

Public Opinion, Cues, and the Use of Nuclear Weapons

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Abstract

This paper explores how political discourse affects public support for the use of nuclear weapons. Several recent studies have found that U.S. public is quite willing to support the use of nuclear weapons in military operations. Yet we do not know how firm these views are. Drawing from insights in political behavior research, we suggest that public support for using nuclear weapons is likely to be fragile because citizens know little about nuclear weapons issues and therefore have only weakly-held opinions about them. As a result, individuals may change their views when they are exposed to arguments and opinions they have not yet considered. We test this theory using a survey experiment in which respondents encounter arguments supporting and opposing a hypothetical military strike. When respondents are presented with arguments against the use of nuclear weapons, support for using them in this hypothetical scenario drops considerably. Notably, however, similar arguments have no effect on support for the use of conventional weapons in an otherwise identical scenario. In other words, U.S. public opinion appears malleable with respect to the use of nuclear weapons but not conventional weapons. The results suggest that the U.S. public is not inherently indifferent to the use of nuclear weapons, and is quite susceptible to political arguments against using them.

Introduction

Would the public support the first-use of nuclear weapons against an adversary? This question has taken on increasing relevance in the United States in recent years. During the 2016 presidential campaign, then-candidate Donald Trump declared that he would might be willing to use nuclear weapons against the Islamic State (Trump 2016). As president, Trump issued veiled nuclear threats against North Korea (Baker and Sang-Hun 2017), and observers have speculated that a war against North Korea could escalate to the use of nuclear weapons by the United States (Lewis 2017; Narang 2017). If one of these scenarios were to occur, how would the U.S. public react?

Academic literature offers contrasting answers to this question. One school of thought argues that the U.S. public would oppose the use of nuclear weapons, especially if non-nuclear alternatives were available. One reason, according to this view, is that the public views nuclear weapons as fundamentally different from conventional weapons – both because of their destructive power and because of the decades-long tradition of non-use that has existed since 1945 (Ball 1983). This view that nuclear weapons are unique rests on normative and practical foundations. On one hand, scholars have argued that an international norm, reinforced by the non-use of nuclear weapons since 1945, inhibits the use of nuclear weapons in wartime (e.g., Huth and Russett 1988; Tannenwald 1999, 2005, 2007; Schelling 2006, 2009; Quester 2006; Pinker 2011). If the U.S. public has internalized this norm, it might view the use of nuclear weapons as simply unacceptable, apart from the consequences it might entail. From a more pragmatic perspective, using nuclear weapons could weaken international barriers against the acquisition and use of nuclear weapons by other states, potentially increasing the likelihood that they would be used against the United States in the future (Paul 1995, 2009). Both strands of logic offer reasons that the U.S. public may find nuclear weapons more objectionable than conventional weapons.

An alternative view, however, suggests that the U.S. public is perfectly willing to support using nuclear weapons, especially if doing so would support military objectives (Press et al. 2013; Sagan and Valentino 2017; Haworth et al. 2019; Aronow et al. 2019). In this view,

the public's top priority when evaluating a military action is the immediate outcome of that action. If a military action serves a clear national interest, has a high likelihood of success, and incurs acceptable casualties, then the public will be likely to support it (e.g., Shapiro and Page 1988; Jentleson 1992; Page and Shapiro 1992; Richman 1995; Eichenberg 2005; Gelpi et al. 2009). In other words, the public prioritizes short-term foreign policy *outcomes* over the *means* with which they are achieved. On foreign policy issues such as the use of nuclear weapons, immediate utilitarian calculations take precedence over normative considerations or hazy long-term consequences.

These differing perspectives share an important commonality: they both see public opinion on nuclear issues as largely fixed. Either the public harbors an inherent aversion to using nuclear weapons or it does not, and this preference can be uncovered with simple opinion surveys. Yet this assumption neglects the central role played by political discourse in shaping public opinion. For decades, scholars have observed that public opinion on foreign policy issues is often unstable and susceptible to change (Almond 1950; Rosenau 1961). Instead of having firm preferences about foreign policy, the public often relies instead on signals from elites, social networks, and public political discourse to help them determine which policy positions to support and oppose (e.g., Zaller 1992; Lupia and McCubbins 2000; Berinsky 2009). Depending on the signals they have received, citizens may express very different preferences at different points in time.

Public opinion, moreover, is especially unstable when voters have little information about the issue at hand. The less information voters have, the more they rely on the opinions of others to guide their judgments. And for most voters, the topic of nuclear weapons is a quintessentially “low-information” issue: an arcane and highly technical subject about which the public has thought little. It is therefore reasonable to suspect that public opinion about the use of nuclear weapons may be susceptible to cues from political discourse.

In this paper, we assess the strength of public attitudes about the use of nuclear weapons in the United States, incorporating insights from political behavior research on the role of cues in shaping how citizens think about complex foreign policy issues such as the use of nuclear weapons. We conduct a survey experiment in which we measure individuals' support for the use of nuclear weapons under a set of hypothetical, but plausible, circumstances. There are

three main findings. First, we find that the public holds no “pure” aversion to using nuclear weapons. Consistent with Press et al. (2013), we find that when presented with a scenario in which the use of force is needed to accomplish a military objective, in the absence of strong cues from leaders, the public appears indifferent between the use of nuclear and conventional weapons. Second, however, when confronted with competing external cues, the public expresses a clear preference for using conventional weapons over nuclear weapons. In other words, the U.S. public does express an aversion to nuclear weapons, but only in the presence of cues that help guide their thinking on the issue. Third, in contrast to other foreign policy issues, these effects cross party lines: cues from the opposite party evoke antinuclear attitudes just as effectively as cues from one’s own party. Overall, our findings suggest that the U.S. public is not as indifferent to the use of nuclear weapons as some scholars suggest: in a scenario in which the United States considered (or actually used) nuclear weapons, public discourse could create a strong undercurrent of opposition among the U.S. public. These results hold important implications for current policy debates.

Our study follows in the footsteps of a wave of recent research about public opinion about the use of nuclear weapons, building on the initial work of Press et al. (2013). This work tends to fall into two broad categories. First, some studies have explored the origins of individuals’ support for – or opposition to – the use of nuclear weapons. Rathbun and Stein (2020) and Smetana and Vranka (2021), for example, show how individuals’ moral values shape their views about using nuclear weapons.¹ In a different vein, Baron and Herzog (2020) investigate how beliefs about nuclear energy are connected to views about using nuclear weapons. A second set of studies investigates how information about the consequences of nuclear use can shape public support. This literature has shown that factors such as the likelihood of nuclear retaliation and information about the human consequences of a nuclear attack can shape individuals’ views (Sukin 2019; Koch and Wells 2021). This study adds another dimension to this research program, exploring how argumentative, opinion-based cues from leaders shape public attitudes about the use of nuclear weapons.

¹See also Horschig (2022) for an alternative psychological perspective using Terror Management Theory.

Nuclear Weapons and Public Opinion

An enduring puzzle in international relations is that no nation has used nuclear weapons since the bombings of Hiroshima and Nagasaki. A common explanation in the international relations literature is that this record reflects the success of nuclear deterrence: nuclear weapons have not been used, in other words, because states fear nuclear retaliation (e.g., Gaddis 1987; Waltz 1990). But this explanation struggles to explain why nuclear weapons have not been used against nonnuclear states, especially when doing so might have staved off military defeat.

A very different and provocative explanation for the last 75 years of nuclear non-use argues that leaders have come to think of nuclear weapons as a fundamentally different – and less usable – class of weapons. Importantly, this literature emphasizes that this distinction is in part fueled by the public, which perceives nuclear weapons as distinct from other weapons, apart from their physical effects. Tannenwald (1999, 2005, 2007, 2018b,a), for example, argues that during the Cold War, the antinuclear movement in the United States promoted a view of nuclear weapons as fundamentally distinct from conventional weapons, facilitating “both a cognitive and normative shift in how people understood nuclear weapons” (Tannenwald 2007: 188).² The result, she argues, is that a normative prohibition now surrounds the use of nuclear weapons, rendering them less legitimate as weapons of war. While there is considerable debate about the strength of this norm (e.g., Paul 1995, 2009, 2010; Avey 2015), a variety of scholars concur with Tannenwald’s broader conclusion that leaders believe nuclear weapons to be distinct from conventional weapons. It is this belief that nuclear weapons are different that may facilitate a broader public reluctance to use them.³

This is not to say that U.S. leaders have always accepted this distinction: for example, in the early years of the nuclear age, President Dwight D. Eisenhower argued that nuclear weapons

²Russett (1984) emphasizes the role of religious leaders in this process.

³Paul (2010: 863), for example, argues that “non-use is not a full-fledged taboo, but a more limited tradition which has an informal norm inherent in it.” Scholars such as Avey (2015), however, are even more skeptical, arguing that the historical pattern of nuclear non-use has been driven by strategic – not normative – considerations. To be sure, this study is not intended to adjudicate the debate about whether nuclear non-use is a tradition, a taboo, or merely a coincidence; rather, we are primarily concerned with the question of whether the U.S. public draws any distinction at all between nuclear and conventional weapons.

could be used “exactly as you would use a bullet or anything else.”⁴ Indeed, during the Korean War, Eisenhower and his advisers, including Secretary of State John Foster Dulles, sought to combat the perception that nuclear weapons were anything more than another tool in the arsenal of the U.S. military. Yet even they begrudgingly admitted that the American and Western European publics drew a clear distinction between nuclear and conventional weapons, and complained that a “tabu which surrounds the use of atomic weapons” prevented nuclear weapons from being a viable option for ending the war (U.S. Department of State 1953: 827).

Beyond their perceived legitimacy as tools of war, there is a second important difference between nuclear and conventional weapons: nuclear weapons have not been used since 1945. Even if this long history of nuclear restraint has not crystallized into a moral prohibition, it may have established a tradition of non-use that the public may be reluctant to break. Using nuclear weapons after 75 years of non-use could encourage proliferation and even increase the likelihood that another country might someday attempt to use nuclear weapons against the United States (Sagan 2004; Schelling 2006; Paul 2009).

There is some evidence that Americans today might look unfavorably on the use of nuclear weapons. A 2010 poll conducted by the Chicago Council on Global Affairs found that 20% supported the view that the United States should never use nuclear weapons under any circumstances, and 57% believed the U.S. should only use them in response to a nuclear attack (Chicago Council on Global Affairs 2010).⁵ Even more dramatically, more than 70% of respondents to a 2005 poll agreed with either the statement that “it is all right to possess [nuclear weapons], but they should never be used” (24.5%) or “it is wrong to possess or use [nuclear weapons]” (58%) (Kobayashi 2006–07).

Nuclear Indifference

A contrary school of thought argues that the public views nuclear weapons as mostly indistinct from conventional weapons, and would not be particularly opposed to using them. According to this view, the public relies primarily on short-term cost-benefit calculations when evaluating

⁴See Eisenhower (1955: 55).

⁵Polls in 2004 and 2007 found similar results (Kull 2004; Kull et al. 2007).

the use of military force. The public's priority, in this view, is achieving immediate foreign policy objectives at an acceptable cost. Three factors in particular are thought to shape the degree of public support for military actions. First, the public evaluates the policy objective. Jentleson (1992), for example, famously argued that the public tends to support military actions designed to contain adversaries' behavior rather than induce internal political change in rival states. Others have found the public to be more supportive of military actions undertaken in defense of vital national interests, compared to objectives seen as peripheral (Page and Shapiro 1992; Eichenberg 2005). Second, the public weighs the material costs of using force. Studies of public support for wars, for example, have shown that U.S. public opposition to military conflicts grows at a predictable rate as military casualties mount (Mueller 1973; Gartner 2008). Finally, the public cares about the probability of success, tending to support military actions that carry a high likelihood of achieving their objectives (Gelpi et al. 2009). Overall, this research suggests that the public prioritizes operational efficacy when assessing a military action, giving little thought to the methods employed.

According to this school of thought, the U.S. public would be quite willing to support the use of nuclear weapons if they were needed to accomplish a vital military mission. Indeed, some survey evidence suggests that this is the case. After World War II, for example, opinion polls revealed that 77% of the American public approved of the use of nuclear weapons against Japan, versus just 19% who disapproved (Dower 1986: 54). While support for the atomic bombings has declined somewhat in the decades since, polls continue to find more support than opposition: in a 2009 Quinnipiac University poll, 61% of Americans said the United States did the "right thing" by using nuclear weapons against Japan (Quinnipiac University 2009). Likewise, a 2015 YouGov poll found that 46% judged the atomic bombings to be the "right decision," versus 29% who saw it as the "wrong decision" (Moore 2015).⁶ In the context of more contemporary conflicts, the U.S. public has also expressed considerable support for using nuclear weapons: 65% of respondents to a December 2002 poll supported a nuclear response if Iraq used weapons of mass destruction against U.S. troops (Morin 2002).

Perhaps the most convincing evidence in favor of the "nuclear indifference" perspective is

⁶See also Kobayashi (2006–07), who reported a 58% approval rate for the atomic attacks in a 2005 poll.

Press, Sagan, and Valentino’s 2013 experimental study of nuclear attitudes.⁷ In this study, respondents were presented with detailed, hypothetical scenarios in which U.S. leaders launched a military strike against an Al Qaeda facility. Some respondents were told that nuclear weapons were used in the strike; others were told that the strike employed conventional weapons. The study found that support levels were statistically identical between the “nuclear” and “conventional” scenarios when objective costs and benefits were held equal. Moreover, in a variation of the experiment where respondents were asked to choose between a conventional and nuclear strike, a majority of respondents *preferred* the use of nuclear weapons over conventional weapons if they were told that nuclear weapons would be even slightly more effective. These results suggest that the U.S. public appears quite willing to support the use of nuclear weapons if they provide immediate military utility.

The Importance of Cues in Nuclear Attitudes

Thus far we have outlined two competing schools of thought about whether the U.S. public holds an aversion toward the use of nuclear weapons. One perspective suggests that the public would strongly oppose an actual use of nuclear weapons by U.S. leaders, while a rival hypothesis argues that the public would support the use of nuclear weapons if there is a sufficient military rationale for doing so. But these two hypotheses paint an incomplete picture of public attitudes toward nuclear weapons – and, in particular, whether the public would oppose an actual use of nuclear weapons by the United States.

Nuclear Policy as a Low-Information Issue

In general, studies of public opinion on foreign policy have found that the U.S. public knows little about foreign policy issues (Almond 1950; Rosenau 1961; Zaller 1992; Holsti 1996). Foreign policy is a subject that requires considerable expertise to understand, but most citizens lack such expertise. This is especially true for nuclear weapons issues, which can be even more arcane and complex than other foreign policy topics. Nuclear weapons issues are also increas-

⁷See also Sagan and Valentino’s follow-up studies (2017; also Haworth et al. 2019), as well as a recent replication (Aronow et al. 2019).

— NUCLEAR STATES —		— NON-NUCLEAR STATES —	
<i>Country</i>	<i>Pct. Incorrect</i>	<i>Country</i>	<i>Pct. Incorrect</i>
Russia	21%	Brazil	13%
China	26	South Africa	18
Pakistan	41	Libya	30
Britain	48	Germany	43
India	49	Japan	44
Israel	52	Iran	55
France	62	North Korea	74

Table 1. *The proportion of the U.S. public that did not know, or incorrectly stated, the nuclear status of fourteen countries in 2005 (Pew Research Center for the People and the Press 2005).*

ingly obscure: a quarter-century after the end of the Cold War, nuclear conflict has largely disappeared from the popular mind, receiving only sporadic coverage in the media or in popular culture. The United States has not seriously considered using nuclear weapons in a conflict for many decades, so most citizens have not been exposed to debates about their use. And since nuclear weapons issues are not relevant to the daily lives of most citizens, the public has few incentives to seek out information and form opinions about them.

Indeed, public opinion polls have shown that the level of public knowledge on nuclear issues is quite low. On even basic questions such as who does and does not possess nuclear weapons, public knowledge is limited. For instance, a (2005) poll by the Pew Research Center found that a significant portion of the U.S. public is unaware of which countries possess nuclear weapons. Large numbers of respondents incorrectly assessed the status of every nuclear state (see Table 1): for instance, nearly half of the poll’s respondents did not know that Britain possessed nuclear weapons, and more than 40% believed incorrectly that Germany and Japan possessed them. The misinformation problem is even worse with respect to Iran: a poll conducted in 2010 showed that 71% of U.S. respondents incorrectly believed that Iran – still a nonnuclear state as of this writing – possessed nuclear weapons (CNN 2010). More recently, just 39% of respondents in a (2019) National Geographic/Council on Foreign Relations survey knew that nine countries today possess nuclear weapons .

The public is ill-informed about other basic facts about nuclear weapons as well. For ex-

ample, when asked in a 2004 poll to estimate the size of the U.S. nuclear arsenal, the median response was 200 weapons – far below the actual number (at the time) of about 6,000 weapons (Kull 2004). In short, nuclear weapons policy represents a classic “low-information” policy issue: it is a subject about which citizens know little, and understand even less.

Cues and Nuclear Weapons

Low levels of citizen knowledge are hardly unique to nuclear issues. For decades, scholars have explored the political behavior of low-information voters. One of the key insights of this body of scholarship is that when individuals know little about a particular policy issue, they rely on heuristics and information shortcuts to compensate for their own lack of policy expertise (Downs 1957). Specifically, voters often look to external “cues” – messages emanating from elite figures,⁸ media outlets,⁹ and their own peers and social networks¹⁰ – to inform and guide their views on specific policy issues.

Cues can perform several key functions in shaping public opinion. First, they contain *information* about policy issues, presenting facts and data that citizens can use when deciding which position to support. Second, they contain *opinions*, helping to activate public attitudes by appealing to citizens’ broader principles. In other words, cues help citizens form policy positions that they did not previously hold by connecting those positions to voters’ basic values. Third, cues reveal the *policy stances* held by other people. By showing voters who supports which positions in a policy debate, cues provide heuristics that voters can rely on when choosing sides. Citizens may harbor inclinations toward a particular policy stance, but they may need to hear a trusted source articulate that position before expressing it themselves. Conversely, citizens may be less likely to express a policy preference if that preference is shared by someone they do not identify with. In all of these ways, cues can evoke latent attitudes about policy issues, bringing implicit views to the surface among citizens that have rarely, if ever, thought about the issue.

⁸Converse (1964); Zaller (1992); Lupia and McCubbins (2000); Berinsky (2009); Brody (1991); Levendusky (2009); Guisinger and Saunders (2017).

⁹Baum (2005).

¹⁰Kertzer and Zeitzoff (2017); Druckman and Nelson (2003); Radziszewski (2013); Todorov and Mandisodza (2004).

Cues are especially important in shaping public opinion on policy decisions – such as the first-use of nuclear weapons – that leaders rarely confront. One reason is that cues expose individuals to new arguments, rationales, and frames, allowing them to form opinions. Without prior discourse, citizens’ views on policy issues are often highly unstable (Druckman 2004). Moreover, policy issues that leaders only rarely encounter are less likely to be politically polarized, making individuals’ opinions about these issues more susceptible to being swayed by new arguments or frames (Guisinger and Saunders 2017). To be sure, individuals are not simply blank slates: voters do bring a set of basic values and principles to the table when confronting new policy questions (Powlick and Katz 1998; Kertzer and McGraw 2012; Kertzer et al. 2014; Rathbun et al. 2016). But without the context provided by political discourse, it can be difficult for them to apply those principles to specific policy issues. Cues can provide that context.

The implication of this logic is that cues must be an essential component of survey research about low-information policy issues like nuclear weapons. Opinion surveys about the use of nuclear weapons – even experimental surveys – are unlikely to yield reliable results unless they provide citizens with key information about the contours of the policy debate. In other words, we can not adequately judge public opinion on nuclear weapons issues by simply asking voters what they prefer. Since the public knows little about nuclear issues in general, most citizens are unlikely to have thought much about whether nuclear weapons are a legitimate tool of war, and do not hold strong views one way or another. Political discourse therefore is critical for shaping voters’ views, helping them connect their basic principles to specific policy positions. In a real-life scenario in which the United States actually used nuclear weapons, there would be a tremendous amount of public discussion both favoring and opposing the policy. Providing survey respondents with a mixture of competing arguments therefore is necessary to gauge how the public might actually react to such an event. Survey instruments that do not present the relevant debates cannot correctly assess the extent of nuclear aversion among the public, and may obtain biased results (Chong and Druckman 2007).¹¹

¹¹Press, Sagan, and Valentino’s survey experiment, for instance, presented respondents with cues only *in favor* of using nuclear weapons for immediate military purposes.

Hypotheses

What does this logic imply for testing theories about nuclear attitudes? The “nuclear indifference” model would expect the public to have no *a priori* preference for conventional versus nuclear weapons, even after being exposed to cues that outline the contours of the policy debate on both sides. The key question for voters, according to this perspective, is whether the use of a particular weapon helped achieve a successful military operation. Cues from external actors may change the level of public support for the use of force, but they should have the same effect whether the weapon in question is nuclear or conventional. In short, even after being presented with competing cues, the public will remain indifferent between nuclear and conventional weapons, so long as their military efficacy is similar.

The “nuclear aversion” perspective argues that public opinion largely opposes the first-use of nuclear weapons. However, since most voters know little about nuclear issues, we suggest that individuals must first be presented with information and opinions on both sides before they can reach this view. The public may initially express indifference between nuclear and conventional weapons, but when exposed to both sides of the debate, voters will be more persuaded by messages opposing nuclear weapons. *Arguments against the use of nuclear weapons, in other words, will have a larger effect on public approval than similar arguments against conventional weapons.* Facing two otherwise identical options involving the use of military force, and presented with cues that describe both supporting and opposing rationales, the public therefore will prefer the option involving conventional weapons and reject the use of nuclear weapons. In short, because public attitudes about nuclear weapons are less well-formed, public opposition to using nuclear weapons – but not conventional weapons – is likely to be conditional on the presence of cues that help citizens determine their own opinions.

Research Design

To test these views of nuclear attitudes, we designed a survey experiment that measures public opinion toward nuclear weapons in the presence of political debate. Since nuclear warfare has not occurred since 1945, it is impossible to study contemporary public reactions to an actual

nuclear strike – instead, we must measure responses to a hypothetical use of nuclear weapons. Our experiment presented respondents with a hypothetical, but plausible, scenario in which the United States conducted a military strike against the Al Qaeda terrorist organization. Some subjects were told that the strike had employed conventional weapons; others were told that it used nuclear weapons. In all scenarios, relevant facts about the strike were held constant so that we could isolate the causal effect of the variables of interest on public opinion.¹² Subjects were informed that the scenario was hypothetical, but were asked to imagine how they would feel about the events if they happened in real life.

We fielded our survey experiment on 2,797 American adults recruited through Amazon’s Mechanical Turk (MTurk) in 2015. We limited participation to MTurk workers located in the United States who had previously completed at least 1,000 jobs and whose approval rating for previous tasks was at least 95%.¹³

Experimental Conditions

At the outset of the experiment, respondents were instructed to carefully read a fictional news story of approximately 400–500 words.¹⁴ The story described a hypothetical military crisis between the United States and Yemen in which Al Qaeda was discovered to be conducting a high-level meeting in a bunker near the Yemeni village of Thamud. The news story reported a successful U.S. cruise missile strike against the bunker, which destroyed the bunker and killed the Al Qaeda leaders inside the bunker.

All versions of the news story incorporated four additional features, intended to parallel the experimental design of Press et al. (2013). First, in keeping with Press et al. (2013), all

¹²To ensure that our findings could be usefully compared to those of Press et al. (2013), who also assessed public attitudes toward the use of nuclear weapons using fictional news stories, the hypothetical scenario in our experimental instrument was designed to be similar to theirs. The Supporting Information document contains a more detailed comparison of the two instruments.

¹³In keeping with prior MTurk studies, our sample was more ideologically liberal (50% self-reported liberal respondents and 42% Democratic respondents), more educated (49% college graduates), and more male (53% male) than the U.S. population. Below we assess whether the non-representative nature of the sample might have altered the treatment effects observed in the experiment.

¹⁴Press et al. (2013) also utilized fictional news stories in their study of the nuclear taboo. Our setup mimics, as closely as possible, that of their “retrospective” design.

versions of the news articles presented a justification for the attack – in other words, a positive cue – from General Martin Dempsey, who served as Chairman of the Joint Chiefs of Staff from October 1, 2011 through September 25, 2015. The article quoted Dempsey as stating that the air strike was the “only viable means” for destroying the terrorist facility. Second, the article reported that U.S. intelligence sources had determined that the Al Qaeda personnel killed in the attack had been planning a campaign against U.S. military and civilian targets in the Middle East. Third, all versions of the article reported that 1,000 civilians had been killed in the attack. Finally, the article reported that the attack involved no U.S. military casualties.¹⁵

The news articles then varied randomly on two dimensions. First, the articles varied in the type of weapon used. In some versions, the United States struck the terrorist bunker with 100 conventionally-armed cruise missiles; in other versions, the attack was conducted using two nuclear-armed cruise missiles. Second, some conditions introduced a dissenting cue: a quote from an expert or political official expressing opposition to the strike.¹⁶ The cue-giver randomly took one of three identities: a retired military officer, a Republican Senator, or a Democratic Senator. Overall, these test conditions yielded a 2×4 fully-crossed factorial design, including four conventional conditions and four nuclear conditions.

The nature of the dissenting cue merits some additional discussion (see Figure 1). Scholarly literature on nuclear weapons and public opinion emphasizes that the public may perceive two important differences between nuclear and conventional weapons, both of which are invoked in the text of the dissenting cue.

First, the cue articulates a moral objection to the military strike, with the speaker arguing that the methods used in the strike – whether conventional or nuclear – were “barbaric,” “immoral and inhumane,” and “an affront to our nation’s most basic values.” Including moral language is important because scholars have argued that antinuclear norms contain an important moral component. Tannenwald (2007: 59), for example, points out that “nuclear weapons have been the subject of a specifically moral discourse from their inception,” and the norm

¹⁵These features closely resemble the experimental instrument used in Press et al. (2013); see page SI-5 of the Supporting Information document for a more detailed comparison.

¹⁶While foreign policy cues can emanate from many sources, survey experiments on foreign policy – including Press et al. (2013) – typically utilize elite cues. Future studies might investigate the effects of nuclear cues from non-elite sources, such as community members and social networks.

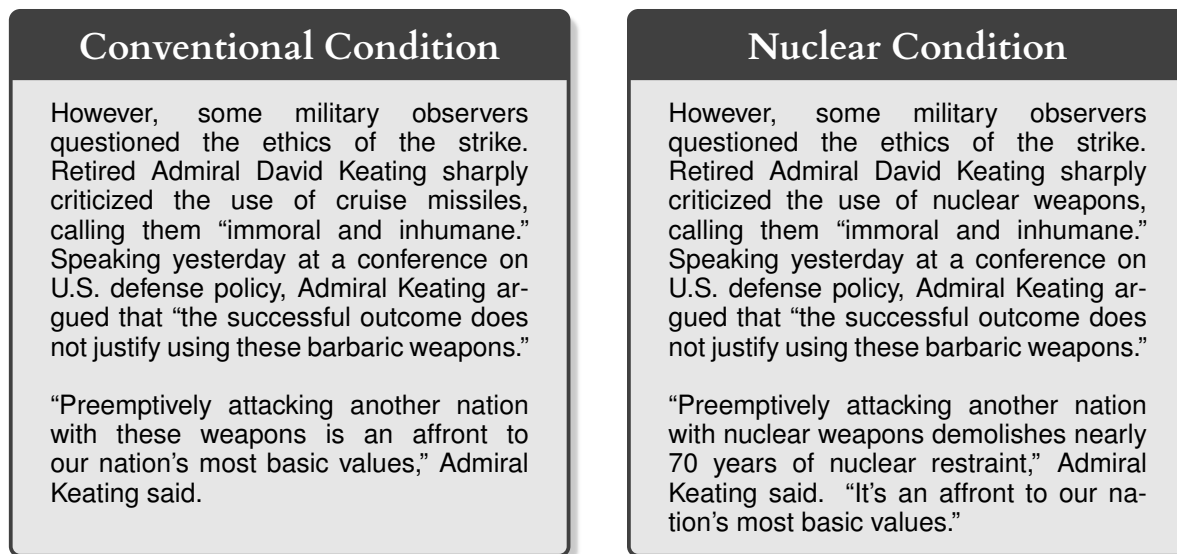


Figure 1. *Dissenting cues in the Conventional and Nuclear conditions.*

against their use is based partly on “a sense of revulsion” that many people feel about them.¹⁷ In the dissenting cue described above, opposition to the hypothetical military strike is therefore framed in similar moral language.

Second, advocates of the nuclear aversion hypothesis argue that one factor contributing to the strength of the norm against nuclear use is the simple fact that nuclear weapons have not been used for more than seventy years. With each passing year, they argue, the norm grows stronger: “the longer nuclear weapons go unused, the greater the bright-line threshold” separating nuclear and conventional weapons in the public mind (Tannenwald 2007: 66).¹⁸ Former U.S. National Security Adviser McGeorge Bundy, for example, argued that U.S. nuclear restraint during the 1991 Gulf War “reinforced” norms against using nuclear weapons (Bundy 1991: 83). Since average citizens might not be aware of the long tradition of nuclear non-use, however, they must be provided with this information. The dissenting cue in the *Nuclear* condition therefore also explains that the nuclear strike brought “nearly 70 years of nuclear

¹⁷Indeed, U.S. officials often have framed objections to using nuclear weapons in moral terms: for instance, former Army Chief of Staff General Matthew Ridgway called the use of nuclear weapons for anything other than national survival “the ultimate in immorality” and a violation of “human decency” (Ridgway 1967: 76, 247).

¹⁸As scholars have noted, norms emerge over time through repeated interaction, and are undergirded by tradition (Thomas 2001; Morrow 2014).

restraint” to an end. Note, however, that the dissenting cue in the *Conventional* condition does not contain such language, since there is no such tradition of non-use with conventional weapons. Indeed, advocates of the nuclear aversion hypothesis have argued that this is a key reason the public considers nuclear weapons to be fundamentally different from conventional weapons (e.g., Ball 1983).

Procedure

The experiment proceeded as follows. After reading one of the eight possible variants of the news article, respondents answered a series of questions concerning their views about the hypothetical military strike. These include the subject’s degree of APPROVAL for the hypothetical strike and the effect of the strike on their willingness to REELECT their Congressional representative if he/she voted for the strike. We also collected information on the respondents’ reasons for approving or disapproving of the strike.

The next set of questions aimed to assess respondents’ attention levels. Many survey experiments that use hypothetical scenarios employ brief vignettes to deliver their treatment and then summarize the important details for respondents.¹⁹ However, these methods do not simulate how the public actually acquires knowledge of current events. We embedded our treatments within full-length, fictional news articles that mimicked the appearance and detail of actual news reports. An advantage of this method is that it more closely resembles the way Americans might learn about a real nuclear strike through printed news media, but it also carries an important potential drawback: the design makes it more difficult to ensure that subjects received the full “dosage” of the treatment. In other words, subjects might become bored, distracted, or otherwise lose interest in reading the full article, thereby missing important details that comprise the experimental treatment. We therefore evaluated subject attentiveness through these manipulation checks to ensure that subjects absorbed the key facts of the report.²⁰ Roughly 77% of respondents in our sample answered all manipulation check questions

¹⁹For example, Trager and Vavreck (2011).

²⁰The wording of these questions and the percentage of correct responses are reported in the Supporting Information document.

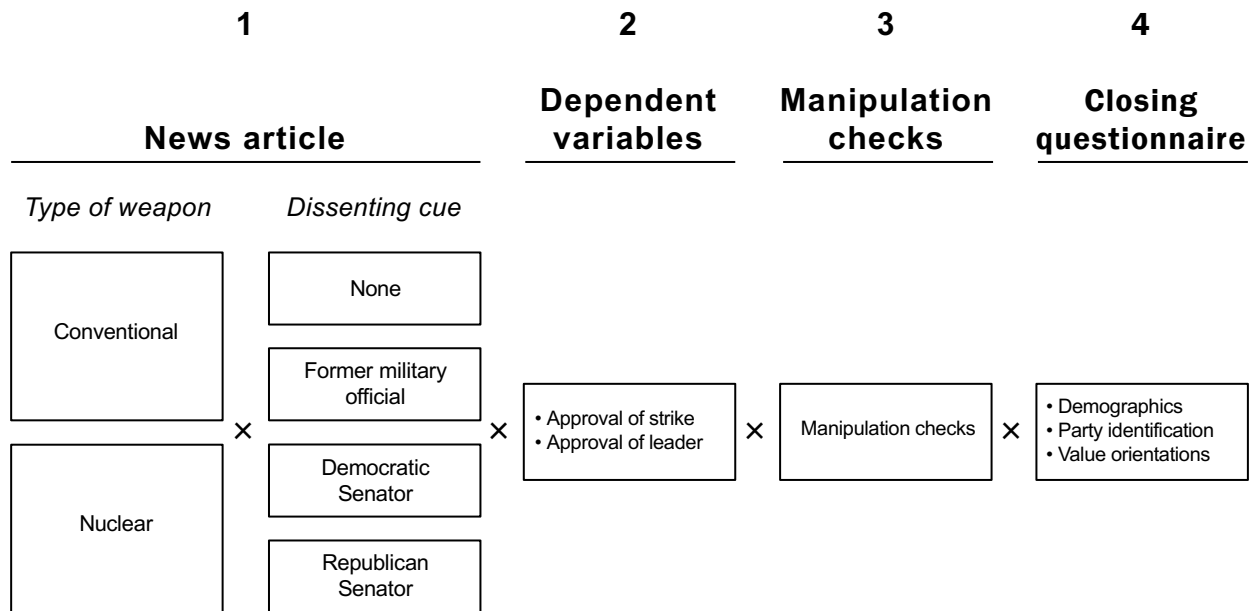


Figure 2. *Summary: sequence of the experiment.*

correctly. Our primary analyses below utilize the responses of this group of respondents.²¹

Finally, we asked a series of dispositional questions to measure respondents’ value orientations. We also collected information on respondent demographics and partisanship, including gender, age, education level, party identification, and attention to news on international affairs. The complete sequence of the experiment is summarized in Figure 2.

Analysis and Results

We present the results as follows. First, we compare public approval for conventional and nuclear weapons under conditions that match the experimental design of Press et al. (2013) – specifically, conditions containing a cue in favor of the attack but no dissenting cue. Then, we modify this design by introducing a dissenting cue to balance the favorable cue, reassessing support for conventional versus nuclear weapons under these new conditions.

²¹However, we also assess the robustness of the findings by including respondents who missed one or more manipulation checks (see Aronow et al. 2019). The central findings remain unchanged.

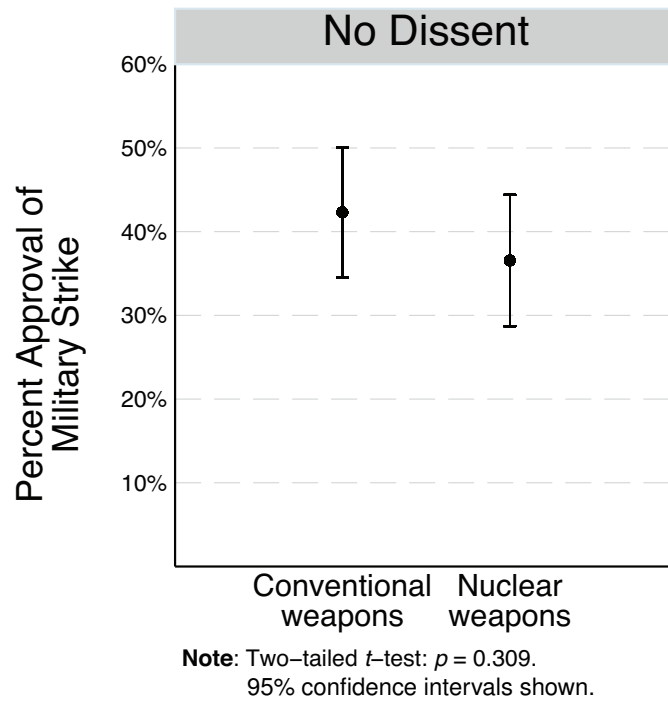


Figure 3. *Approval of military strike, No Dissent condition.*

We begin by comparing average levels of support for the hypothetical military strike under experimental conditions similar to Press et al.'s (2013) study of nuclear attitudes. Recall that in these scenarios, the news article contained no argument against the military strike, whether conventional or nuclear.²²

Figure 3 illustrates the difference in support between the *Conventional* and *Nuclear* variants of the control condition. In brief, without a dissenting cue, respondents expressed similar levels of support for the military strike regardless of the type of weapon used. Approximately 42% of participants in the *Conventional* condition approved of the strike, compared with 37% in the *Nuclear* condition.²³ While respondents were slightly more likely to express approval for the conventional attack, the difference in approval for the conventional and nuclear strikes is substantively small and not statistically significant at the 95% level.

²²Again, it is important to recall that we incorporate a positive cue into all treatment conditions, in keeping with the procedures of Press et al. (2013).

²³We dichotomize subject responses throughout for ease of interpretation. 1 = Strongly Approve or Somewhat Approve; 0 = Somewhat Disapprove or Strongly Disapprove.

These results provide initial support for the view that the public is largely indifferent between conventional and nuclear weapons, other things being equal. Importantly, these findings are consistent with the results of Press et al. (2013), who also found – using a virtually identical design – that approval rates for a hypothetical U.S. military strike were similar irrespective of the type of weapon used.²⁴ In their view, the similarity of approval rates for the use of conventional and nuclear weapons suggests that public aversion to nuclear weapons is weak or nonexistent. In this interpretation, the public prioritizes military utility over normative considerations when evaluating the use of force.

However, as we discussed earlier, this experimental design is potentially problematic because it includes only a cue in favor of the air strike. As a result, these scenarios may elicit a biased framing effect. Studies in other policy contexts have demonstrated that experimental participants are easily moved by one-sided frames compared to treatments in which opposing sides of a policy issue are presented (e.g., Sniderman and Theriault 2004; Chong and Druckman 2007). Moreover, the one-sided nature of these treatment conditions does not accurately depict the competitive environment of politics. Military strikes often prompt public debate, with some observers condemning military actions and others expressing support. Public debate among elites would be especially contentious if the United States ever engaged in the first-use of nuclear weapons: Tannenwald (2007) shows that some of the most dedicated opponents of using nuclear weapons are found at the elite level. A decision to end more than seventy years of nuclear restraint by the United States would surely prompt vocal opposition from at least some political experts. In order to fairly test the nuclear aversion hypothesis, a more plausible experimental treatment must include cues on *both* sides of the policy debate in order to test whether the public harbors implicit aversion to nuclear weapons. Since most Americans likely have devoted little thought to using nuclear weapons, they are unlikely to summon arguments against using nuclear weapons on their own – they likely need assistance

²⁴Indeed, the difference in approval rates in our experiment was identical to the findings of Press et al. (2013: 198), who also found a five-point difference in favor of conventional weapons. Note, however, that overall support levels were lower in our experiment than in Press et al.'s study. This difference likely arises from the fact that our sample contained a larger proportion of Democrats, who were less likely in general to support the nuclear strike. Specifically, just 24% of self-identified Democrats in our sample approved of the nuclear strike in the control condition, compared to 68% of Republicans.

from cues to activate their opinions.

We address these issues by introducing a dissenting cue into both the *Conventional* and *Nuclear* treatment conditions. In these conditions, a cue-giver – a retired military official, a Democratic Senator, or a Republican Senator – is quoted in the news article arguing against the military strike. The addition of this cue remedies the one-sided framing problem, presenting competing cues that allow subjects to choose the policy position that most closely reflects their beliefs. Although our treatments cannot incorporate all the nuances of real political debate, they more accurately represent the competitive nature of democratic politics than do the “control” conditions.

In many ways, the *Dissent* conditions constitute a “hard test” for the nuclear aversion hypothesis. In all versions of our treatment, a high-ranking national-security official – the Chairman of the Joint Chiefs of Staff – argues that it would have been very difficult to eliminate the Al Qaeda bunker without the air strike, thereby risking U.S. national security. But the dissenter in these treatments – a Republican Senator, a Democratic Senator, or a retired military official – does not directly contest the military necessity of the strike. Instead, the dissent appeals to a logic of appropriateness, with the dissenter arguing that the method employed was morally objectionable and contrary to established precedent. If the “nuclear indifference” perspective is correct, and the public prioritizes short-term calculations of military utility over normative appropriateness when weighing the use of military force, then these cues are likely to have little effect irrespective of the type of weapon used. It therefore is not obvious that the public would oppose the use of nuclear weapons against a terrorist organization – especially one that was preparing to conduct attacks against the United States.

However, we have argued that public attitudes about using nuclear weapons are more malleable than they are with respect to conventional weapons. If this argument is correct, we would expect the dissenting cue in the experimental scenarios to shift attitudes in the nuclear conditions – but, importantly, not in the conventional conditions. In other words, the dissenting cue should weaken support for the military strike to a greater degree in the nuclear scenarios than in the conventional scenarios.

Figure 4 evaluates this possibility by comparing support for the use of conventional versus

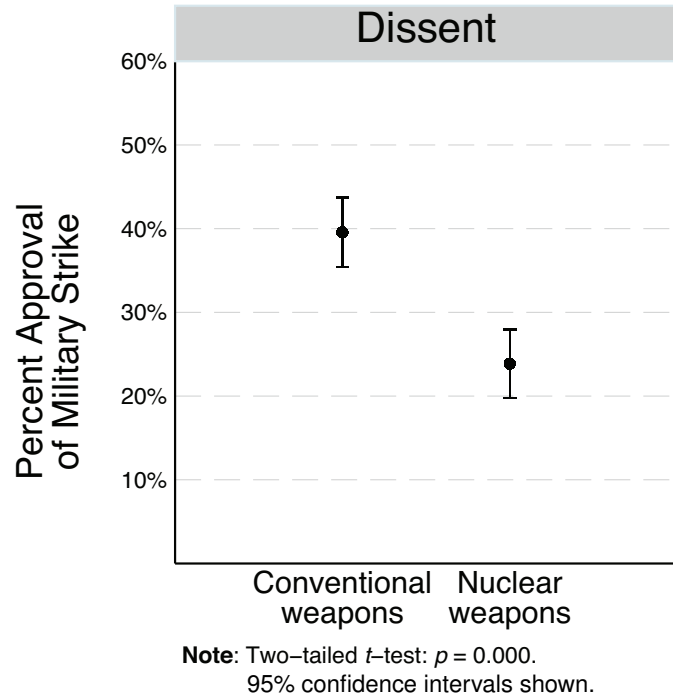


Figure 4. Approval of military strike, Dissent condition.

nuclear weapons under treatment conditions with a dissenting cue. In these scenarios, a wide gap in approval rates appears. Note first that dissent has virtually no effect on approval rates in the *Conventional* conditions: this time, roughly 40% of respondents receiving a dissenting cue approved of the conventional strike, compared to 42% in the control condition. In other words, the dissenting cue did not reduce support for the use of conventional weapons.

However, the cue had a considerable effect in the *Nuclear* condition, causing overall approval rates to drop down to less than 24% (from 37% in the control condition). Dissenting cues, in other words, are more than six times as powerful in the *Nuclear* condition as in the *Conventional* scenario. In short, we now observe a substantial gap in approval rates for the use of conventional versus nuclear weapons, but *only in the presence of a dissenting cue*.

We next asked respondents how ethical they viewed the military operation described in the treatment article. As Figure 5 illustrates, without a dissenting cue, we found no statistically significant difference between the Conventional and Nuclear conditions: 24% judged the conventional attack as ethical, versus 21% for the nuclear attack. In the presence of the

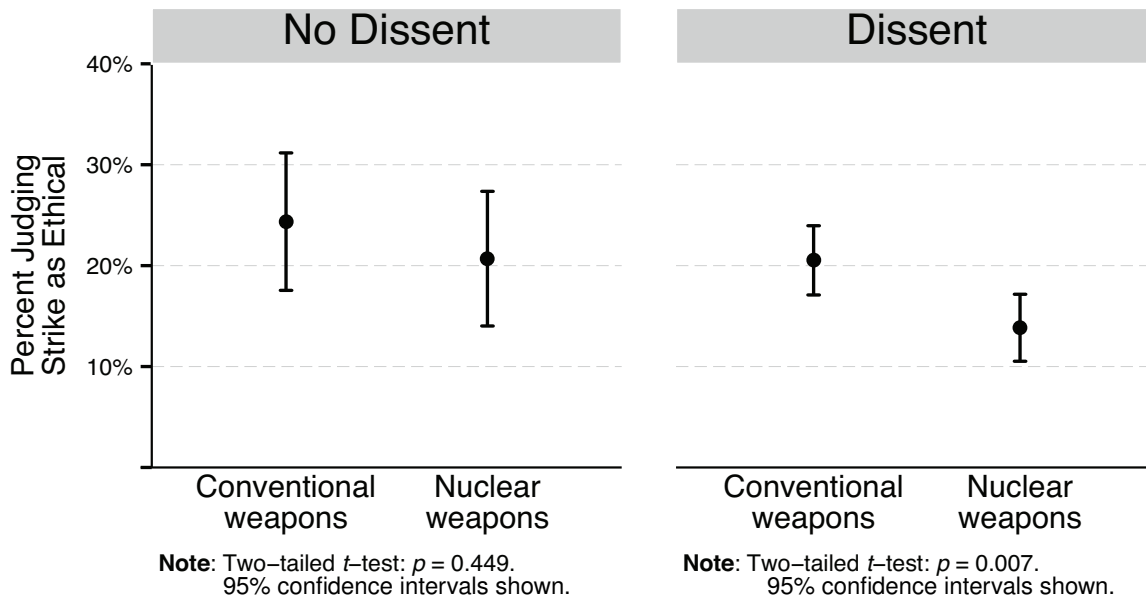


Figure 5. *Percentage of respondents judging that the strike was ethical.*

dissenting cue, however, 21% judged the conventional attack as ethical, versus 14% for the nuclear attack – a statistically-significant difference of 7%. While this is a smaller effect than observed in respondents’ overall approval rates for the strike, the dissenting cue seems to have shaped respondents’ assessments of the morality of using nuclear weapons but not conventional weapons.

Partisan Effects

These results raise an important question: which cue-givers are able to change public nuclear attitudes? It is possible that the source of the dissenting opinion may be driving the effect we observe. For example, Berinsky (2009) argues that voters take cues only from elites they trust – particularly elites of their own party. Respondents therefore should respond more strongly to dissenting opinions from members of their own party than those of the opposite party. We can evaluate this possibility because we randomly varied the source of the dissenting opinion in our treatment conditions, with the cue being provided by a Democratic Senator, Republican Senator, or retired military official. By disaggregating these treatments, we can compare the

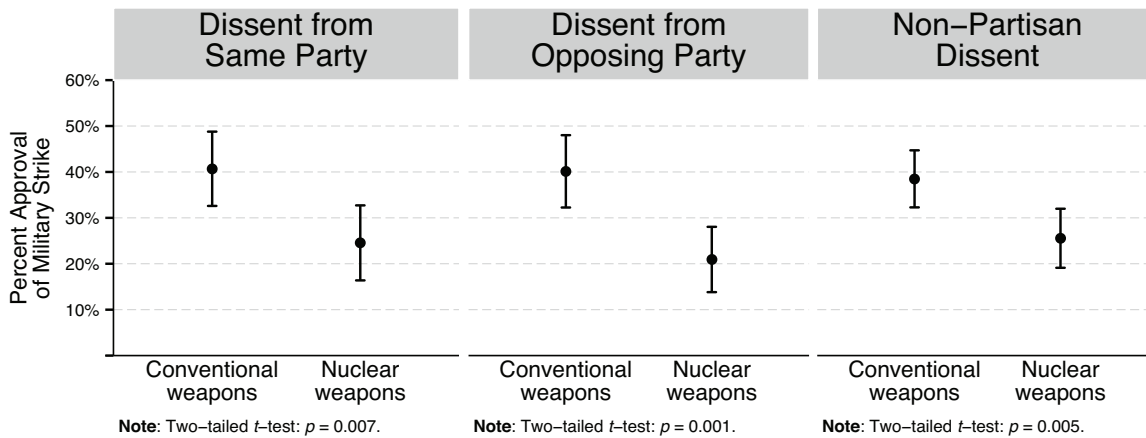


Figure 6. *Approval of military strike, by source of dissenting cue.*

effects of cues according to their source.

Surprisingly, Figure 6 reveals that nuclear aversion appears to cross party lines. This figure breaks down the effects of dissenting cues into three categories: cues from a respondent’s own party, cues from a respondent’s opposing party, and cues from a nonpartisan source. Interestingly, the results suggest that arguments against using nuclear weapons carry weight with the public even when those arguments are made by members of the opposing party. For all three cue sources, the nuclear strike received lower approval than the conventional strike, with the differences all significant at the 99% level. These results suggest that cues can evoke nuclear aversion among the public regardless of their partisan source. Nuclear weapons therefore may be distinct from other foreign policy issues in that voters respond equally to same-party and opposite-party cues.

Robustness Checks

One objection to the findings might be that differences between the treatment wording prompted differential support for nuclear versus conventional weapons. For example, we added a phrase noting that the attack “demolishes nearly 70 years of nuclear restraint” to the nuclear treatment, while we did not include the phrase in the conventional condition. To ensure that the results were not a result of wording dissimilarities, we included a set of treatments to check our

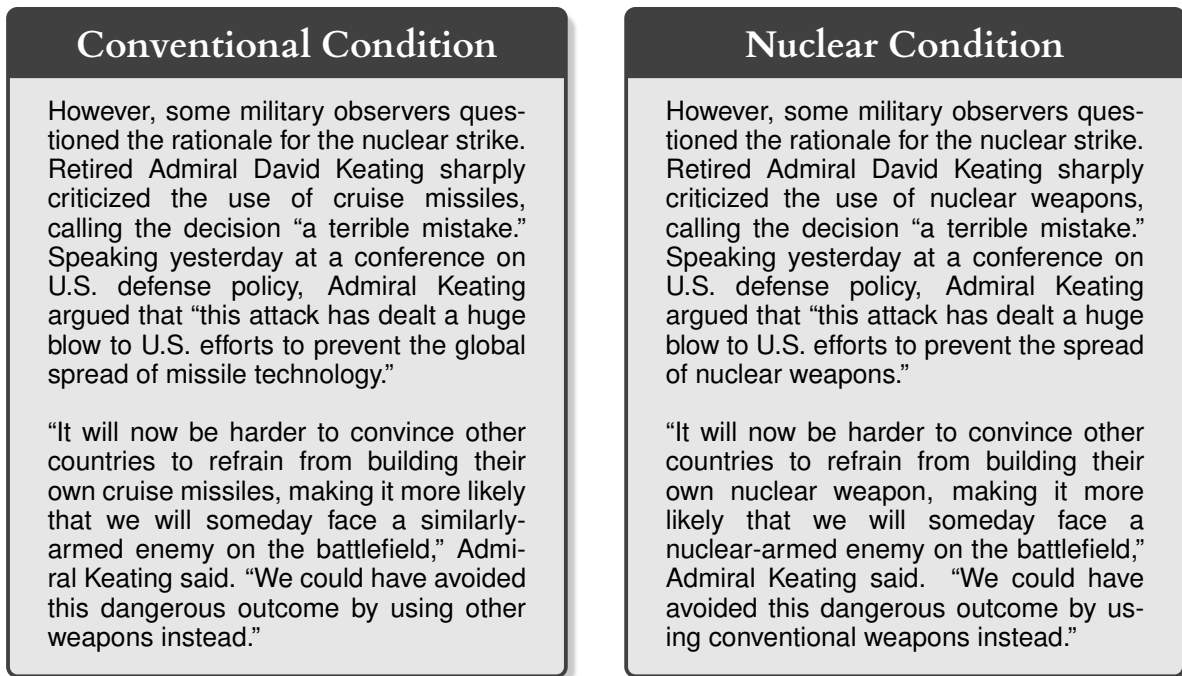


Figure 7. *Alternative dissenting cues in the Conventional and Nuclear conditions.*

findings. These treatment articles are equivalent to the ones we described earlier, only they articulated the logic of consequences to argue that the attack would set a dangerous precedent (Figure 7). Using this separate set of treatments, we found nearly equivalent results: 41% of respondents approved of the conventional strike and 23% of respondents approved of the nuclear strike. Recall that when a moral argument is used, 40% of respondents approved of the conventional strike, while 24% of respondents approved of the nuclear strike. These robustness checks validate our argument that it is less the content and more the dissent over nuclear first-use that is moving public opinion in unique ways. The presence of dissent, whether based on the logic of appropriateness or the logic of consequences, introduces questions in the public mind about the wisdom of a nuclear strike but it does not introduce such considerations in the case of conventional weapons.

The Validity of Mechanical Turk

One could object to the external validity of the findings of this survey experiment, given that the survey sample was obtained through Amazon’s Mechanical Turk service. Mechanical Turk samples tend to be more politically liberal, more educated, more informed about current events, younger, and contain a higher proportion of men than the United States as a whole.²⁵ While the nature of the sample precludes us from accurately estimating *aggregate* levels of support for the use of nuclear weapons among the U.S. public, this is not particularly problematic given that this was not the purpose of the study. A much more serious concern is that the treatment effects described above are somehow driven by the makeup of the survey sample. Specifically, it could be the case that Mechanical Turk’s overrepresented groups might be unusually receptive to our experimental treatments. If so, then the latent antinuclear attitudes we observed in the experiment might not be generalizable to the U.S. population more broadly. While several studies have found that experimental treatments have virtually identical effects on Mechanical Turk samples and nationally-representative samples (e.g., Buhrmester et al. 2011; Sprouse 2011; Berinsky et al. 2012; Huff and Tingley 2015), it is nonetheless worth examining the possibility that the sample has somehow skewed our treatment effects.

We therefore conducted a series of tests to determine whether demographic groups that are underrepresented in our Mechanical Turk sample – specifically, conservative, less-educated, politically uninformed, older, and female Americans – responded differently to our experimental treatments. These tests, reported in the Supporting Information document, suggest that the use of Mechanical Turk did not skew our central findings.²⁶ When we restrict the analysis to Mechanical Turk’s underrepresented populations, the treatment effects described earlier in the paper continue to hold. These underrepresented groups exhibit the same patterns we identified earlier: in the absence of a dissenting opinion, they display no particular opposition to the use of nuclear weapons. However, dissenting cues sharply reduce these groups’ support for the use of nuclear – but not conventional – weapons. This effect holds for respondents who are: politically conservative (or affiliate with the Republican party), did not receive post-secondary

²⁵Indeed, our sample exhibits all of these characteristics. The Supporting Information document contains demographic details of our sample.

²⁶See pages SI-8 through SI-11 of the Supporting Information document.

education, consume little international news, are female, or are older than 40 – all demographics that are underrepresented in Mechanical Turk samples. Indeed, our findings were actually stronger in some of these groups. For example, our analysis revealed that the treatment effect of the *Dissent* condition was much larger for conservatives than for liberals. Since conservatives were underrepresented in our analysis, the Mechanical Turk sample therefore may have actually diluted the experiment’s treatment effects. All told, these tests strengthen confidence in our overall findings.

* * *

Overall, these results suggest that the degree of nuclear aversion among the U.S. public is stronger than earlier studies have suggested. Using experimental treatments that simply describe hypothetical military strikes and their rationale, we detect little difference in support for a conventional versus nuclear attack. However, when both supportive and dissenting opinions are presented to respondents, we find that support for the use of nuclear weapons drops considerably – whereas support for the use of conventional weapons does not budge. In short, our experimental results demonstrate that dissenting cues trigger public opposition to nuclear weapons in a way that they do not for conventional weapons. This aversion translates both into lower support for a hypothetical nuclear attack, as well as lower self-reported willingness to reelect political leaders that support such an attack.

Conclusions and Implications

In this paper we have explored the degree to which the American public is conditionally averse to the use of nuclear weapons. The academic literature offers competing expectations: one view holds that the public prefers conventional over nuclear military options, while a contrary view argues that the public prioritizes the outcome of a military operation over its methods. We have argued, however, that these hypotheses are incomplete. Because public knowledge about nuclear weapons issues is low, evaluating public attitudes about nuclear weapons requires that citizens first be given appropriate context so that they may connect their implicit normative

values to specific nuclear policies. Cues help provide that context.

Performing a survey experiment on more than 2,000 American adults, we find that political messages play a crucial role in evoking antinuclear attitudes among the U.S. public. In experimental treatments in which respondents are not presented with arguments against the use of force, we find that the public approves of nuclear and conventional strikes at similar levels. Yet when confronted with a more realistic environment of two-sided political discourse, respondents behave differently. When we incorporate arguments against military action (whether conventional or nuclear), a clear public preference for conventional weapons over nuclear weapons emerges. Cues appear to interact with respondents' core beliefs to diminish support for the use of nuclear weapons – but crucially, they have no such effect on support for the use of conventional weapons.

These results have at least three potential implications for international relations scholarship. First, our findings contribute to a large and growing literature on public opinion and the use of military force. This paper demonstrates that political cues have important but conditional effects on public opinion. Our findings suggest that the public is indeed influenced by political discourse, but there are limits to the effects of that discourse. The public does not simply parrot what others tell them to think: in our experiment, cues that questioned the use of conventionally-armed cruise missiles had no discernible effect on public opinion. However, when citizens' views are not already firmly settled on an issue, cues are more likely to sway public opinion. Second, our paper carries methodological implications for conducting research on public opinion toward foreign policy. Drawing insights from the literature on political behavior, our findings show that cues shape public views more on low-information policy issues than on issues to which the public has had more exposure. Third, our paper speaks to the literature on nuclear security, finding conditional support for the existence of antinuclear attitudes in the public mind. In a real-life scenario in which the United States used nuclear weapons, we would expect the U.S. public to be highly responsive to experts and politicians who questioned that decision. While not as straightforward as expected by existing literature on nuclear aversion, our results suggest that the interaction of political messages and public opinion can provide an important constraint on the first-use of nuclear weapons.

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