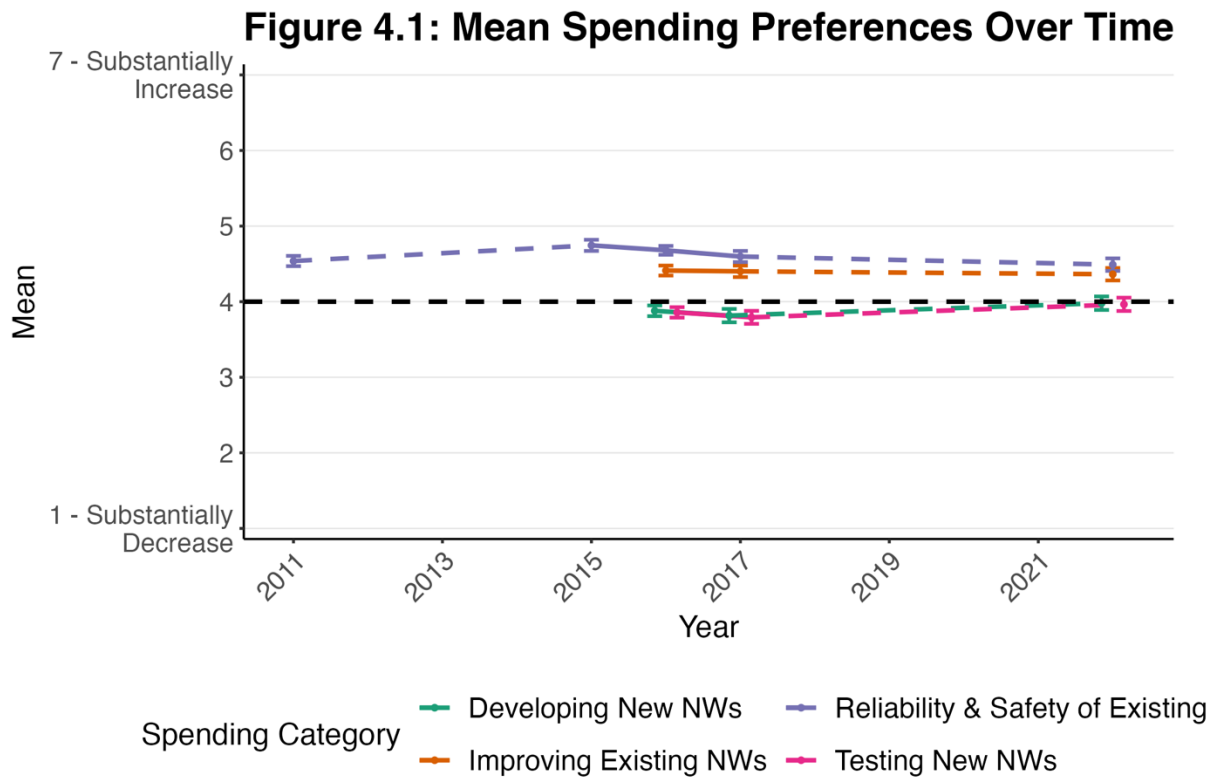
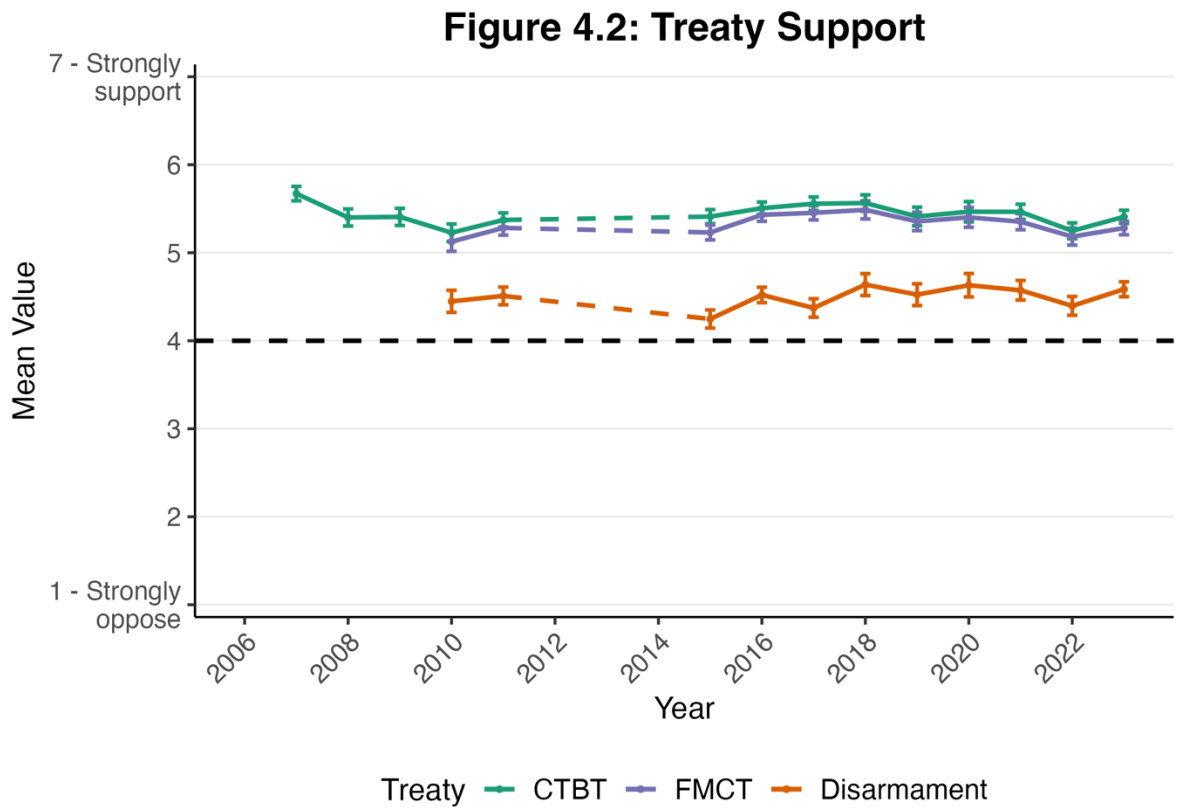


Figure 4.2 displays the mean results for the three treaty questions over time. These questions asked respondents about their support for US participation in three treaties: (1) the Comprehensive Test Ban Treaty (CTBT), (2) the Fissile Material Cut-off Treaty, and (3) The Treaty on the Prohibition of Nuclear Weapons (TPNW). The US has not ratified the CTBT but follows its guidance. The US has repeatedly expressed support for the FMCT, which is a proposed treaty. The US is a party to the Treaty on Nonproliferation of Nuclear Weapons (NPT), which aims for states to disarm eventually. The treaty's primary goal is to prevent proliferation while encouraging the peaceful use of nuclear technologies. Treaty support, like spending, is relatively stable over time. All means are above the midpoint of four, but the treaties with the most support are the CTBT and FMCT. Given the findings in chapters one and two related to the

importance of nuclear weapons for security and identity, it is unsurprising that there is less support for a disarmament treaty.



Note: Error bars represent 95% confidence intervals

Figure 4.3: Arsenal Size Over Time

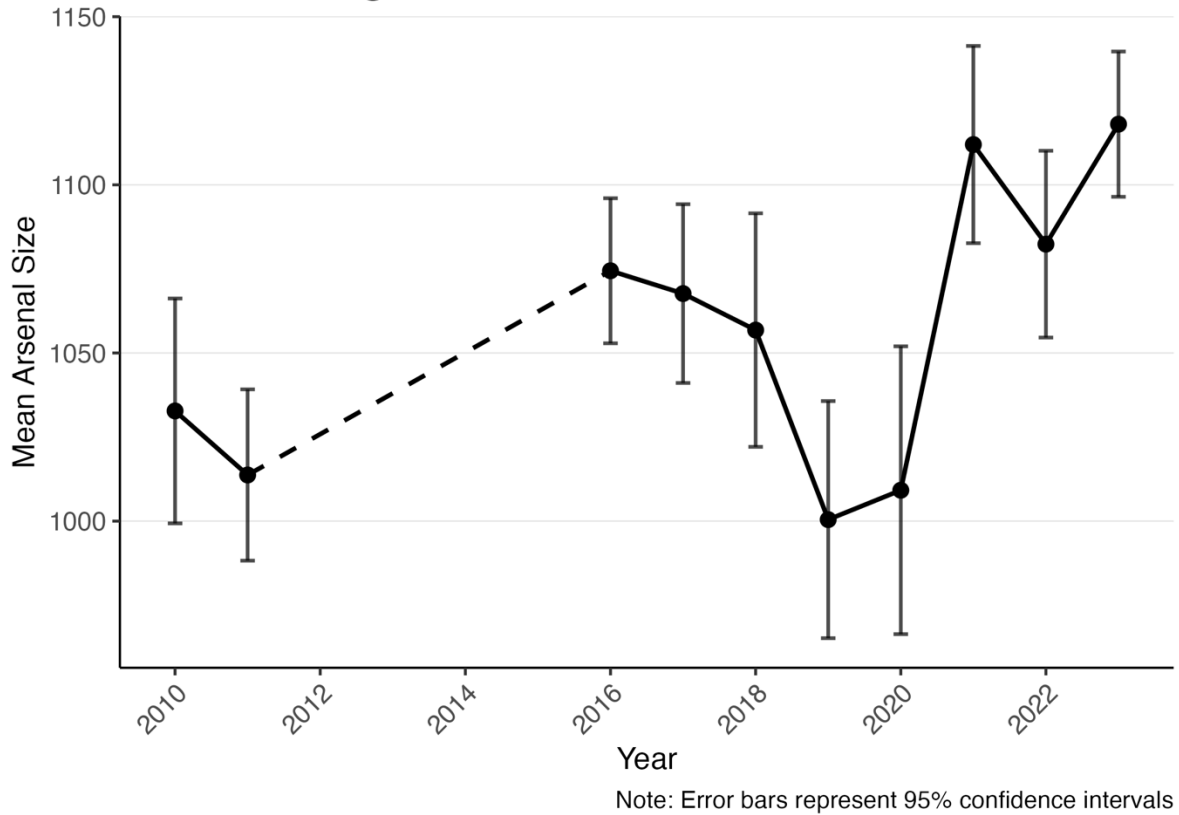


Figure 4.3 displays the public's mean arsenal size preferences over time. Respondents could pick any value between 0 and 1,550 (the limit of deployed warheads set by the New START agreement). This question was included in the survey 10 times, and each time, the mean value was over 1,000 but never close to 1,550. However, there was a significant increase in the mean between 2020 and 2021, then a slight decrease in 2022, and an increase in 2023. While this study does not examine the potential mechanisms that may have caused the increase, these increases align with recent Russian nuclear threats and China's test of a hypersonic missile. It could be the case that the public is aware of the two-peer nuclear threat.

OLS Models

The tables below display the pooled models for spending (Table 4.2), treaty support (Table 4.3), and arsenal size (Table 4.4). The figures following each table display the coefficients for yearly models. Notable differences between multivariate and bivariate models are noted in the footnotes.

First, for all four spending categories, Republicans, higher nuclear war risk perceptions, and the importance of nuclear weapons for US status as a leader, tend to support spending increases. Men, accommodationists (in comparison to internationalists), and isolationists (in comparison to internationalists) tend to oppose spending increases.²¹

These findings mostly align with expectations in the literature. However, the gender findings are inconsistent with expectations. Men tend to prefer to spend more on defense, although Eichenberg and Stoll (2012) found that changes in preferences for both men and women follow similar patterns. This may be related to risk perceptions as women tend to have higher risk perceptions than men or there may be an interaction between world view and gender (Flynn, Slovic, and Mertz 1994).

²¹ Notable differences in safety bivariate models: Race: White (0.16*), Education (0.05*), Age (0.21***), Republican (0.28***), Independent (-0.06*), Other (-0.37***), High CI/Low MI (-0.85***), Low CI/High MI (-0.17***), Low CI/Low MI (-0.91***). Notable differences in improvement bivariate models (rounded): Race (positive but not significant), Age (0.33***), Party: Republican (0.49***), Four Types of Internationalism have slightly larger effects, US Status (1.21***). Notable differences in development bivariate models: Male (-0.19***), Race: White (0.13), Education (0.06), Age (0.23***), Party has larger significant effects (still positive), Low CI/High MI is not significant, US Status (1.25***). Notable differences in testing bivariate models: Education is positive but not significant, Age (0.12***), Party and four types of internationalism have a slightly larger effect, Risk (0.91***), US Status (1.17***).

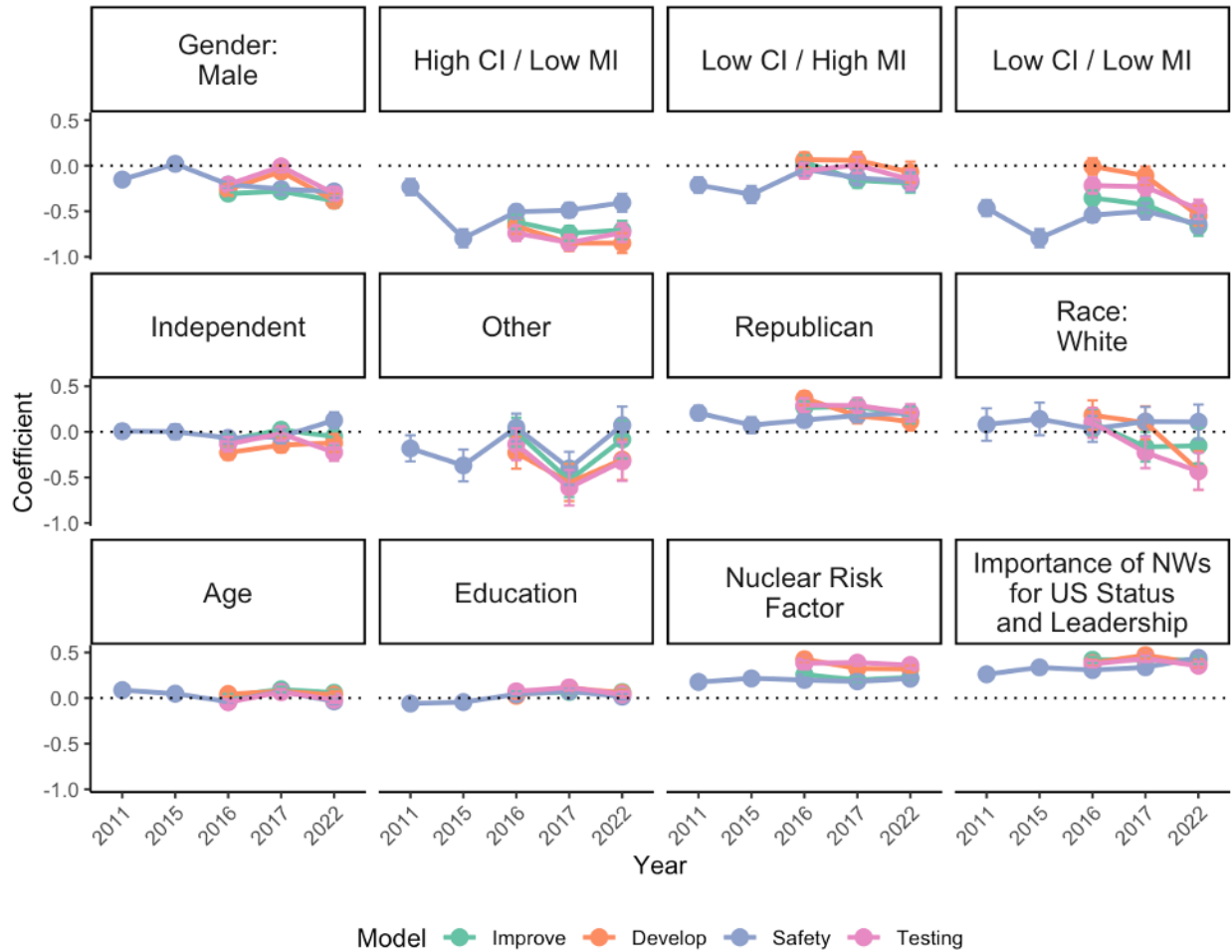
Table 4.2: Spending, Pooled Full Model OLS Results

	<i>Dependent variable:</i>			
	Safety (1)	Improvement (2)	Development (3)	Testing (4)
Gender: Male	-0.183*** (0.027)	-0.313*** (0.035)	-0.238*** (0.039)	-0.175*** (0.038)
Race: White	0.093 (0.075)	-0.038 (0.095)	0.015 (0.105)	-0.146 (0.102)
Education	0.031 (0.026)	0.131*** (0.031)	0.123*** (0.034)	0.159*** (0.033)
Age	0.032 (0.027)	0.110*** (0.034)	0.103*** (0.038)	-0.005 (0.037)
Party: Republican	0.148*** (0.035)	0.246*** (0.045)	0.242*** (0.049)	0.281*** (0.048)
Party: Independent	0.003 (0.034)	-0.036 (0.044)	-0.166*** (0.049)	-0.109** (0.048)
Party: Other	-0.170** (0.075)	-0.170 (0.104)	-0.336*** (0.114)	-0.313*** (0.111)
High CI / Low MI	-0.484*** (0.039)	-0.671*** (0.049)	-0.765*** (0.054)	-0.762*** (0.052)
Low CI / High MI	-0.153*** (0.038)	-0.083* (0.049)	0.016 (0.054)	-0.074 (0.053)
Low CI / Low MI	-0.589*** (0.040)	-0.473*** (0.051)	-0.198*** (0.057)	-0.295*** (0.055)
Nuclear War Risk	0.389*** (0.029)	0.455*** (0.037)	0.723*** (0.041)	0.753*** (0.040)
US Status and Leadership	0.656*** (0.031)	0.838*** (0.041)	0.825*** (0.045)	0.775*** (0.044)
Constant	4.829*** (0.078)	4.727*** (0.100)	4.059*** (0.110)	4.165*** (0.107)
Observations	9,050	5,666	5,661	5,662
R ²	0.163	0.236	0.242	0.240
Adjusted R ²	0.162	0.234	0.240	0.238
Residual Std. Error	1.218 (df = 9037)	1.258 (df = 5653)	1.380 (df = 5648)	1.346 (df = 5649)
F Statistic	147.060*** (df = 12; 9037)	145.317*** (df = 12; 5653)	150.051*** (df = 12; 5648)	148.541*** (df = 12; 5649)

Note:

*p<0.1; **p<0.05; ***p<0.01

Figure 4.4: Coefficients of Support for Spending by Year



Next, regarding treaty support, identifying as male and Republican or Independent is associated with opposition to the US participating in arms control treaties²². Men are less supportive than women of both the CTBT and FMCT and there is not a significant gender gap on the NPT. Race has no significant effect, except for the NPT, where white respondents are likely to support the NPT less than non-white respondents. Education has not significant effect. Older

²² Notable differences in CTBT bivariate models: Male (0.015); Education (0.09***); Party and risk have a slightly stronger effect; US Status (0.051**). Notable differences in FMCT bivariate relationships (rounded): Male (0.05*); Education (0.11***); Party and risk have slightly larger effects; US Status (0.20***). Notable differences in NPT bivariate models: Male (0.20***), Age (-0.56***), Republican (-1.06***), Independent (-0.54***), Other (-0.30***), High CI/Low MI (0.111***), Low CI/High MI (-1.812***), Low CI/Low MI (-0.77***). Notable differences in FMCT bivariate relationships (rounded): Male (0.05*); Education (0.11***); Party and risk have slightly larger effects; US Status (0.20***). Notable differences in NPT bivariate models: Male (0.20***), Age (-0.56***), Republican (-1.06***), Independent (-0.54***), Other (-0.30***), High CI/Low MI (0.111***), Low CI/High MI (-1.812***), Low CI/Low MI (-0.77***).

respondents are more supportive of the CTBT and FMCT, but less supportive of the NPT.

Republicans, Independents, and Other are less supportive than Democrats of all three treaties.

Hard-liners and isolationists, in comparison to internationalists, are less supportive of all three

treaties. Accommodationist attitudes have no significant effect on CTBT or NPT support, and a

slight negative effect on FMCT support. Nuclear war risk perceptions are positive and significant

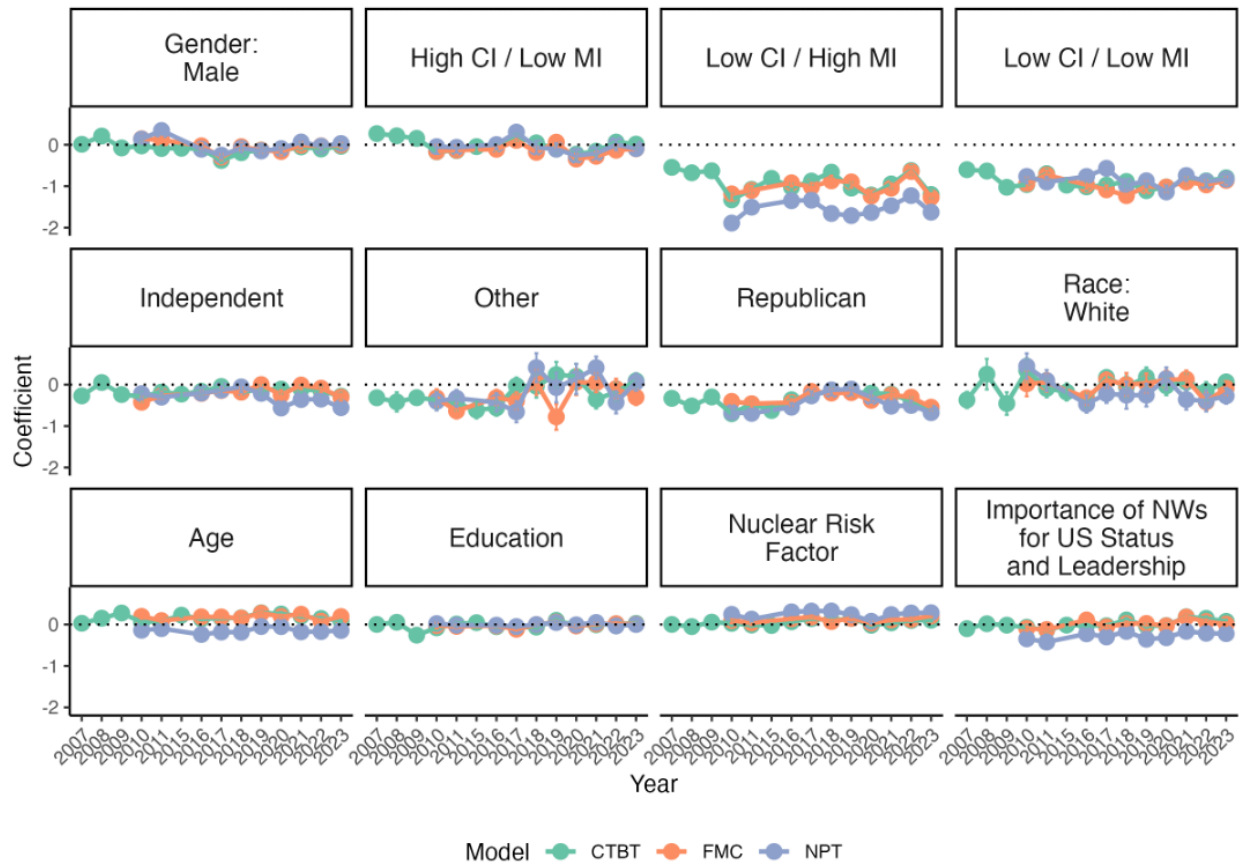
predictor across all three treaties. The importance of nuclear weapons for US status as a leader

has no effect on CTBT or FMCT support, but a strong, negative effect on NPT support.

Table 4.3: Arms Control Treaty Support, Pooled, Full OLS Models Results

	<i>Dependent variable:</i>		
	CTBT (1)	FMCT (2)	NPT (3)
Gender: Male	-0.091*** (0.021)	-0.039* (0.024)	-0.012 (0.027)
Race: White	-0.069 (0.058)	-0.049 (0.065)	-0.232*** (0.074)
Education	-0.026 (0.020)	-0.018 (0.022)	0.006 (0.025)
Age	0.296*** (0.020)	0.361*** (0.023)	-0.295*** (0.026)
Party: Republican	-0.385*** (0.026)	-0.355*** (0.030)	-0.490*** (0.034)
Party: Independent	-0.185*** (0.026)	-0.193*** (0.030)	-0.332*** (0.034)
Party: Other	-0.274*** (0.054)	-0.304*** (0.066)	-0.190** (0.075)
High CI / Low MI	0.009 (0.030)	-0.097*** (0.034)	-0.030 (0.038)
Low CI / High MI	-0.917*** (0.030)	-1.031*** (0.034)	-1.529*** (0.039)
Low CI / Low MI	-0.912*** (0.030)	-0.967*** (0.034)	-0.841*** (0.039)
Nuclear War Risk	0.091*** (0.022)	0.210*** (0.025)	0.479*** (0.028)
US Status and Leadership	0.006 (0.023)	0.027 (0.027)	-0.563*** (0.031)
Constant	6.170*** (0.061)	6.056*** (0.068)	5.485*** (0.077)
Observations	22,000	17,398	17,466
R ²	0.114	0.123	0.214
Adjusted R ²	0.114	0.123	0.213
Residual Std. Error	1.445 (df = 21987)	1.473 (df = 17385)	1.678 (df = 17453)
F Statistic	236.460*** (df = 12; 21987)	203.488*** (df = 12; 17385)	394.824*** (df = 12; 17453)
<i>Note:</i>			*p<0.1; **p<0.05; ***p<0.01

Figure 4.5: Coefficients of Support for CTBT, FMCT, and NPT by Year



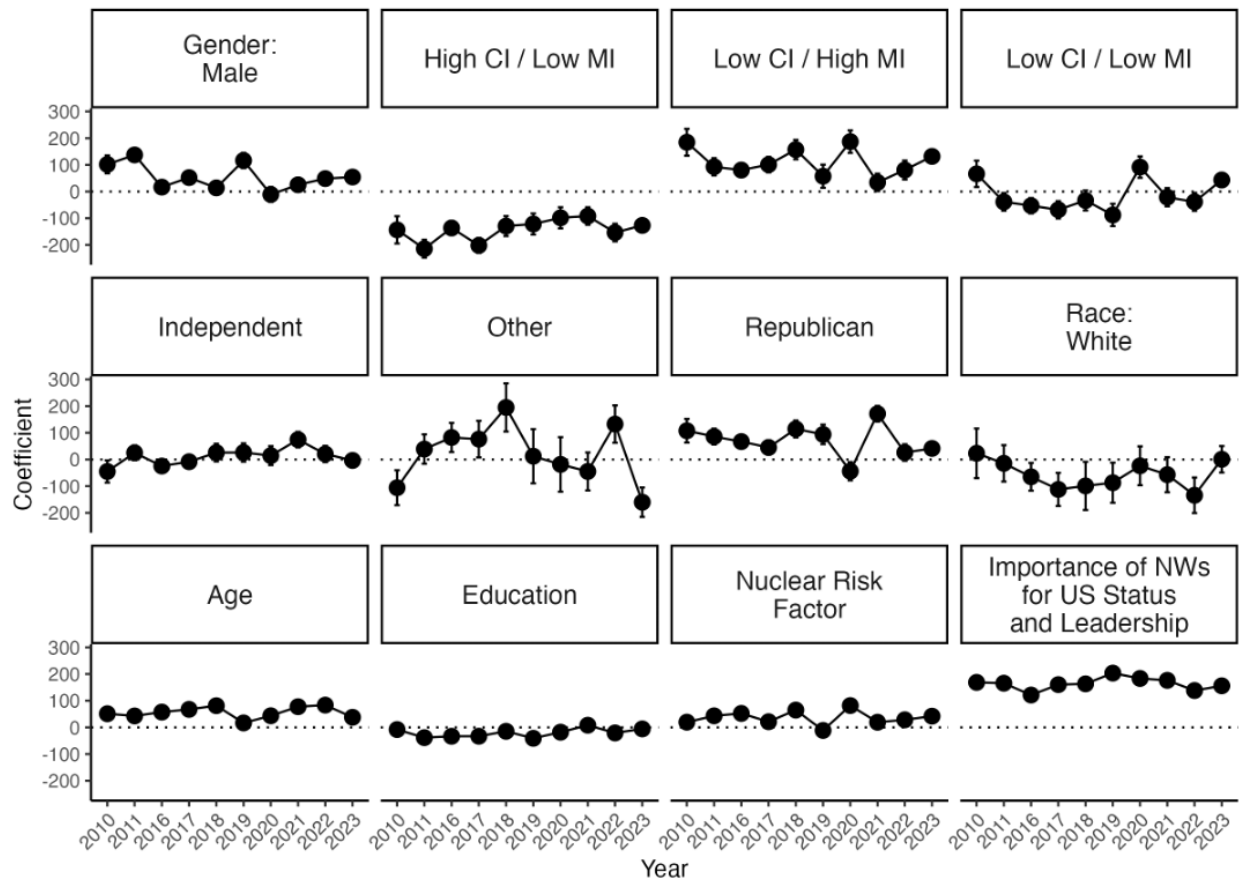
The last policy preference model relates to arsenal size. Identifying as male, older, Republican (compared to Democrat), hard-liner (compared to internationalist), nuclear war risk perceptions, and the importance of US status as a leader have significant positive effects on the number of weapons a respondent thinks is necessary for deterrence. The importance of nuclear weapons for US status as a leader has the strongest effect. Identifying as white (compared to non-white) and accommodationist (compared to internationalist) foreign policy attitudes have strong, negative effects.

Table 4.4: Influences of Perceived Number of Nuclear Weapons Necessary for Deterrence²³

<i>Dependent variable:</i>	
	Arsenal Size (0-1,550)
Gender: Male	51.069*** (7.374)
Race: White	-52.320** (20.910)
Education	-37.369*** (6.918)
Age	111.248*** (7.153)
Party: Republican	62.174*** (9.344)
Party: Independent	4.927 (9.259)
Party: Other	11.277 (21.090)
High CI / Low MI: Accommodationist	-146.408*** (10.366)
Low CI / High MI: Hard-Liner	107.209*** (10.512)
Low CI / Low MI: Isolationist	-14.738 (10.775)
Nuclear War Risk	79.342*** (7.709)
US Status as a Leader	323.963*** (8.472)
Constant	1,079.285*** (21.880)
Observations	14,690
R ²	0.235
Adjusted R ²	0.234
Residual Std. Error	420.120 (df = 14677)
F Statistic	375.409*** (df = 12; 14677)
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01

²³ Notable differences in the bivariate models: Race: White (11.98); Education (-33.70***); Age (176.77***); Republican (191.43***); Independent (26.76**); High CI/Low MI (-286.72***); Low CI/High MI (125.98***); Low CI/Low MI (-139.11***); Risk (139.143***); Status (422.09***).

Figure 4.6: Coefficients for Arsenal Size



4.5 Discussion

This study examines the American public's nuclear policy preferences but not the public's awareness or knowledge of nuclear issues. The public may have general preferences for nuclear policy, awareness, and levels of concern can impact "the degree of public pressure exerted on policymakers," (Messmer et al. 2023, 26). Therefore, understanding policy preferences is only one piece of the puzzle. Future research should explore public awareness, knowledge, and concerns beyond broad nuclear war risk perceptions, such as risks and concerns related to testing, or if our own policy decisions are leading people to perceive the security environment as more or less secure.

First, the findings related to spending are interesting in the context of current modernization plans. While life extension and improvements are part of modernization, new projects have been highly publicized. For example, the Sentinel intercontinental ballistic missile (ICBM) is set to replace the current Minuteman III ICBMs. Sentinel has faced long delays and cost overruns, violating the Nunn-McCurdy Act (Lopez 2024). Additionally, a new nuclear sea-launched cruise missile (SLCM-N) has faced similar challenges, and the Biden Administration canceled the project (Ali and Stewart 2022). The survey results indicate that the public favors spending increases related to improving existing warheads and delivery systems and supports spending remaining the same for categories related to new systems. This study did not examine whether respondents were paying attention to discussions of Sentinel or SLCM-N or even aware of the programs and their related challenges. However, this may indicate the public may not be supportive of the second Trump Administration's intentions to continue the Sentinel and/or SLCM-N programs.

Second, regarding treaty support, the high degree of support for the CTBT is notable at a time when there are proposals to resume testing or at least be ready to test. High levels of support for a treaty that prohibits testing may indicate that the American public would oppose a resumption of testing. Furthermore, the proximity of the Nevada Test Site to Las Vegas, which is now a much larger city and tourist destination than it was in the Cold War, is likely to cause a public reaction if testing resumes.

Finally, regarding the size of the arsenal, the significant increase in the mean size of the arsenal may be indicative of a few issues. First, the public perceives the potential for an arms race between Russia and China (Fox et al. 2024). Although it is important to note that while there are signs of an arms race, many of the challenges detailed in the introduction of this chapter

may make it challenging for the US to compete in an arms race. Second, the public perceives the security environment as risky and thus perceives the need for a large deployed nuclear deterrent. Future research should examine public opinion on the entire stockpile numbers, and that of adversaries and allies. One of the Strategic Posture Commission's policy recommendations is increasing the size of the arsenal, which may have support from the public (Creedon et al. 2023). However, the arsenal has limits that bring up other questions. The arsenal question limits respondents to the deployed, ready to use limit of 1,550. The question does not tell respondents to consider the overall arsenal totals for the US, Russia, China, and others (allies and adversaries included). Nor does it ask about the quality of the arsenal (e.g., is it better to have fewer, more advanced nuclear weapons systems or more, older systems for deterrence?) or how conventional forces may complement nuclear forces. The public may think differently about the arsenal size with different or more nuanced framing (e.g., nuclear umbrella commitments), or if they are asked to consider conventional forces' role in deterrence.

The influence of nuclear war risk perceptions on the three policy categories indicates some nuance in public thinking. Higher risk perceptions are associated with policy decisions that support deterrence, such as spending and the arsenal size, but also arms control policy decisions. The nuclear policy community is often divided into two categories: those who support deterrence and those who support arms control, including disarmament. However, these findings indicate that the two groups can work to reduce risk. We can ensure we have a safe, secure, and reliable deterrent while also working with other states to reduce risk through arms control and other risk reduction measures.

4.6 Conclusion

Changes in the international system and the health of the domestic NSE are raising questions about the future of American nuclear policy. While the public is not a major actor in nuclear policy, it is valuable for policymakers to understand what may be supported or opposed, as the public can impose audience costs and is impacted by nuclear decisions. This understanding is particularly valuable at a time when global changes are requiring the US to reevaluate its nuclear policy and the health of the NSE.

These results indicate which policy changes (or continuations) may have support from the public as well as which members of the public are likely to support a range of nuclear policies. It is likely that the public, particularly given increasing nuclear risks would be supportive of increasing the size of the deployed arsenal but may also be in favor of arms control treaties, at least progress on arms control negotiations. Regarding spending, policymakers may find it challenging, particularly in an era where discussions of government efficiency dominate public discourse, to find support for costly projects like Sentinel. However, most of these discussions have not centered on national security policy.

This research raises additional questions related to policy preferences and public knowledge of nuclear weapons and related policies. First, to what extent do the public's preferences align with actual policy? Second, to what extent does public opinion influence policy? Last are two interrelated questions on knowledge: What does the public know about nuclear weapons and policy? Are there methods to engage the public and teach them about nuclear policy and the implications of policy, particularly use? As discussed, the public does not know much about nuclear weapons but wants to know more (Smeltz, Kafura, and Weiner 2023). Therefore, future research will test objective knowledge versus perceived knowledge of nuclear weapons and deterrence.

Chapter 5: Conclusion

US nuclear policy is entering an uncertain era with numerous international and domestic challenges. Evolving nuclear risks, such as the two-peer problem, the shifts in the ways in which the US government sees the country's role in the global security environment, and domestic challenges such as an insufficient NSE and domestic policy issues that take precedence over international ones, are going to have an impact on the US's nuclear decisions for years to come. Using this context and Sagan's (1996) three models of proliferation, this dissertation examines the microfoundations of nuclear issues, including nuclear war risks and the role of risk in global stability, the construction and maintenance of the US nuclear identity, and the public's nuclear policy preferences throughout the post-Cold War era. While these results are representative of historical public opinion, the patterns found provide lessons for understanding public support for nuclear policy in the future. The results indicate that the public recognizes the risks of nuclear war, believes nuclear weapons are a valuable part of US identity in the world, and a lack of support for spending increases, moderate support for arms control, and that the deployed arsenal size is sufficient for deterrence.

5.1 Contribution to The Literature

The three studies in this dissertation contribute to the microfoundations of international relations literature and our understanding of the public's nuclear policy preferences in three ways. First, by demonstrating how the public and its policy preferences follow the three models of proliferation (Sagan 1996), particularly the security and norms models. However, the importance of partisanship for explaining identity perceptions and policy preferences are indicative of the role of the domestic politics model. The domestic politics model presents an important avenue for future research, particularly in understanding the ways the public weighs

domestic and international policy preferences and support. Second, Chapter Two demonstrates the microfoundations of the Sagan and Waltz debate on the role of nuclear weapons and proliferation in creating or reducing global stability. Third, this dissertation demonstrates that Sagan's models of proliferation can also be used to explain other nuclear policy decisions, ranging from spending to the size of the arsenal.

Furthermore, the three articles demonstrate the stability and changes in nuclear war risk perceptions, perceptions of identity, and policy preferences in the post-Cold War period. Finally, this research connects public opinion to potential policy implications in the current nuclear security environment. For example, the public's preference for spending remaining the same indicates that increased spending on modernization may be unpopular.

5.2 Policy Implications

While this dissertation does not assess the extent to which the public influences nuclear policy, the results do demonstrate where there may be policy support or opposition, as well as some important trends to watch. In a rapidly changing nuclear security environment, the public appears to be aware of the nuclear risks posed and also a perception of the way they perceive the role of the US in the world. Survey data has not yet been collected for 2025, and it is not clear what the impact of the current Presidential Administration's narratives about these threats will have on the public. However, for now, the public values nuclear weapons as symbols of US leadership and military superiority.

First, the public supports nuclear program spending staying at current levels. This indicates that the increases in spending necessary for modernization may not be supported, particularly when one of the prevailing narratives from the administration focuses on cutting spending across government. Second, while President Trump has alluded to a desire to make

arms control details, the support may also constrain the Administration's goals of ensuring the NSE is test ready or even constrain testing. Finally, relating to arsenal size, with New START about to expire, the rise of the two peer-problem, and both adversary and ally proliferation concerns, the US must determine if its current arsenal (both in quantity and quality) is sufficient to deter adversaries and provided extended deterrence guarantees, if it chooses to keep providing those guarantees.

Additionally, while partisanship has typically played less of a role in foreign policy preferences, it is likely that it will play an increasing role, particularly as there are highly partisan narratives circulating about international issues, such as the war in Ukraine. Partisan narratives are likely to impact how people perceive international security risks, how they think of the US's identity and role in the world and the policies they believe the government should pursue.

5.3 Future Research

The research process brought about additional research questions. First, this dissertation did not examine how domestic policy concerns influence the public's nuclear security concerns or condition their support for nuclear security policy. Second, it is likely that nuclear events and the media attention and narratives surrounding those events influence risk perceptions, the value of nuclear weapons, and support for particular policies. Future research should examine public reactions to events, as well as the influence of media and policy elite narratives on public opinion.

Furthermore, it is likely that the foreign policy and national security decisions in the second Trump Administration are going to have a significant impact on the world order, and potentially the world nuclear order. There are two likely implications as of this writing. First, partisanship may become an increasingly important factor in the public's and policymakers'

views of nuclear security. If the US public and policymakers become increasingly divided, deterrence policy could begin to change a great deal from administration to administration. In the past few decades, nuclear policy has been fairly stable and bipartisan. Constant changes in deterrence policy may make it difficult for the US to signal credible commitments to allies and threats to adversaries and make it even more challenging to the NSE to keep up with the changing security environment and the needs determined by the administration. Second, Trump's foreign policy mixes America First isolationism and militant internationalism and imperialism. It is unclear what the Trump Administration's nuclear posture and approach, and how it views the role of the US in the world, will likely shape that. However, what is clear is that in a time of extreme polarization, public opinion, either through citizen-led movements or the voices of elected officials, will likely have a role in the future of national security and foreign policy, and thus, understanding what public opinion looks like is crucial.

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Appendix

Table A.1: Survey Information

Year	Sample Size	Collection Method
1993	1300	Phone
1995	2490	Phone
1997	1277	Phone
1999	1209	Phone
2001	1006	Phone
2003	1090	Phone
2005	2739	Phone and Online
2006	1565	Phone and Online
2007	2937	Phone and Online
2008	1509	Phone and Online
2009	1701	Phone and Online
2010	1695	Phone and Online
2011	2820	Phone and Online
2015	2026	Online
2016	3000	Online
2017	2412	Online
2018	1537	Online
2019	1545	Online
2020	1544	Online
2021	2038	Online
2022	1996	Online
2023	3320	Online

Survey Instrument

age: How old are you? [verbatim]

edu: What is the highest level of education you have COMPLETED?

- 1- Less than High School
- 2 - High School / GED
- 3 - Vocational or Technical Training
- 4 - Some College - NO degree
- 5 - 2-year College / Associate's Degree
- 6 - Bachelor's Degree
- 7 - Master's degree
- 8 - PhD / JD (Law) / MD

gend: Are you male or female?

- 0 - Female

1 - Male

race: Which of the following best describes your race?

- 1 - White
- 2 - Black or African American
- 3 - American Indian or Alaska Native
- 4 - Asian
- 5 - Native Hawaiian or Pacific Islander
- 6 - Two or More Races
- 7 - Some other race

**for analysis, categories are: White and Non-White*

CI_1: Unless directly attacked, the US should not use its military force without authorization from the United Nations.

- 1 - Strongly disagree
- 7- Strongly Agree

CI_2: Like the citizens of many other countries, officials and citizens of the United States, including members of the military, should be subject to criminal proceedings under the International Criminal Court in Europe.

- 1 - Strongly disagree
- 7- Strongly Agree

CI_3: The US should agree to accept internationally established limits on its production of carbon dioxide and other greenhouse gases thought to cause global warming.

- 1 - Strongly disagree
- 7- Strongly Agree

MI_1: The US can never entrust its security to international organizations such as the United Nations.

- 1 - Strongly disagree
- 7- Strongly Agree

MI_2: Even though allies are important, the US must be willing to act alone to protect American interests.

- 1 - Strongly disagree
- 7- Strongly Agree

MI_3: The US must be willing to act preemptively by using military force against those that threaten the United States *before* they can attack it.

- 1 - Strongly disagree
- 7- Strongly Agree

intnow: Considering international security as a whole, using a scale from zero to ten, where zero means *not at all secure* and ten means *completely secure*, how do you rate *international* security today?

0 - Not at all secure

10 - Completely secure

usnow: Using the scale from zero to ten, where zero means *not at all secure* and ten means *completely secure*, how do you rate the security of the *United States* today?

0 - Not at all secure

10 - Completely secure

**usnow and intnow are recoded so that 0 indicates completely secure and 10 not at all secure*

The next set of questions asks you to assess the risk of the U.S. being involved in nuclear conflict in the next ten years. Please consider both the likelihood and potential consequences of such conflicts when evaluating the level of risk on a scale from zero to ten, where zero means *no risk* and ten means *extreme risk*.

[randomize order]

[randomize order; randomize china_rand and rus_rand together]

china: How do you rate the risk of the U.S. being involved in a nuclear war with China in the next ten years?

0 - No risk

10 - Extreme risk

rus: How do you rate the risk of the U.S. being involved in a nuclear war with Russia in the next ten years?

0 - No risk

10 - Extreme risk

nkrisk: Now consider the case of North Korea. On the scale from zero to ten, where zero means *no risk* and ten means *extreme risk*, how do you rate the risk of the U.S. being involved in a nuclear war with North Korea in the next ten years?

0 - No risk

10 - Extreme risk

irrisk: Now consider the case of Iran. For this question, assume that Iran possesses nuclear weapons. On the scale from zero to ten, where zero means *no risk* and ten means *extreme risk*, how do you rate the risk of the U.S. being involved in a nuclear war with Iran in the next ten years?

0 - No risk

10 - Extreme risk

safe wrld: These statements contrast views about the effects of a world free of nuclear weapons.
1- A world without nuclear weapons would be safer than today because the destructive power of nuclear weapons would no longer be a threat.

2 - A world without nuclear weapons would be more dangerous than today because, without the deterrence provided by nuclear weapons, countries could again conduct large-scale wars like World Wars I and II to settle disputes

usstat: On a scale from zero to ten, where zero means *not at all important* and ten means *extremely important*, how important are nuclear weapons for maintaining U.S. influence and status as a world leader?

0 - Not at all important

10 - Extremely important

ussup: On the same scale from zero to ten, where zero means *not at all important* and ten means *extremely important*, how important are nuclear weapons for maintaining U.S. military superiority?

0 - Not at all important

10 - Extremely important

warhds5: Regardless of what others do, the U.S. should eliminate all of its nuclear weapons as soon as possible. This would put the U.S. in a position of moral leadership by setting an example for others; it would bring the U.S. into compliance with a key objective of the Nuclear Nonproliferation Treaty; and it would make the world safer.

1 - Strongly disagree

7 - Strongly agree

The next set of questions concern your views about investment priorities. Please indicate how you think U.S. government spending should change for each of the following using a scale from one to seven, where one means spending should *substantially decrease*, four means spending should *stay about the same*, and seven means spending should *substantially increase*.

[randomized table]

spend_safety: How should government spending change for ensuring the reliability and safety of existing U.S. nuclear weapons?

1 - Substantially decrease

4 - Stay about the same

7 - Substantially increase

spend_improve: How should government spending change for improving the precision or effectiveness of existing nuclear weapons?

1 - Substantially Decrease

4 - Stay about the same

7 - Substantially Increase

spend_develop: How should government spending change for developing new nuclear weapons?

1 - Substantially Decrease

4 - Stay about the same

7 - Substantially Increase

spend_test: How should government spending change for testing new nuclear weapons?

1 - Substantially Decrease

4 - Stay about the same

7 - Substantially Increase

ctbt: Using a scale from one to seven where one means *strongly oppose* and seven means *strongly support*, how do you feel about the U.S. participating in a treaty that bans all nuclear test explosions?

1 - Strongly oppose

7 - Strongly support

fmc: On the same scale from one to seven where one means *strongly oppose* and seven means *strongly support*, how do you feel about the U.S. participating in a treaty that bans the production of nuclear materials that could be used to make nuclear weapons?

1 - Strongly oppose

7 - Strongly support

disarm: Again, using the same scale from one to seven, where one means *strongly oppose* and seven means *strongly support*, how do you feel about the U.S. agreeing to a provision that requires the U.S. to eventually eliminate all of its nuclear weapons?

1 - Strongly oppose

7 - Strongly support

Currently, the United States and Russia have more nuclear weapons than other countries. The U.S. and Russia have agreed to reduce their numbers of ready-to-use, long-range nuclear weapons to 1,550 each.

[randomize arguments]

Some people argue that since the end of the Cold War, U.S. nuclear weapons have become much less important for its security and that of its allies. They argue that the U.S. needs only a few hundred strategic nuclear weapons to prevent other countries or terrorist groups from using nuclear weapons against the U.S. or against its key allies that do not have nuclear weapons such as Germany, Japan, and South Korea. They think money spent on maintaining a large U.S. nuclear arsenal should be substantially reduced.

Some people argue that the security of the U.S., and its capacity to meet its treaty commitments to its key allies, requires that the number of U.S. ready-to-use, long-range nuclear weapons not fall below the currently agreed upon limit of 1,550. They say that U.S. nuclear weapons continue to deter the use of nuclear weapons by Russia, China, and North Korea, as they did during the Cold War. Additionally, they say that reducing the number of U.S. nuclear weapons below the limit of 1,550 may be seen as a sign of weakness by countries that maintain large stockpiles, which could jeopardize strategic interests of the U.S.

arsenal: Assuming zero is the minimum number and 1,550 is the maximum number, how many ready-to-use, long-range nuclear weapons do you think the United States needs to prevent other countries or terrorist groups from using nuclear weapons against the U.S. and its key allies?

[slider ranging from 0 to 1,550]

Methods and Additional Results

Table A.2: Factor Score Weights: Nuclear War Risk

Variable	Factor Score Weight
rus	0.24
china	0.47
irrisk	0.17
nrisk	0.22

Table A.3: Factor Score Weights: Great Power Nuclear War Risk

Variable	Factor Score Weight
rus	0.50
china	0.50

Table A.4: Factor Score Weights: Dimensions of Internationalism

Variable	Factor Score Weight
ci_1	0.64
ci_2	0.67
ci_3	0.72
mi_1	0.62
mi_2	0.77
mi_3	0.65

Note: CI and MI variables are loaded onto separate factors.

After generating standardized factor scores through exploratory factor analysis, I sorted respondents into the four types of internationalism categories based on respondents' CI and MI scores. Respondents were assigned to one of four groups depending on whether their CI and MI scores were above or below the sample mean (0):

- **High CI / High MI:** $CI \geq 0$ and $MI \geq 0$
- **High CI / Low MI:** $CI \geq 0$ and $MI < 0$
- **Low CI / High MI:** $CI < 0$ and $MI \geq 0$
- **Low CI / Low MI:** $CI < 0$ and $MI < 0$

Figure A.1: Respondent Foreign Policy Attitudes by Year

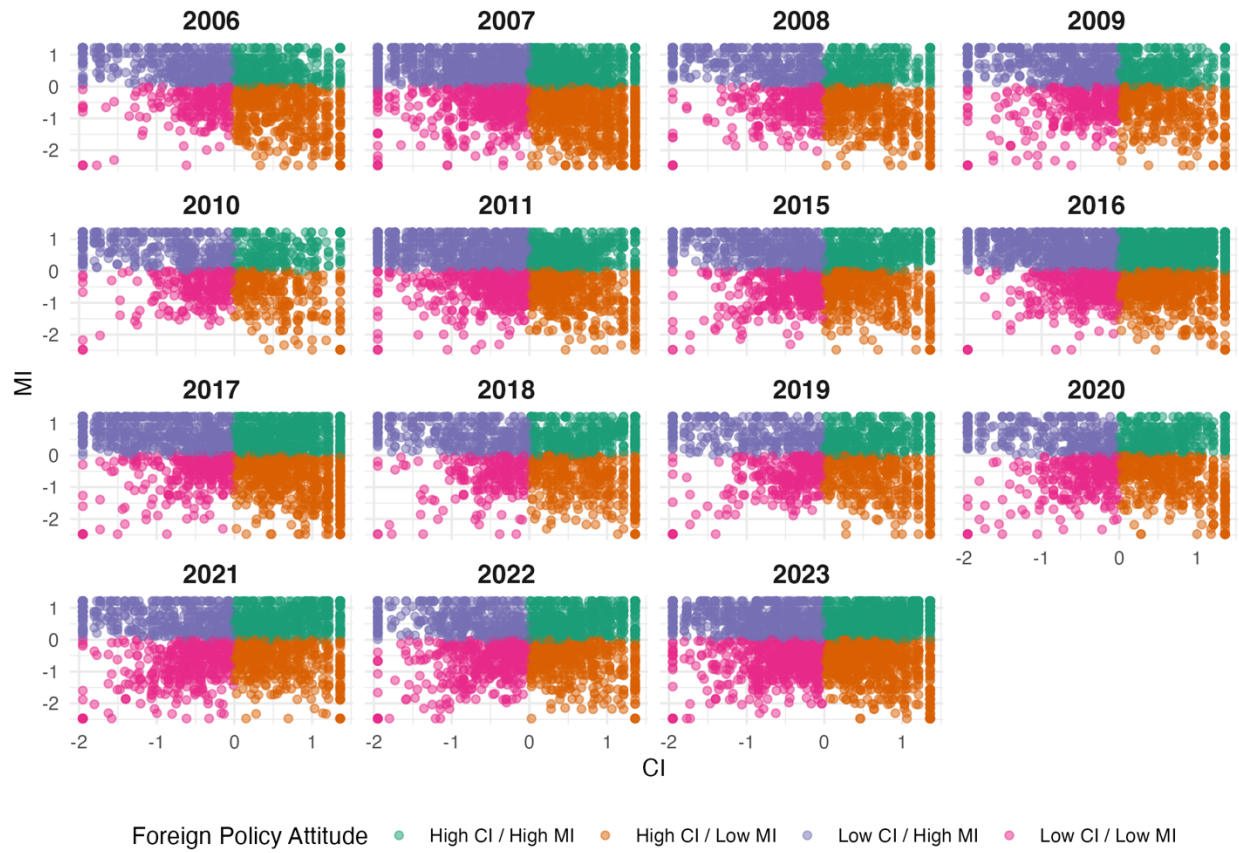


Figure A.2: Respondent Foreign Policy Attitudes (All Years Pooled)

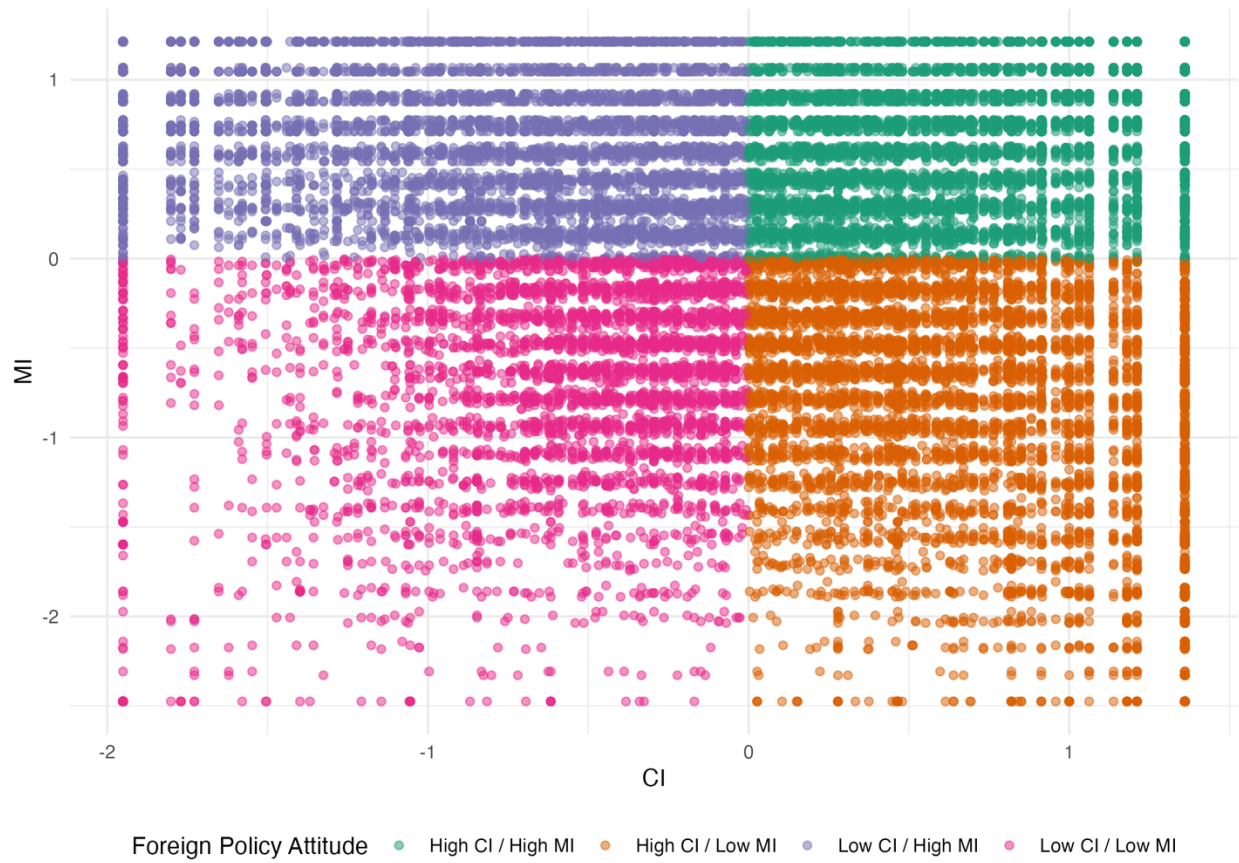


Table A.5: Full Safer World Logit Models by Year

	Dependent variable:										
	1 = Safer Without; 2 = Safer With										
	2010 (1)	2011 (2)	2015 (3)	2016 (4)	2017 (5)	2018 (6)	2019 (7)	2020 (8)	2021 (9)	2022 (10)	2023 (11)
Gender: Male	-0.203 (0.147)	-0.116 (0.107)	-0.158 (0.161)	-0.004 (0.090)	0.015 (0.108)	-0.039 (0.132)	0.240* (0.141)	0.213 (0.140)	-0.398*** (0.114)	-0.150 (0.113)	-0.134 (0.088)
Race: White	0.205 (0.438)	-0.505 (0.314)	-0.216 (0.439)	0.883*** (0.274)	0.067 (0.288)	0.415 (0.435)	-0.949** (0.369)	-0.628* (0.361)	-0.442 (0.294)	-0.334 (0.314)	-0.446* (0.235)
Education	-0.026 (0.150)	-0.121 (0.114)	0.023 (0.154)	-0.192** (0.091)	-0.122 (0.105)	-0.016 (0.130)	-0.167 (0.138)	0.202 (0.143)	0.135 (0.114)	0.132 (0.111)	-0.176** (0.090)
Age	0.311** (0.156)	0.450*** (0.111)	-0.235 (0.164)	0.353*** (0.088)	0.393*** (0.100)	0.541*** (0.129)	-0.259* (0.142)	0.164 (0.139)	0.376*** (0.111)	0.206* (0.111)	0.148* (0.081)
Party: Republican	0.558*** (0.192)	0.317** (0.139)	0.338 (0.216)	0.362*** (0.112)	0.580*** (0.132)	0.366** (0.161)	0.485*** (0.177)	0.582*** (0.168)	0.461*** (0.142)	0.375*** (0.143)	0.361*** (0.109)
Party: Independent	0.114 (0.183)	0.143 (0.132)	0.138 (0.192)	0.088 (0.117)	0.157 (0.129)	-0.054 (0.170)	0.240 (0.171)	0.255 (0.177)	0.052 (0.142)	0.020 (0.144)	-0.196* (0.113)
Party: Other	0.326 (0.284)	0.165 (0.258)	-0.242 (0.417)	0.414 (0.259)	0.087 (0.320)	0.841* (0.457)	0.526 (0.480)	-0.380 (0.513)	-0.170 (0.337)	0.445 (0.326)	-0.474* (0.275)
High CI / High MI	-0.510** (0.223)	-0.704*** (0.161)	-0.594** (0.234)	-0.460*** (0.127)	-0.635*** (0.139)	-0.476** (0.187)	-0.998*** (0.191)	-0.312 (0.191)	-0.380** (0.159)	-0.410*** (0.154)	-0.564*** (0.119)
High CI / Low MI	0.467** (0.215)	0.372** (0.148)	0.612*** (0.220)	0.688*** (0.123)	0.633*** (0.144)	0.731*** (0.187)	0.783*** (0.212)	1.257*** (0.217)	0.604*** (0.159)	0.558*** (0.168)	0.622*** (0.128)
Low CI / High MI	-0.222 (0.213)	0.016 (0.150)	-0.076 (0.228)	0.055 (0.130)	-0.025 (0.150)	0.208 (0.180)	-0.337* (0.191)	0.356* (0.191)	0.503*** (0.157)	0.199 (0.153)	-0.011 (0.122)
Low CI / Low MI	-0.054 (0.153)	0.424*** (0.111)	0.009 (0.167)	0.321*** (0.095)	0.127 (0.111)	0.363** (0.145)	0.144 (0.150)	0.208 (0.144)	0.211* (0.119)	0.239** (0.116)	0.145 (0.093)
Nuclear War Risk	-0.406 (0.457)	0.082 (0.329)	0.056 (0.444)	-1.185*** (0.281)	-0.535* (0.304)	-0.661 (0.455)	0.499 (0.390)	-0.069 (0.386)	0.110 (0.306)	0.163 (0.326)	0.271 (0.244)
Observations	933	1,877	758	2,191	1,922	1,163	1,135	1,118	1,460	1,551	2,511
Log Likelihood	-600.453	-1,268.391	-508.225	-1,498.521	-1,066.533	-691.579	-596.299	-661.294	-974.168	-1,024.246	-1,611.309
Akaike Inf. Crit.	1,224.906	2,560.782	1,040.450	3,021.043	2,157.066	1,407.158	1,216.598	1,346.588	1,972.336	2,072.492	3,246.618

Note: *p<0.1; **p<0.05; ***p<0.01

Results

Table A.6: Risk Perception Logit Models by Year

		<i>Dependent variable:</i>										
		0 = Safer Without; 1 = Safer With										
		2010 (1)	2011 (2)	2015 (3)	2016 (4)	2017 (5)	2018 (6)	2019 (7)	2020 (8)	2021 (9)	2022 (10)	2023 (11)
Russia		-0.036 (0.039)	0.034 (0.028)	-0.050 (0.039)	-0.082*** (0.023)	-0.013 (0.025)	-0.115*** (0.038)	0.015 (0.035)	-0.092** (0.037)	-0.051* (0.028)	0.016 (0.029)	-0.078*** (0.022)
China		-0.012 (0.041)	0.011 (0.029)	0.021 (0.042)	0.006 (0.024)	-0.024 (0.024)	0.082** (0.038)	-0.004 (0.036)	0.107*** (0.036)	0.101*** (0.029)	0.015 (0.029)	0.059** (0.023)
North Korea		-0.075** (0.034)	0.021 (0.026)	-0.007 (0.038)	-0.015 (0.022)	-0.027 (0.022)	-0.009 (0.030)	-0.085*** (0.031)	-0.032 (0.033)	-0.070*** (0.025)	-0.041 (0.026)	0.005 (0.020)
Iran		0.129*** (0.031)	0.032 (0.023)	0.064** (0.033)	0.128*** (0.021)	0.099*** (0.021)	0.061** (0.026)	0.101*** (0.029)	0.046 (0.030)	0.033 (0.024)	0.056** (0.025)	0.060*** (0.019)
Constant		-0.392** (0.182)	-0.929*** (0.142)	-0.312 (0.195)	-0.412*** (0.111)	-0.463*** (0.142)	-0.215 (0.148)	-0.333** (0.156)	-0.275* (0.142)	-0.273** (0.124)	-0.288** (0.134)	-0.433*** (0.102)
Observations	1,155	2,190	998	2,899	2,340	1,471	1,471	1,486	1,972	1,936	3,194	
Log Likelihood	-770.227	1,560.256	-640.250	1,955.114	1,353.020	-870.841	-789.637	-881.403	1,293.498	1,270.122	2,086.387	
Akaike Inf. Crit.	1,550.45 4	3,130.513	1,290.50 0	3,920.228	2,716.040	1,751.68 2	1,589.27 5	1,772.80 7	2,596.996	2,550.245	4,182.773	

Note: *p<0.1; **p<0.05; ***p<0.01

Table A.7: Risk Perception Logit Models by Year—China & Russia (“Two Peer”) Index

<i>Dependent variable:</i>											
0 = Safer Without; 1 = Safer With											
	2010 (1)	2011 (2)	2015 (3)	2016 (4)	2017 (5)	2018 (6)	2019 (7)	2020 (8)	2021 (9)	2022 (10)	2023 (11)
Great Power Risk	-0.078 (0.075)	0.199*** (0.056)	-0.021 (0.074)	-0.047 (0.040)	0.020 (0.045)	-0.042 (0.057)	0.016 (0.062)	0.068 (0.057)	0.060 (0.049)	0.119** (0.053)	0.050 (0.041)
Constant	0.241** (0.064)	0.384*** (0.049)	-0.102 (0.068)	0.102*** (0.039)	0.260*** (0.044)	-0.104* (0.057)	0.189** (0.057)	-0.074 (0.056)	0.204*** (0.050)	-0.073 (0.052)	0.169*** (0.040)
Observations	1,161	2,207	1,012	2,927	2,364	1,483	1,487	1,496	1,986	1,952	3,213
Log Likelihood	786.98 4	1,577.5 79	653.37 2	1,999.0 14	1,386.8 54	885.60 8	804.23 2	895.38 2	1,313.7 70	1,283.2 54	2,113.3 30
Akaike Inf. Crit.	1,577.9 68	3,159.1 59	1,310.7 45	4,002.0 27	2,777.7 08	1,775.2 16	1,612.4 65	1,794.7 65	2,631.5 40	2,570.5 09	4,230.6 60

Note:

*p<0.1; **p<0.05; ***p<0.01

Table A.8: The Importance of Nuclear Weapons for US Military Superiority Full OLS Models by Year

	US Superiority														
	2006 (1)	2007 (2)	2008 (3)	2009 (4)	2010 (5)	2011 (6)	2015 (7)	2016 (8)	2017 (9)	2018 (10)	2019 (11)	2020 (12)	2021 (13)	2022 (14)	2023 (15)
Gender: Male	-0.208 (0.142)	-0.193* (0.113)	-0.026 (0.153)	-0.386*** (0.131)	-0.083 (0.158)	-0.187* (0.110)	-0.178 (0.113)	0.007 (0.089)	-0.163 (0.104)	-0.450*** (0.139)	-0.019 (0.139)	-0.002 (0.140)	-0.460*** (0.117)	-0.194* (0.114)	-0.279*** (0.091)
Race: White	0.034 (0.451)	0.183 (0.295)	-0.613 (0.556)	0.406 (0.404)	0.238 (0.443)	0.017 (0.329)	-0.583* (0.308)	-0.021 (0.239)	-0.122 (0.279)	0.493 (0.447)	-0.102 (0.367)	-0.352 (0.371)	0.340 (0.302)	0.272 (0.312)	-0.033 (0.240)
Education	-0.041 (0.090)	-0.149** (0.062)	-0.065 (0.100)	-0.087 (0.084)	-0.068 (0.099)	0.010 (0.073)	-0.045 (0.070)	0.004 (0.040)	-0.033 (0.048)	0.008 (0.066)	0.157** (0.064)	0.182*** (0.065)	0.040 (0.055)	0.111** (0.050)	0.067 (0.042)
Age	0.296*** (0.069)	0.222*** (0.053)	0.197*** (0.076)	0.219*** (0.067)	0.136 (0.083)	0.193*** (0.057)	0.416*** (0.059)	0.416*** (0.044)	0.409*** (0.049)	0.611*** (0.067)	0.450*** (0.067)	0.652*** (0.066)	0.553*** (0.054)	0.456*** (0.053)	0.378*** (0.043)
Party: Republican	0.647*** (0.165)	0.728*** (0.135)	0.402** (0.185)	0.081 (0.158)	1.010*** (0.207)	0.217 (0.144)	0.517*** (0.150)	0.232** (0.112)	0.665*** (0.130)	0.885*** (0.171)	0.713*** (0.176)	0.286* (0.172)	0.412*** (0.147)	0.192 (0.145)	0.222* (0.114)
Party: Independent	0.163 (0.188)	0.066 (0.154)	-0.277 (0.195)	-0.444*** (0.167)	0.188 (0.198)	-0.244* (0.133)	-0.024 (0.137)	-0.238** (0.115)	0.095 (0.124)	0.208 (0.178)	0.566*** (0.168)	-0.172 (0.179)	0.091 (0.146)	-0.164 (0.146)	0.035 (0.116)
Party: Other	-0.514* (0.307)	-0.227 (0.252)	-1.070*** (0.350)	-1.042*** (0.236)	-0.402 (0.310)	-0.681** (0.266)	-0.261 (0.299)	-1.093*** (0.260)	-0.281 (0.314)	0.140 (0.479)	-2.138*** (0.483)	-2.258*** (0.493)	-1.687*** (0.333)	-0.154 (0.330)	-0.616* (0.265)
High CI / Low MI	-1.908*** (0.190)	-1.687*** (0.156)	-1.917*** (0.207)	-1.382*** (0.197)	-1.364*** (0.239)	-1.505*** (0.157)	-1.915*** (0.164)	-1.365*** (0.124)	-1.602*** (0.132)	-1.051*** (0.195)	-1.608*** (0.186)	-1.436*** (0.194)	-1.490*** (0.160)	-1.372*** (0.156)	-1.312*** (0.122)
Low CI / High MI	0.079 (0.198)	0.484*** (0.159)	0.240 (0.221)	0.509*** (0.185)	0.429* (0.237)	0.188 (0.157)	-0.182 (0.169)	0.265** (0.122)	0.150 (0.143)	0.305 (0.196)	0.119 (0.214)	0.708*** (0.212)	-0.095 (0.165)	-0.046 (0.169)	0.088 (0.133)
Low CI / Low MI	-1.319*** (0.213)	-0.851*** (0.172)	-1.624*** (0.228)	-1.381*** (0.189)	-1.540*** (0.232)	-1.185*** (0.157)	-1.780*** (0.166)	-1.279*** (0.131)	-1.597*** (0.151)	-1.376*** (0.192)	-1.777*** (0.195)	-0.726*** (0.200)	-1.767*** (0.163)	-1.592*** (0.156)	-1.385*** (0.129)
Nuclear War Risk	0.442*** (0.083)	0.374*** (0.064)	0.548*** (0.085)	0.478*** (0.072)	0.404*** (0.093)	0.463*** (0.066)	0.297*** (0.059)	0.362*** (0.046)	0.358*** (0.054)	0.421*** (0.069)	0.340*** (0.075)	0.807*** (0.067)	0.609*** (0.057)	0.424*** (0.058)	0.490*** (0.047)
Constant	7.868*** (0.474)	7.354*** (0.314)	8.888*** (0.583)	7.826*** (0.418)	7.263*** (0.467)	8.300*** (0.344)	8.645*** (0.319)	8.209*** (0.248)	8.087*** (0.296)	7.077*** (0.468)	7.533*** (0.390)	7.770*** (0.401)	7.707*** (0.317)	7.902*** (0.325)	8.101*** (0.252)
Observations	1,329	2,089	1,047	1,436	945	1,891	1,547	2,215	1,942	1,778	1,162	1,139	1,468	1,569	2,540
R ²	0.208	0.203	0.239	0.205	0.205	0.150	0.237	0.212	0.221	0.221	0.242	0.328	0.262	0.206	0.190
Adjusted R ²	0.202	0.198	0.231	0.199	0.195	0.145	0.231	0.208	0.216	0.214	0.234	0.321	0.257	0.200	0.186
Residual Std. Error	2.139 (df = 1317)	2.253 (df = 2077)	2.340 (df = 1035)	2.150 (df = 1424)	2.260 (df = 953)	2.173 (df = 1879)	2.119 (df = 1535)	2.076 (df = 2203)	2.072 (df = 1930)	2.210 (df = 1160)	2.158 (df = 1150)	2.147 (df = 1127)	2.142 (df = 1450)	2.090 (df = 1557)	2.163 (df = 2528)
F Statistic	31.496*** (= 11; 1317)	47.972*** (= 11; 2077)	29.570*** (= 11; 1035)	33.449*** (= 11; 1424)	21.844*** (= 11; 953)	30.214*** (= 11; 1879)	43.293*** (= 11; 1535)	53.760*** (= 11; 2203)	49.672*** (= 11; 1930)	30.071*** (= 11; 1160)	33.297*** (= 11; 1150)	50.010*** (= 11; 1127)	47.036*** (= 11; 1450)	36.624*** (= 11; 1557)	53.914*** (= 11; 2528)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table A.9: The Importance of Nuclear Weapons for US Influence and Status as a Leader Full OLS Models by Year

	US Status														
	2005 (1)	2006 (2)	2007 (3)	2008 (4)	2009 (5)	2010 (6)	2011 (7)	2015 (8)	2016 (9)	2017 (10)	2018 (11)	2019 (12)	2020 (13)	2021 (14)	2022 (15)
Gender: Male	-0.278* (0.147)	-0.034 (0.117)	0.093 (0.156)	-0.162 (0.137)	-0.002 (0.161)	-0.023 (0.110)	-0.169 (0.118)	-0.049 (0.094)	-0.219** (0.107)	-0.141 (0.133)	0.040 (0.139)	0.331** (0.141)	-0.494*** (0.116)	-0.233** (0.114)	-0.300*** (0.090)
Race: White	-0.368 (0.467)	0.121 (0.305)	-1.048* (0.566)	0.417 (0.423)	-0.007 (0.447)	-0.199 (0.329)	-0.743** (0.319)	0.195 (0.253)	-0.140 (0.285)	0.976** (0.427)	-0.676* (0.366)	-0.250 (0.363)	0.227 (0.300)	0.263 (0.313)	-0.216 (0.241)
Education	0.028 (0.093)	-0.100 (0.064)	-0.086 (0.102)	-0.112 (0.088)	-0.063 (0.101)	0.036 (0.074)	-0.077 (0.073)	-0.018 (0.042)	-0.090* (0.050)	0.081 (0.063)	0.139** (0.064)	0.257*** (0.065)	-0.017 (0.055)	0.128** (0.050)	0.096** (0.042)
Age	0.147** (0.071)	0.170*** (0.055)	0.160** (0.078)	0.207*** (0.070)	0.287*** (0.085)	0.211*** (0.057)	0.342*** (0.061)	0.427*** (0.046)	0.407*** (0.050)	0.537*** (0.064)	0.356*** (0.067)	0.617*** (0.067)	0.299*** (0.054)	0.539*** (0.053)	0.450*** (0.043)
Party: Republican	0.761*** (0.171)	0.603*** (0.140)	0.417** (0.189)	0.091 (0.166)	0.926*** (0.211)	0.208 (0.144)	0.394** (0.156)	0.282** (0.117)	0.579*** (0.134)	0.506*** (0.165)	0.761*** (0.176)	0.325* (0.173)	0.389*** (0.146)	0.232 (0.146)	0.098 (0.114)
Party: Independent	0.393** (0.194)	-0.018 (0.159)	-0.221 (0.199)	-0.474*** (0.175)	0.026 (0.200)	-0.146 (0.134)	0.019 (0.142)	-0.133 (0.121)	0.058 (0.127)	0.063 (0.171)	0.424** (0.168)	-0.231 (0.180)	0.059 (0.145)	-0.030 (0.146)	-0.207* (0.116)
Party: Other	-0.170 (0.314)	-0.473* (0.261)	-1.001*** (0.356)	-1.310*** (0.248)	-0.546* (0.315)	-0.497* (0.265)	-0.528* (0.311)	-1.343*** (0.271)	-0.352 (0.322)	-0.131 (0.458)	-1.520*** (0.481)	-2.256*** (0.487)	-1.779*** (0.329)	-0.254 (0.331)	-0.484* (0.264)
High CI / Low MI	-1.910*** (0.197)	-1.521*** (0.161)	-1.941*** (0.211)	-1.463*** (0.206)	-1.247*** (0.242)	-1.599*** (0.158)	-1.801*** (0.171)	-1.399*** (0.130)	-1.584*** (0.136)	-1.478*** (0.188)	-1.778*** (0.187)	-1.537*** (0.195)	-1.415*** (0.159)	-1.421*** (0.156)	-1.315*** (0.121)
Low CI / High MI	-0.072 (0.204)	0.708*** (0.164)	0.330 (0.225)	0.516*** (0.194)	0.717*** (0.240)	0.180 (0.157)	-0.341** (0.166)	0.054 (0.128)	0.348** (0.148)	0.199 (0.188)	0.328 (0.215)	0.606*** (0.215)	-0.257 (0.164)	-0.177 (0.169)	-0.048 (0.132)
Low CI / Low MI	-1.201*** (0.220)	-0.607*** (0.177)	-1.505*** (0.232)	-1.291*** (0.198)	-1.033*** (0.235)	-1.120*** (0.158)	-1.832*** (0.172)	-1.169*** (0.138)	-1.407*** (0.155)	-1.199*** (0.186)	-1.604*** (0.195)	-0.745*** (0.201)	-1.715*** (0.161)	-1.509*** (0.157)	-1.363*** (0.128)
Nuclear War Risk	0.509*** (0.085)	0.474*** (0.067)	0.656*** (0.086)	0.516*** (0.076)	0.530*** (0.094)	0.450*** (0.066)	0.338*** (0.062)	0.517*** (0.048)	0.497*** (0.056)	0.392** (0.066)	0.476*** (0.075)	0.795*** (0.068)	0.644*** (0.057)	0.518*** (0.058)	0.505*** (0.047)
Constant	7.984*** (0.490)	7.000*** (0.325)	8.824*** (0.594)	7.479*** (0.438)	7.037*** (0.472)	8.145*** (0.344)	8.742*** (0.331)	7.778*** (0.262)	7.849*** (0.303)	6.600*** (0.448)	7.928*** (0.388)	7.293*** (0.394)	7.810*** (0.315)	7.725*** (0.326)	8.251*** (0.252)
Observations	1,330	2,089	1,045	1,432	935	1,873	1,541	2,189	1,929	1,172	1,154	1,137	1,472	1,572	2,546
R ²	0.178	0.186	0.249	0.197	0.216	0.149	0.200	0.206	0.225	0.206	0.247	0.339	0.252	0.225	0.196
Adjusted R ²	0.171	0.181	0.241	0.191	0.207	0.144	0.194	0.202	0.221	0.199	0.237	0.332	0.247	0.220	0.192
Residual Std. Error	2.212 (df = 1318)	2.329 (df = 2077)	2.382 (df = 1033)	2.251 (df = 1420)	2.281 (df = 923)	2.176 (df = 1861)	2.195 (df = 1529)	2.164 (df = 2177)	2.120 (df = 1917)	2.114 (df = 1125)	2.148 (df = 1142)	2.159 (df = 1125)	2.128 (df = 1460)	2.097 (df = 1560)	2.154 (df = 2534)
F Statistic	25.865*** (11; 1318)	(df = 43,049*** (11; 2077))	(df = 31,089*** (11; 1033))	(df = 31,748*** (11; 1420))	(df = 23,135*** (11; 923))	(df = 29,529*** (11; 1861))	(df = 34,720*** (11; 1529))	(df = 51,310*** (11; 2177))	(df = 50,671*** (11; 1917))	(df = 27,398*** (11; 1160))	(df = 33,594*** (11; 1142))	(df = 50,103*** (11; 1125))	(df = 44,766*** (11; 1460))	(df = 41,237*** (11; 1560))	(df = 56,038*** (11; 2534))

Note: *p<0.1; **p<0.05; ***p<0.01

Table A.10: Leadership Through Disarmament Full OLS Models by Year

	Leadership Through Disarmament											
	2005	2006	2007	2008	2009	2010	2011	2015	2016	2017	2018	2019
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Gender: Male	-0.126 (0.116)	-0.107 (0.097)	-0.206* (0.116)	0.050 (0.078)	-0.221*** (0.076)	-0.219* (0.085)	-0.134 (0.107)	-0.364*** (0.109)	-0.737*** (0.109)	0.0001 (0.101)	-0.265*** (0.096)	0.020 (0.075)
Race: White	0.067 (0.421)	-0.964*** (0.301)	-0.067 (0.325)	-0.134 (0.234)	-0.337* (0.201)	-0.477** (0.228)	-0.298 (0.349)	-0.213 (0.290)	0.162 (0.281)	-0.172 (0.262)	-0.182 (0.265)	-0.266 (0.199)
Education	0.098 (0.076)	-0.066 (0.062)	-0.028 (0.073)	0.048 (0.052)	0.086** (0.034)	0.107*** (0.040)	0.135*** (0.051)	-0.100** (0.051)	-0.005 (0.051)	0.058 (0.048)	0.058 (0.042)	0.154*** (0.035)
Age	-0.190*** (0.058)	-0.334*** (0.050)	-0.233*** (0.061)	-0.251*** (0.041)	-0.499*** (0.038)	-0.481*** (0.040)	-0.650*** (0.052)	-0.381*** (0.053)	-0.609*** (0.052)	-0.481*** (0.047)	-0.534*** (0.045)	-0.522*** (0.036)
Party: Republican	-0.530*** (0.141)	-0.318*** (0.117)	-0.514*** (0.152)	-0.446*** (0.102)	-0.266*** (0.094)	-0.119 (0.106)	-0.372** (0.133)	-0.034 (0.139)	-0.235* (0.134)	-0.547*** (0.127)	-0.114 (0.122)	-0.307*** (0.095)
Party: Independent	-0.049 (0.149)	-0.190 (0.124)	0.085 (0.144)	-0.164* (0.095)	-0.309*** (0.098)	-0.223** (0.101)	-0.029 (0.137)	-0.353*** (0.133)	-0.428*** (0.139)	-0.576*** (0.126)	-0.227* (0.123)	-0.499*** (0.096)
Party: Other	-0.171 (0.265)	-0.067 (0.175)	0.085 (0.227)	-0.164 (0.188)	-0.067 (0.220)	-0.377 (0.256)	-0.323 (0.369)	0.298 (0.375)	0.401 (0.377)	0.015 (0.287)	-0.340 (0.277)	0.088 (0.219)
High CI / Low MI	0.533*** (0.158)	0.512*** (0.146)	-0.084 (0.175)	0.576*** (0.112)	0.265* (0.105)	0.507*** (0.108)	-0.402** (0.150)	0.395*** (0.147)	-0.111 (0.151)	-0.122 (0.139)	0.017 (0.131)	-0.495*** (0.101)
Low CI / High MI	-0.751*** (0.168)	-0.815*** (0.137)	-1.600*** (0.174)	-0.856*** (0.111)	-1.159*** (0.104)	-0.804*** (0.117)	-1.429*** (0.151)	-1.294*** (0.169)	-1.862*** (0.166)	-1.211*** (0.143)	-1.446*** (0.142)	-1.633*** (0.110)
Low CI / Low MI	0.386** (0.174)	0.182 (0.140)	-0.267 (0.169)	-0.031 (0.112)	-0.206* (0.111)	0.095 (0.123)	-0.494*** (0.149)	0.011 (0.153)	-1.118*** (0.155)	-0.299** (0.141)	-0.467*** (0.132)	-0.695*** (0.106)
Nuclear War Risk	0.070 (0.065)	-0.036 (0.053)	0.220*** (0.068)	0.151*** (0.047)	0.401*** (0.039)	0.396*** (0.044)	0.314*** (0.053)	0.373*** (0.059)	0.157*** (0.052)	0.207*** (0.049)	0.281*** (0.049)	0.371*** (0.039)
Constant	2.808*** (0.442)	3.836*** (0.312)	3.550*** (0.342)	2.872*** (0.244)	3.826*** (0.209)	3.456*** (0.242)	4.191*** (0.365)	3.863*** (0.307)	4.416*** (0.305)	4.010*** (0.274)	3.849*** (0.275)	4.124*** (0.209)
Observations	1,042	1,442	948	1,888	2,207	1,929	1,173	1,155	1,131	1,475	1,563	2,534
R ²	0.131	0.153	0.197	0.166	0.282	0.219	0.282	0.228	0.334	0.201	0.220	0.259
Adjusted R ²	0.122	0.147	0.187	0.161	0.278	0.215	0.275	0.220	0.337	0.195	0.214	0.256
Residual Std. Error	1.774 (df = 1030)	1.596 (df = 1430)	1.657 (df = 936)	1.543 (df = 1876)	1.749 (df = 2195)	1.688 (df = 1917)	1.703 (df = 1161)	1.695 (df = 1143)	1.670 (df = 1119)	1.856 (df = 1463)	1.753 (df = 1551)	1.788 (df = 2522)
F Statistic	14.159*** (df = 11; 1030)	23.570*** (df = 11; 1430)	20.813*** (df = 11; 936)	33.829*** (df = 11; 1876)	78.410*** (df = 11; 2195)	48.938*** (df = 11; 1917)	41.415*** (df = 11; 1161)	30.658*** (df = 11; 1143)	50.965*** (df = 11; 1119)	33.464*** (df = 11; 1463)	39.687*** (df = 11; 1551)	80.270*** (df = 11; 2522)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table A.11: Spending on Safety Full OLS Models by Year

	Dependent variable: Spending on Safety				
	2011 (1)	2015 (2)	2016 (3)	2017 (4)	2022 (5)
Gender: Male	-0.153** (0.060)	0.020 (0.066)	-0.206*** (0.052)	-0.257*** (0.060)	-0.283*** (0.069)
Race: White	0.080 (0.178)	0.142 (0.179)	0.033 (0.141)	0.114 (0.160)	0.110 (0.190)
Education	-0.060 (0.040)	-0.044 (0.041)	0.042* (0.023)	0.076*** (0.028)	0.015 (0.031)
Age	0.087*** (0.031)	0.048 (0.035)	-0.039 (0.026)	0.073** (0.029)	-0.036 (0.033)
Party: Republican	0.207*** (0.078)	0.074 (0.088)	0.128** (0.065)	0.182** (0.076)	0.209** (0.089)
Party: Independent	0.008 (0.073)	0.003 (0.080)	-0.067 (0.067)	-0.053 (0.072)	0.128 (0.089)
Party: Other	-0.181 (0.144)	-0.368** (0.175)	0.048 (0.152)	-0.399** (0.181)	0.074 (0.203)
High CI / Low MI	-0.234*** (0.088)	-0.797*** (0.099)	-0.505*** (0.074)	-0.489*** (0.080)	-0.407*** (0.098)
Low CI / High MI	-0.212** (0.085)	-0.316*** (0.094)	-0.041 (0.071)	-0.132 (0.083)	-0.176* (0.103)
Low CI / Low MI	-0.465*** (0.087)	-0.795*** (0.100)	-0.542*** (0.078)	-0.500*** (0.089)	-0.642*** (0.098)
Nuclear War Risk	0.177*** (0.036)	0.216*** (0.035)	0.199*** (0.027)	0.184*** (0.032)	0.214*** (0.036)
US Status and Leadership	0.262*** (0.033)	0.337*** (0.038)	0.308*** (0.032)	0.338*** (0.034)	0.442*** (0.041)
Constant	4.719*** (0.187)	5.032*** (0.187)	4.865*** (0.146)	4.798*** (0.170)	4.676*** (0.198)
Observations	1,865	1,532	2,173	1,914	1,566
R ²	0.103	0.213	0.171	0.179	0.200
Adjusted R ²	0.097	0.207	0.166	0.173	0.194
Residual Std. Error	1.178 (df = 1852)	1.231 (df = 1519)	1.198 (df = 2160)	1.189 (df = 1901)	1.274 (df = 1553)
F Statistic	17.777*** (df = 12; 1852)	34.279*** (df = 12; 1519)	37.074*** (df = 12; 2160)	34.451*** (df = 12; 1901)	32.360*** (df = 12; 1553)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table A.12: Spending on Improving Existing Nuclear Weapons Full OLS Models by Year

	<i>Dependent variable:</i>		
	Spending on Improving		
	2011 (1)	2015 (2)	2016 (3)
Gender: Male	-0.307*** (0.055)	-0.281*** (0.061)	-0.383*** (0.072)
Race: White	0.104 (0.148)	-0.165 (0.162)	-0.151 (0.196)
Education	0.050** (0.025)	0.067** (0.028)	0.067** (0.032)
Age	0.021 (0.028)	0.095*** (0.029)	0.058* (0.035)
Party: Republican	0.267*** (0.068)	0.278*** (0.077)	0.184** (0.092)
Party: Independent	-0.089 (0.071)	0.022 (0.072)	-0.051 (0.092)
Party: Other	-0.002 (0.159)	-0.531*** (0.186)	-0.083 (0.208)
High CI / Low MI	-0.616*** (0.078)	-0.742*** (0.081)	-0.707*** (0.101)
Low CI / High MI	0.039 (0.075)	-0.160* (0.084)	-0.191* (0.106)
Low CI / Low MI	-0.354*** (0.082)	-0.426*** (0.090)	-0.668*** (0.101)
Nuclear War Risk	0.260*** (0.029)	0.198*** (0.032)	0.227*** (0.037)
US Status and Leadership	0.420*** (0.033)	0.419*** (0.034)	0.418*** (0.042)
Constant	4.482*** (0.153)	4.891*** (0.173)	4.972*** (0.205)
Observations	2,181	1,918	1,567
R ²	0.240	0.248	0.232
Adjusted R ²	0.236	0.244	0.226
Residual Std. Error	1.262 (df = 2168)	1.201 (df = 1905)	1.316 (df = 1554)
F Statistic	57.172*** (df = 12; 2168)	52.490*** (df = 12; 1905)	39.018*** (df = 12; 1554)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table A.13: Spending on Developing New Nuclear Weapons Full OLS Models by Year

	<i>Dependent variable:</i>		
	Spending on Safety		
	2011 (1)	2015 (2)	2016 (3)
Gender: Male	-0.262*** (0.060)	-0.065 (0.068)	-0.383*** (0.077)
Race: White	0.184 (0.162)	0.100 (0.180)	-0.424** (0.213)
Education	0.025 (0.027)	0.115*** (0.032)	0.056* (0.034)
Age	0.045 (0.030)	0.073** (0.032)	0.038 (0.037)
Party: Republican	0.368*** (0.075)	0.178** (0.085)	0.114 (0.099)
Party: Independent	-0.227*** (0.077)	-0.145* (0.081)	-0.120 (0.099)
Party: Other	-0.228 (0.176)	-0.556*** (0.204)	-0.304 (0.223)
High CI / Low MI	-0.664*** (0.085)	-0.849*** (0.089)	-0.849*** (0.108)
Low CI / High MI	0.064 (0.082)	0.058 (0.094)	-0.071 (0.114)
Low CI / Low MI	-0.008 (0.089)	-0.111 (0.100)	-0.549*** (0.109)
Nuclear War Risk	0.427*** (0.031)	0.325*** (0.036)	0.318*** (0.040)
US Status and Leadership	0.385*** (0.036)	0.472*** (0.038)	0.378*** (0.045)
Constant	3.744*** (0.168)	3.887*** (0.192)	4.813*** (0.222)
Observations	2,173	1,922	1,566
R ²	0.260	0.261	0.224
Adjusted R ²	0.255	0.256	0.218
Residual Std. Error	1.374 (df = 2160)	1.340 (df = 1909)	1.414 (df = 1553)
F Statistic	63.115*** (df = 12; 2160)	56.173*** (df = 12; 1909)	37.387*** (df = 12; 1553)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table A.14: Spending on Testing of New Nuclear Weapons Full OLS Models by Year

	<i>Dependent variable:</i>		
	Spending on Testing		
	2011 (1)	2015 (2)	2016 (3)
Gender: Male	-0.208*** (0.060)	-0.009 (0.065)	-0.306*** (0.074)
Race: White	0.100 (0.163)	-0.226 (0.172)	-0.433** (0.203)
Education	0.075*** (0.027)	0.117*** (0.030)	0.041 (0.033)
Age	-0.045 (0.030)	0.065** (0.031)	-0.018 (0.036)
Party: Republican	0.293*** (0.075)	0.289*** (0.081)	0.211** (0.095)
Party: Independent	-0.135* (0.078)	-0.019 (0.077)	-0.224** (0.095)
Party: Other	-0.136 (0.175)	-0.612*** (0.194)	-0.324 (0.214)
High CI / Low MI	-0.740*** (0.086)	-0.844*** (0.085)	-0.734*** (0.104)
Low CI / High MI	-0.058 (0.082)	0.007 (0.089)	-0.154 (0.110)
Low CI / Low MI	-0.217** (0.090)	-0.232** (0.096)	-0.479*** (0.105)
Nuclear War Risk	0.382*** (0.032)	0.389*** (0.034)	0.363*** (0.039)
US Status and Leadership	0.375*** (0.036)	0.432*** (0.036)	0.356*** (0.043)
Constant	3.852*** (0.169)	4.118*** (0.183)	4.727*** (0.211)
Observations	2,177	1,918	1,567
R ²	0.231	0.282	0.227
Adjusted R ²	0.227	0.277	0.221
Residual Std. Error	1.385 (df = 2164)	1.277 (df = 1905)	1.358 (df = 1554)
F Statistic	54.264*** (df = 12; 2164)	62.292*** (df = 12; 1905)	38.065*** (df = 12; 1554)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table A.15: CTBT Support Full OLS Models by Year

	Dependent variable:													
	CTBT													
	2007	2008	2009	2010	2011	2015	2016	2017	2018	2019	2020	2021	2022	2023
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Gender: Male	0.011 (0.075)	0.210** (0.101)	-0.076 (0.088)	-0.029 (0.104)	-0.089 (0.072)	-0.084 (0.076)	-0.102 (0.065)	-0.378*** (0.066)	-0.193** (0.081)	-0.128 (0.088)	-0.146* (0.087)	-0.051 (0.078)	-0.102 (0.080)	-0.037 (0.063)
Race: White	-0.370* (0.195)	0.252 (0.369)	-0.456* (0.271)	0.342 (0.288)	-0.091 (0.216)	-0.178 (0.205)	-0.376** (0.175)	0.171 (0.176)	-0.053 (0.238)	0.181 (0.233)	-0.030 (0.224)	0.062 (0.199)	-0.157 (0.218)	0.066 (0.167)
Education	0.0003 (0.041)	0.054 (0.066)	-0.258*** (0.057)	-0.080 (0.065)	0.011 (0.049)	0.044 (0.047)	-0.052* (0.029)	-0.070* (0.031)	-0.063 (0.038)	0.098** (0.041)	-0.025 (0.041)	-0.008 (0.036)	0.018 (0.035)	0.026 (0.029)
Age	0.029 (0.035)	0.151*** (0.051)	0.277*** (0.045)	0.055 (0.055)	0.079** (0.038)	0.225*** (0.040)	0.135*** (0.033)	0.152*** (0.031)	0.160*** (0.040)	0.282*** (0.043)	0.253*** (0.043)	0.201*** (0.036)	0.144*** (0.038)	0.091*** (0.030)
Party: Republican	-0.331*** (0.090)	-0.515*** (0.123)	-0.298*** (0.106)	-0.702*** (0.137)	-0.464*** (0.095)	-0.624*** (0.101)	-0.366*** (0.081)	-0.241*** (0.084)	-0.158 (0.100)	-0.176 (0.113)	-0.204* (0.107)	-0.228* (0.097)	-0.400*** (0.102)	-0.562*** (0.079)
Party: Independent	-0.273*** (0.102)	0.051 (0.130)	-0.240** (0.112)	-0.289** (0.129)	-0.180* (0.088)	-0.229** (0.092)	-0.163* (0.084)	-0.045 (0.079)	-0.178* (0.103)	-0.117 (0.107)	-0.110 (0.112)	-0.113 (0.096)	-0.150 (0.102)	-0.279*** (0.080)
Party: Other	-0.317* (0.168)	-0.417* (0.233)	-0.315* (0.161)	-0.368* (0.203)	-0.452*** (0.174)	-0.614*** (0.200)	-0.561*** (0.189)	-0.027 (0.199)	-0.039 (0.276)	0.242 (0.306)	0.198 (0.304)	-0.354 (0.220)	-0.179 (0.231)	0.091 (0.184)
High CI / Low MI	0.270** (0.106)	0.216 (0.143)	0.154 (0.135)	-0.170 (0.158)	-0.140 (0.107)	-0.045 (0.114)	-0.065 (0.092)	0.171** (0.087)	0.047 (0.116)	-0.104 (0.123)	-0.227* (0.125)	-0.156 (0.108)	0.064 (0.112)	0.016 (0.086)
Low CI / High MI	-0.545*** (0.106)	-0.676*** (0.147)	-0.629*** (0.125)	-1.327*** (0.156)	-1.076*** (0.103)	-0.811*** (0.107)	-1.026*** (0.089)	-0.876*** (0.091)	-0.661*** (0.114)	-1.046*** (0.137)	-1.210*** (0.134)	-0.945*** (0.109)	-0.622*** (0.118)	-1.199*** (0.092)
Low CI / Low MI	-0.602*** (0.114)	-0.634*** (0.154)	-1.027*** (0.129)	-0.961*** (0.153)	-0.697*** (0.105)	-0.974*** (0.115)	-1.017*** (0.097)	-0.974*** (0.098)	-0.887*** (0.114)	-1.107*** (0.127)	-1.019*** (0.125)	-0.875*** (0.111)	-0.872*** (0.113)	-0.798*** (0.091)
Nuclear War Risk	0.0004 (0.043)	-0.051 (0.058)	0.057 (0.049)	0.026 (0.062)	-0.014 (0.044)	-0.025 (0.040)	0.066* (0.034)	0.141*** (0.035)	0.098** (0.041)	0.147*** (0.048)	-0.019 (0.044)	0.039 (0.039)	0.096** (0.042)	0.103*** (0.033)
US Status and Leadership	-0.101*** (0.037)	0.017 (0.054)	-0.017 (0.045)	-0.067 (0.056)	-0.136*** (0.040)	-0.016 (0.044)	-0.019 (0.039)	-0.031 (0.037)	0.107** (0.047)	-0.032 (0.050)	-0.026 (0.049)	0.185*** (0.046)	0.146*** (0.047)	0.075** (0.037)
Constant	6.329*** (0.208)	5.500*** (0.388)	6.411*** (0.281)	5.883*** (0.304)	6.198*** (0.227)	6.415*** (0.215)	6.541*** (0.182)	6.022*** (0.187)	6.211*** (0.270)	5.863*** (0.248)	6.259*** (0.243)	5.956*** (0.209)	5.962*** (0.227)	5.970*** (0.176)
Observations	2,080	1,044	1,431	994	1,868	1,534	2,177	1,924	1,666	1,150	1,129	1,467	1,565	2,531
R ²	0.088	0.124	0.137	0.164	0.117	0.138	0.129	0.155	0.127	0.183	0.148	0.125	0.115	0.150
Adjusted R ²	0.082	0.113	0.130	0.153	0.111	0.132	0.124	0.150	0.118	0.174	0.138	0.118	0.108	0.146
Residual Std. Error	1.492 (df = 2067)	1.551 (df = 1031)	1.443 (df = 1418)	1.470 (df = 921)	1.429 (df = 1853)	1.410 (df = 1521)	1.495 (df = 2164)	1.309 (df = 1911)	1.273 (df = 1153)	1.361 (df = 1137)	1.333 (df = 1116)	1.411 (df = 1450)	1.461 (df = 1552)	1.494 (df = 2518)
F Statistic	16.560*** (12, 2067)	12.117*** (12, 1031)	18.807*** (12, 1418)	15.088*** (12, 921)	20.500*** (12, 1853)	20.357*** (12, 1521)	26.605*** (12, 2164)	29.208*** (12, 1911)	13.977*** (12, 1153)	21.166*** (12, 1137)	16.101*** (12, 1116)	17.310*** (12, 1454)	16.784*** (12, 1552)	36.961*** (12, 2518)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table A.16: FMCT Support Full OLS Models by Year

	Dependent variable:									
	FMCT									
	2010 (1)	2011 (2)	2016 (3)	2017 (4)	2018 (5)	2019 (6)	2020 (7)	2021 (8)	2022 (9)	2023 (10)
Gender: Male	0.143 (0.107)	0.115 (0.076)	-0.026 (0.066)	-0.299*** (0.070)	-0.046 (0.086)	-0.132 (0.090)	-0.163* (0.089)	-0.013 (0.081)	-0.027 (0.082)	-0.006 (0.065)
Race: White	0.020 (0.301)	0.054 (0.226)	-0.321* (0.177)	0.107 (0.186)	0.003 (0.277)	0.033 (0.237)	0.114 (0.232)	0.131 (0.208)	-0.414* (0.225)	-0.089 (0.172)
Education	-0.027 (0.067)	-0.045 (0.051)	-0.031 (0.030)	-0.114*** (0.032)	-0.003 (0.041)	0.056 (0.042)	-0.035 (0.041)	0.013 (0.038)	0.018 (0.036)	0.006 (0.030)
Age	0.195*** (0.057)	0.093** (0.040)	0.185*** (0.033)	0.182*** (0.033)	0.152*** (0.043)	0.272*** (0.044)	0.193*** (0.044)	0.248*** (0.038)	0.079** (0.040)	0.191*** (0.031)
Party: Republican	-0.405*** (0.141)	-0.460*** (0.099)	-0.433*** (0.082)	-0.165* (0.087)	-0.203* (0.106)	-0.194* (0.115)	-0.379*** (0.110)	-0.248** (0.102)	-0.304*** (0.105)	-0.545*** (0.081)
Party: Independent	-0.426*** (0.133)	-0.271*** (0.092)	-0.213* (0.085)	-0.142* (0.082)	-0.182* (0.110)	0.001 (0.109)	-0.249** (0.114)	-0.011 (0.100)	-0.087 (0.105)	-0.303*** (0.083)
Party: Other	-0.321 (0.209)	-0.634*** (0.183)	-0.315* (0.191)	-0.395* (0.208)	0.055 (0.304)	-0.779** (0.311)	0.059 (0.310)	0.046 (0.230)	-0.097 (0.238)	-0.303 (0.188)
High CI / Low MI	-0.165 (0.163)	-0.130 (0.112)	-0.109 (0.093)	0.106 (0.091)	-0.183 (0.124)	0.062 (0.125)	-0.344*** (0.127)	-0.278** (0.113)	-0.132 (0.115)	-0.096 (0.089)
Low CI / High MI	-1.185*** (0.160)	-1.101*** (0.108)	-0.919*** (0.090)	-1.016*** (0.096)	-0.870*** (0.121)	-0.897*** (0.139)	-1.237*** (0.136)	-1.048*** (0.114)	-0.646*** (0.122)	-1.271*** (0.095)
Low CI / Low MI	-0.940*** (0.158)	-0.730*** (0.110)	-0.966*** (0.098)	-1.086*** (0.103)	-1.228*** (0.121)	-1.004*** (0.130)	-1.020*** (0.128)	-0.895*** (0.116)	-0.969*** (0.116)	-0.859*** (0.094)
Nuclear War Risk	0.095 (0.063)	0.037 (0.046)	0.138*** (0.034)	0.180*** (0.037)	0.071* (0.043)	0.148*** (0.049)	0.031 (0.045)	0.110*** (0.041)	0.123*** (0.043)	0.206*** (0.034)
US Status and Leadership	-0.097* (0.058)	-0.122*** (0.042)	0.108*** (0.040)	-0.060 (0.039)	0.019 (0.050)	0.025 (0.051)	-0.034 (0.050)	0.177*** (0.048)	0.071 (0.048)	0.008 (0.038)
Constant	5.949*** (0.316)	5.919*** (0.237)	6.332*** (0.184)	6.036*** (0.198)	6.176*** (0.289)	5.870*** (0.251)	6.219*** (0.251)	5.756*** (0.219)	6.166*** (0.234)	6.034*** (0.181)
Observations	927	1,865	2,169	1,914	1,158	1,145	1,130	1,464	1,569	2,529
R ²	0.132	0.118	0.130	0.164	0.140	0.168	0.147	0.132	0.093	0.157
Adjusted R ²	0.121	0.113	0.125	0.158	0.131	0.159	0.138	0.125	0.086	0.153
Residual Std. Error	1.510 (df = 914)	1.491 (df = 1852)	1.511 (df = 2156)	1.368 (df = 1901)	1.350 (df = 1145)	1.383 (df = 1132)	1.362 (df = 1117)	1.475 (df = 1451)	1.507 (df = 1556)	1.536 (df = 2516)
F Statistic	11.611*** (914)	20.691*** (1852)	26.849*** (2156)	30.972*** (1901)	15.530*** (1145)	18.988*** (1132)	16.053*** (1117)	18.370*** (1451)	13.252*** (1556)	39.192*** (2516)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table A.17: NPT Support Full OLS Models by Year

	Dependent variable:									
	Disarmament									
	2010 (1)	2011 (2)	2016 (3)	2017 (4)	2018 (5)	2019 (6)	2020 (7)	2021 (8)	2022 (9)	2023 (10)
Gender: Male	0.136 (0.111)	0.343*** (0.085)	-0.106 (0.076)	-0.251*** (0.084)	-0.086 (0.102)	-0.148 (0.102)	-0.093 (0.105)	0.067 (0.095)	-0.033 (0.092)	0.031 (0.071)
Race: White	0.445 (0.309)	0.100 (0.252)	-0.472** (0.205)	-0.219 (0.224)	-0.256 (0.326)	-0.235 (0.270)	0.145 (0.271)	-0.360 (0.243)	-0.393 (0.254)	-0.272 (0.189)
Education	0.021 (0.070)	-0.016 (0.057)	-0.016 (0.034)	-0.050 (0.039)	-0.001 (0.048)	0.046 (0.048)	-0.009 (0.049)	0.049 (0.044)	-0.036 (0.041)	-0.002 (0.033)
Age	-0.140** (0.059)	-0.100** (0.044)	-0.242*** (0.038)	-0.183*** (0.040)	-0.188*** (0.051)	-0.049 (0.050)	-0.051 (0.051)	-0.177*** (0.044)	-0.172*** (0.044)	-0.145*** (0.034)
Party: Republican	-0.671*** (0.147)	-0.694*** (0.111)	-0.545*** (0.095)	-0.273** (0.106)	-0.129 (0.126)	-0.110 (0.131)	-0.301** (0.128)	-0.522*** (0.118)	-0.503*** (0.118)	-0.677*** (0.089)
Party: Independent	-0.216 (0.138)	-0.302*** (0.103)	-0.204** (0.099)	-0.133 (0.100)	-0.055 (0.131)	-0.211* (0.125)	-0.563*** (0.134)	-0.359*** (0.117)	-0.349*** (0.118)	-0.556*** (0.091)
Party: Other	-0.403* (0.218)	-0.330 (0.204)	-0.429* (0.222)	-0.656*** (0.253)	0.409 (0.348)	-0.070 (0.356)	0.137 (0.364)	0.409 (0.269)	-0.428 (0.266)	0.059 (0.207)
High CI / Low MI	-0.046 (0.170)	-0.062 (0.125)	0.005 (0.108)	0.306*** (0.111)	-0.062 (0.147)	-0.106 (0.143)	-0.260* (0.149)	-0.205 (0.132)	0.002 (0.129)	-0.093 (0.097)
Low CI / High MI	-1.889*** (0.167)	-1.506*** (0.121)	-1.349*** (0.104)	-1.337*** (0.116)	-1.658*** (0.144)	-1.709*** (0.159)	-1.636*** (0.159)	-1.473*** (0.133)	-1.227*** (0.136)	-1.627*** (0.104)
Low CI / Low MI	-0.764*** (0.164)	-0.900*** (0.123)	-0.765*** (0.114)	-0.568*** (0.125)	-0.981*** (0.144)	-0.869*** (0.149)	-1.138*** (0.149)	-0.742*** (0.135)	-0.888*** (0.130)	-0.826*** (0.102)
Nuclear War Risk	0.245*** (0.066)	0.128** (0.051)	0.305*** (0.040)	0.324*** (0.045)	0.325*** (0.051)	0.237*** (0.056)	0.078 (0.053)	0.240*** (0.048)	0.279*** (0.048)	0.284*** (0.038)
US Status and Leadership	-0.345*** (0.060)	-0.424*** (0.047)	-0.226*** (0.046)	-0.300*** (0.048)	-0.168*** (0.059)	-0.356*** (0.058)	-0.318*** (0.059)	-0.166*** (0.056)	-0.213*** (0.054)	-0.221*** (0.041)
Constant	4.849*** (0.326)	5.139*** (0.264)	5.680*** (0.213)	5.152*** (0.238)	5.624*** (0.341)	5.495*** (0.288)	5.415*** (0.293)	5.592*** (0.255)	5.517*** (0.265)	5.666*** (0.199)
Observations	932	1,865	2,185	1,926	1,167	1,151	1,132	1,470	1,566	2,537
R ²	0.308	0.238	0.220	0.226	0.235	0.225	0.215	0.194	0.171	0.229
Adjusted R ²	0.299	0.233	0.225	0.221	0.227	0.217	0.207	0.187	0.164	0.226
Residual Std. Error	1.575 (df = 919)	1.666 (df = 1852)	1.757 (df = 2172)	1.666 (df = 1913)	1.607 (df = 1154)	1.586 (df = 1138)	1.595 (df = 1119)	1.721 (df = 1457)	1.686 (df = 1553)	1.684 (df = 2524)
F Statistic	34.073*** (919)	48.203*** (1852)	53.970*** (2172)	46.479*** (1913)	29.556*** (1154)	27.555*** (1138)	25.601*** (1119)	29.140*** (1457)	26.657*** (1553)	62.532*** (2524)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table A.18: Arsenal Size Full OLS Models by Year

	Dependent variable:									
	Nuclear Arsenal Size (0-1,550)									
	2010	2011	2016	2017	2018	2019	2020	2021	2022	2023
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Gender: Male	101.727*** (33.469)	137.363*** (22.816)	16.677 (18.928)	52.265** (21.340)	13.721 (25.596)	116.381*** (28.563)	-10.918 (27.776)	25.396 (23.387)	48.561** (23.862)	54.414*** (17.988)
Race: White	23.150 (93.090)	-14.557 (68.189)	-64.919 (51.973)	-112.313* (62.165)	-99.058 (90.206)	-87.134 (75.036)	-23.740 (72.786)	-57.053 (65.594)	-134.236** (66.451)	0.682 (49.556)
Education	-8.135 (21.029)	-38.535* (15.343)	-33.335*** (8.567)	-33.174*** (9.960)	-14.743 (12.179)	-41.008*** (13.070)	-17.997 (13.096)	8.110 (11.192)	-20.829* (10.504)	-5.757 (8.482)
Age	51.093*** (17.734)	42.935*** (11.942)	57.270*** (9.476)	67.557*** (10.074)	81.336*** (12.646)	16.701 (14.019)	43.600*** (13.540)	77.485*** (10.881)	83.539*** (11.442)	37.825*** (8.607)
Party: Republican	107.670** (44.273)	85.858*** (29.932)	67.004*** (23.671)	44.952* (26.955)	114.394*** (31.778)	93.887** (36.564)	-44.071 (34.196)	171.433*** (29.487)	26.034 (30.988)	41.343* (22.662)
Party: Independent	-45.021 (41.630)	25.035 (27.771)	-24.557 (24.564)	-8.443 (25.532)	25.637 (33.250)	26.058 (34.362)	14.402 (35.563)	74.360** (29.086)	20.548 (30.529)	-3.616 (23.033)
Party: Other	-105.842 (65.569)	38.924 (54.910)	82.381 (54.531)	76.225 (68.635)	194.879* (90.244)	12.198 (101.576)	-18.504 (102.114)	-44.878 (71.073)	132.602* (69.950)	-160.279*** (55.127)
High CI / Low MI	-143.565*** (51.097)	-214.261*** (32.670)	-136.431*** (26.890)	-201.889*** (27.883)	-129.458*** (37.447)	-121.633*** (39.404)	-98.375** (39.534)	-91.718*** (32.778)	-153.664*** (33.032)	-126.843*** (24.850)
Low CI / High MI	184.681*** (50.222)	92.871*** (32.548)	80.574*** (25.639)	100.894*** (29.111)	157.282*** (36.378)	57.487 (43.291)	187.046*** (42.215)	34.249 (32.689)	80.798* (35.572)	131.808*** (26.229)
Low CI / Low MI	66.362 (49.447)	-38.539 (33.183)	-53.016* (28.820)	-68.326** (32.559)	-33.234 (37.465)	-87.713** (41.754)	91.687** (40.088)	-21.193 (34.082)	-38.527 (33.828)	43.414* (26.250)
Nuclear War Risk	19.492 (19.864)	43.362*** (13.797)	52.291*** (9.873)	21.190* (11.391)	64.872*** (12.974)	-11.437 (15.612)	81.872*** (14.017)	19.247 (12.092)	28.418** (12.386)	42.078*** (9.584)
US Status and Leadership	168.585*** (18.127)	165.511*** (12.707)	121.303*** (11.340)	160.293*** (11.955)	163.135*** (14.990)	203.475*** (15.774)	183.343*** (15.453)	176.239*** (13.935)	138.166*** (14.417)	155.860*** (10.574)
Constant	975.977*** (98.113)	987.033*** (71.452)	1,107.554*** (53.625)	1,181.273*** (65.396)	1,090.126*** (93.326)	1,056.711*** (79.149)	1,037.928*** (78.945)	1,077.951*** (68.639)	1,174.090*** (69.171)	1,055.205*** (52.196)
Observations	935	1,873	2,028	1,758	1,081	1,037	1,040	1,297	1,367	2,274
R ²	0.248	0.226	0.200	0.277	0.301	0.257	0.320	0.267	0.214	0.218
Adjusted R ²	0.238	0.221	0.195	0.272	0.294	0.248	0.312	0.260	0.207	0.214
Residual Std. Error	474.596 (df = 922)	450.515 (df = 1860)	419.980 (df = 2015)	400.969 (df = 1745)	389.789 (df = 1068)	412.246 (df = 1024)	410.541 (df = 1027)	402.078 (df = 1284)	409.854 (df = 1354)	404.258 (df = 2261)
F Statistic	25.300*** (df = 12; 922)	45.355*** (df = 12; 1860)	41.982*** (df = 12; 2015)	55.670*** (df = 12; 1745)	38.396*** (df = 12; 1068)	29.526*** (df = 12; 1024)	40.349*** (df = 12; 1027)	39.010*** (df = 12; 1284)	30.787*** (df = 12; 1354)	52.524*** (df = 12; 2261)

Note: *p<0.1; **p<0.05; ***p<0.01

Table A.19: Weighted Descriptive Statistics (Mean, SD) and N by Year

Variable	2005	2006	2007	2008	2009	2010	2011	2015	2016	2017	2018	2019	2020	2021	2022	2023
age	45.68 (17.56) [2718]	44.99 (16.56) [1562]	45.87 (17.77) [2910]	44.38 (16.01) [1212]	45.04 (16.18) [1701]	46.36 (17.42) [1643]	46.28 (17.82) [2809]	45.11 (16.94) [2025]	46.76 (17.67) [3000]	47.33 (17.56) [2412]	47.03 (17.49) [1537]	47.95 (17.81) [1545]	46.75 (17.86) [1544]	47.58 (18.01) [2038]	47.29 (18.11) [1996]	47.2 (17.62) [3320]
edu	3.47 (1.35) [2736]	3.57 (1.32) [1563]	3.61 (1.3) [2932]	3.63 (1.3) [1506]	3.56 (1.44) [1687]	3.57 (1.34) [2807]	3.61 (1.41) [2022]	3.61 (1.41) [2022]	4.06 (1.87) [2984]	4.25 (1.87) [2411]	4.24 (1.82) [1537]	4.55 (1.87) [1545]	4.85 (1.85) [1544]	4.19 (1.8) [2038]	4.23 (1.93) [1996]	4.65 (1.88) [3314]
gend	0.49 (0.5) [2729]	0.49 (0.5) [1563]	0.49 (0.5) [2931]	0.51 (0.5) [1504]	0.49 (0.5) [1693]	0.48 (0.5) [1688]	0.49 (0.5) [2811]	0.5 (0.5) [2026]	0.48 (0.5) [3000]	0.47 (0.5) [2412]	0.47 (0.5) [1537]	0.46 (0.5) [1545]	0.47 (0.5) [1544]	0.48 (0.5) [2038]	0.5 (0.5) [1996]	0.5 (0.5) [3320]
race	1.89 (2.13) [2666]	1.7 (1.92) [1550]	1.95 (2.17) [2862]	1.23 (0.81) [1502]	1.25 (0.82) [1693]	1.65 (1.51) [1674]	1.28 (0.84) [2805]	1.38 (1.12) [2006]	1.43 (1.14) [2991]	1.33 (0.96) [2412]	1.3 (0.95) [1524]	1.29 (0.92) [1526]	1.37 (1.06) [1544]	1.37 (1.06) [2038]	1.5 (1.34) [1996]	1.4 (1.09) [3320]
cl_1	0 (0) [0]	4.28 (1.99) [1555]	4.19 (2.16) [2890]	4.16 (2) [1501]	3.95 (1.98) [1699]	4 (1.94) [1185]	4.12 (1.86) [2240]	4.03 (1.97) [2011]	4.2 (1.97) [2980]	4.2 (1.97) [2980]	4.43 (1.95) [1524]	4.35 (1.93) [1528]	4.43 (1.95) [1530]	4.33 (1.97) [2012]	4.39 (1.93) [1978]	4.56 (1.89) [3235]
cl_2	0 (0) [0]	4.32 (1.87) [1559]	4.27 (2.02) [2786]	4.35 (1.9) [1503]	4.12 (1.84) [1693]	4.11 (1.79) [1186]	4.16 (1.83) [2245]	4.41 (1.84) [2014]	4.6 (1.8) [2975]	4.77 (1.86) [2394]	4.53 (1.89) [1514]	4.68 (1.89) [1531]	4.7 (1.83) [1529]	4.55 (1.9) [2017]	4.58 (1.86) [1981]	4.81 (1.78) [3249]
cl_3	0 (0) [0]	5.05 (1.71) [1556]	4.99 (1.96) [2878]	4.78 (1.87) [1502]	4.62 (1.85) [1688]	4.53 (1.84) [1188]	4.6 (1.8) [2236]	4.72 (1.79) [2014]	4.92 (1.8) [2975]	4.94 (1.87) [2391]	4.86 (1.88) [1524]	4.89 (1.9) [1526]	4.83 (1.85) [1527]	4.74 (1.89) [2008]	4.55 (1.9) [1982]	4.76 (1.86) [3252]
m_1	4.78 (2) [2693]	4.93 (1.71) [1560]	4.73 (1.93) [2891]	4.75 (1.83) [1497]	4.84 (1.8) [1687]	4.83 (1.71) [1188]	4.83 (1.71) [2236]	4.87 (1.68) [2012]	4.92 (1.71) [2972]	4.73 (1.77) [2400]	4.76 (1.79) [1524]	4.69 (1.78) [1528]	4.6 (1.88) [1538]	4.79 (1.81) [2012]	4.68 (1.81) [1978]	4.8 (1.77) [3238]
m_2	5.28 (1.88) [2710]	5.17 (1.69) [1562]	5.18 (1.81) [2896]	5.14 (1.72) [1502]	5.26 (1.62) [1687]	5.23 (1.54) [1185]	5.3 (1.52) [2241]	5.26 (1.55) [2013]	5.54 (1.45) [2972]	5.32 (1.58) [2398]	5.3 (1.59) [1522]	5.2 (1.61) [1526]	5.17 (1.63) [1534]	5.3 (1.64) [2010]	5.18 (1.68) [1982]	5.24 (1.58) [3230]
m_3	4.37 (2.04) [2688]	4.45 (1.75) [1557]	4.36 (1.96) [2883]	4.49 (1.84) [1499]	4.87 (1.71) [1687]	4.72 (1.72) [1184]	4.66 (1.62) [2237]	4.93 (1.66) [2008]	5.08 (1.57) [2973]	4.89 (1.66) [2396]	4.81 (1.73) [1524]	4.71 (1.75) [1528]	4.59 (1.79) [1532]	4.82 (1.77) [2015]	4.65 (1.79) [1977]	4.72 (1.74) [3250]
inflow	5.07 (2.08) [2718]	4.75 (2.02) [1564]	5.2 (2.07) [2894]	4.97 (2.07) [1506]	4.93 (2.32) [1695]	4.98 (2.2) [1676]	5.24 (1.99) [2797]	4.66 (2.48) [2024]	5.27 (2.41) [2983]	5.16 (2.32) [2406]	5.34 (2.42) [1527]	5.35 (2.39) [1534]	5.96 (2.33) [1533]	5.42 (2.38) [2033]	5.34 (2.38) [1985]	5.31 (2.66) [3312]
usflow	5.66 (2.19) [2727]	5.1 (2.15) [1563]	5.64 (2.25) [2923]	5.62 (2.2) [1505]	5.54 (2.35) [1688]	5.52 (2.3) [12813]	6.1 (2.01) [2813]	5.37 (2.54) [2020]	5.91 (2.4) [2971]	5.82 (2.3) [2407]	6.08 (2.48) [1528]	5.96 (2.4) [1537]	6.31 (2.33) [1539]	5.66 (2.69) [2034]	5.65 (2.63) [1989]	5.73 (2.73) [3312]
china	4.27 (2.68) [2708]	4.37 (2.66) [1565]	4.36 (2.72) [2905]	4.3 (2.61) [1508]	4.72 (2.68) [1698]	4.35 (2.59) [1193]	3.89 (2.56) [2244]	4.86 (2.84) [2024]	5.14 (2.86) [2987]	4.62 (3.02) [2405]	5.03 (2.96) [1532]	4.8 (2.73) [1533]	5.13 (3.03) [1535]	5.75 (2.92) [2029]	5.54 (2.82) [1985]	5.63 (2.78) [3311]
rus	2.85 (2.5) [2711]	3.05 (2.34) [1564]	3.17 (2.57) [2906]	3.31 (2.47) [1508]	3.8 (2.59) [1697]	3.7 (2.6) [1190]	3.17 (2.51) [2234]	4.85 (2.84) [2023]	5.25 (2.91) [2992]	4.6 (2.97) [2408]	5.12 (2.97) [1527]	4.68 (2.84) [1538]	4.71 (2.94) [1538]	5.34 (2.93) [2025]	5.34 (2.93) [1985]	5.67 (2.79) [3312]
mlrisk	5.7 (2.63) [2711]	5.54 (2.38) [1563]	5.74 (2.62) [2909]	5.69 (2.5) [1490]	6.53 (2.5) [1691]	5.89 (2.47) [1195]	5.86 (2.32) [2241]	6.18 (2.54) [2020]	6.52 (2.87) [2996]	7.25 (2.48) [2402]	5.74 (2.76) [1531]	5.72 (2.61) [1535]	5.61 (2.69) [1537]	5.86 (2.77) [2030]	5.79 (2.6) [1984]	5.76 (2.69) [3303]
mlrisk	5.16 (2.68) [2714]	6.18 (2.53) [1563]	5.94 (2.73) [2912]	6.34 (2.65) [1507]	6.15 (2.57) [1696]	6.25 (2.57) [1196]	6.15 (2.48) [2240]	6.32 (2.69) [2011]	6.22 (2.62) [2986]	5.52 (2.59) [2405]	5.74 (2.7) [1532]	5.7 (2.53) [1533]	5.8 (2.68) [1535]	5.84 (2.7) [2025]	5.65 (2.59) [1984]	5.9 (2.61) [3294]
saferworld	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	1.44 (0.5) [1167]	1.39 (0.49) [2227]	1.47 (0.5) [2015]	1.47 (0.5) [2966]	1.44 (0.5) [2374]	1.47 (0.5) [1495]	1.46 (0.5) [1501]	1.48 (0.5) [1506]	1.45 (0.5) [2021]	1.46 (0.5) [1990]	1.46 (0.5) [3301]
usstat	6.65 (2.94) [2697]	6.88 (2.73) [1561]	6.71 (2.86) [2906]	6.93 (2.68) [1507]	7.11 (2.71) [1684]	6.87 (2.74) [1666]	7.19 (2.56) [2773]	7.08 (2.53) [2007]	7.53 (2.47) [2952]	7.21 (2.53) [2388]	7.09 (2.51) [1524]	6.92 (2.58) [1527]	6.92 (2.67) [1532]	7.23 (2.5) [2021]	7.22 (2.52) [1992]	7.35 (2.48) [3308]
usupp	7.01 (2.82) [2713]	7.11 (2.7) [1561]	7.08 (2.74) [2909]	7.28 (2.65) [1508]	7.32 (2.44) [1687]	7.19 (2.69) [1682]	7.44 (2.55) [2807]	7.17 (2.51) [2018]	7.76 (2.38) [2991]	7.44 (2.46) [2408]	7.18 (2.62) [1534]	7.02 (2.61) [1537]	7.11 (2.67) [1535]	7.31 (2.54) [2016]	7.33 (2.51) [1990]	7.49 (2.47) [3301]
warhead5	0 (0) [0]	0 (0) [0]	0 (0) [0]	2.66 (1.91) [1499]	2.78 (1.94) [1689]	2.86 (1.96) [1195]	2.59 (1.86) [2236]	2.83 (1.95) [2018]	3.06 (2.06) [2977]	2.86 (2) [2387]	3.25 (2.11) [1525]	3.19 (2.01) [1531]	3.33 (2.09) [1521]	3.27 (2.08) [2024]	3.16 (2.06) [1984]	3.24 (2.13) [3278]
spend_safety	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	4.54 (1.34) [2235]	4.75 (1.44) [2011]	4.68 (1.34) [2978]	4.6 (1.34) [2978]	4.4 (1.44) [2395]	4.4 (1.44) [2395]	4.4 (1.44) [2395]	4.4 (1.44) [2395]	4.4 (1.44) [2395]	4.4 (1.44) [2395]	4.4 (1.44) [2395]
spend_improve	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]
spend_develop	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]
spend_test	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]
cdet	0 (0) [0]	5.67 (1.72) [2900]	5.41 (1.65) [1508]	5.23 (1.84) [1697]	5.37 (1.7) [1180]	5.41 (1.56) [2019]	5.31 (1.58) [2979]	5.51 (1.38) [2390]	5.56 (1.49) [2984]	5.36 (1.49) [2390]	5.56 (1.46) [1534]	5.47 (1.56) [1534]	5.47 (1.56) [1534]	5.47 (1.56) [2028]	5.41 (1.64) [1996]	5.41 (1.64) [3320]
frnc	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	5.13 (1.67) [1180]	5.28 (1.66) [2237]	5.23 (1.63) [2007]	5.43 (1.6) [2970]	5.45 (1.55) [2390]	5.49 (1.53) [1529]	5.36 (1.58) [1529]	5.4 (1.53) [1533]	5.35 (1.57) [2024]	5.18 (1.66) [1984]	5.28 (1.69) [3288]
disarm	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	4.45 (1.98) [1189]	4.51 (1.99) [2242]	4.25 (1.93) [2019]	4.52 (1.97) [2970]	4.37 (1.98) [2409]	4.64 (1.91) [1524]	4.52 (1.87) [1537]	4.63 (1.84) [1537]	4.57 (1.89) [2032]	4.4 (1.9) [1986]	4.59 (1.95) [3296]
annual	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	0 (0) [0]	579.35) [1636]	557.4) [2744]	1032.76 1013.71	1032.76 1013.71	1032.76 1013.71	1032.76 1013.71	1032.76 1013.71	1032.76 1013.71	1032.76 1013.71	1032.76 1013.71	1032.76 1013.71