

# When Foreign Countries Push The Button

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## Abstract

How strong are the constraints against nuclear use? Experimental studies find that a majority or near majority of citizens in multiple major powers approve of their own governments' nuclear strikes if they create military advantages or protect co-national soldiers. But what if the nuclear taboo only begins at the water's edge when individuals evaluate the use of nuclear weapons by a *foreign* government? Many policymakers believe that the international reaction to nuclear use would be severe, especially among allies. Yet prior studies have not tested this assumption. An identity-based theory of support for nuclear weapons use proposes that this argument is incorrect. The public will display favoritism toward allied and partner countries because it views them as members of the in-group. Four survey experiments in the United States and India provide evidence for this theory. In contrast to many policymakers' expectations, public approval of nuclear use is not significantly lower for allies or strategic partners than for one's own government. As expected, however, approval is lower for out-groups, such as non-allied and non-partner countries. Absolute support for nuclear attacks is also high, even when it is foreign countries pushing the button. On balance, these findings are inconsistent with the existence of a nuclear taboo or strong non-use norm.

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Does public opinion significantly constrain policymakers from using nuclear weapons? Russia's invasion of Ukraine and nuclear threats against the West, China's large-scale investment in expanding their nuclear arsenal and growing tensions with the United States, the collapse of foundational arms control agreements like the Intermediate-Range Nuclear Forces Treaty, and continuing nuclear proliferation crises with Iran and North Korea motivate the contemporary importance of this question for international security. Nevertheless, there is significant debate and disagreement among scholars about the strength of constraints against nuclear use. Nuclear norm optimists argue that public, as well as policymaker, support for the use of nuclear weapons is low.<sup>2</sup> There may even be a nuclear "taboo," where nuclear use is viewed as so morally abhorrent that it is not even considered.<sup>3</sup> On the other hand, nuclear norm pessimists contend that no such strong norm or taboo exists. In a series of experimental studies—in both the U.S. and other major powers—norm pessimists find a majority or near-majority of citizens would approve of nuclear strikes by their *own* government if doing so offers military advantages or preserves other core values like saving the lives of co-national soldiers.<sup>4</sup>

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<sup>2</sup> T.V. Paul, *The Tradition of Non-Use of Nuclear Weapons* (Stanford, CA: Stanford University Press, 2009); and Charli Carpenter and Alexander H. Montgomery, "The Stopping Power of Norms: Saturation Bombing, Civilian Immunity, and U.S. Attitudes Toward the Laws of War," *International Security* 45, no. 2 (Fall 2020): 140-169, [https://doi.org/10.1162/isec\\_a\\_00392](https://doi.org/10.1162/isec_a_00392).

<sup>3</sup> On defining the nuclear taboo, see Nina Tannenwald, "The Nuclear Taboo: The United States and the Normative Basis of Nuclear Non-Use," *International Organization* 53, no. 3 (Summer 1999): 433-468, <https://doi.org/10.1162/002081899550959>; and Harald Müller, "Taboo or Tradition or What? A Critical Look at the Terminology and Conceptualization of Nuclear Nonuse," *International Studies Review* 23, no. 3 (September 2021): 1082-1085, <https://doi.org/10.1093/isr/viab002>.

<sup>4</sup> Daryl G. Press, Scott D. Sagan, and Benjamin A. Valentino, "Atomic Aversion: Experimental Evidence on Taboos, Traditions, and the Non-Use of Nuclear Weapons," *American Political Science Review* 107, no. 1 (February 2013): 188-206, <https://doi.org/10.1017/S0003055412000597>; Scott D. Sagan, and Benjamin A. Valentino, "Revisiting Hiroshima in Iran: What Americans Really Think about Using Nuclear Weapons and Killing Noncombatants," *International Security* 42, no. 1 (Summer 2017): 41-97, [https://doi.org/10.1162/ISEC\\_a\\_00284](https://doi.org/10.1162/ISEC_a_00284); and Janina Dill, Scott D. Sagan, and Benjamin A. Valentino, "Kettles of Hawks: Public Opinion on the Nuclear Taboo and Noncombatant Immunity in the United States, United Kingdom, France, and Israel," *Security Studies* 31, no. 1 (2022): 1-31, <https://doi.org/10.1080/09636412.2022.2038663>.

I contribute to this debate by theorizing and testing how the *identity* of the country who conducts nuclear attacks conditions individual-level public attitudes towards nuclear use. This is a question that prior research does not consider. Nuclear norm optimists do not systematically or precisely distinguish how reactions to the use of nuclear weapons would differ depending on whether the country conducting the attack is one's own government, a foreign ally or partner country, or a non-allied or non-partner country. Instead, the assumption is that nuclear use will generally be viewed unfavorably no matter who carries out the attack. Similarly, nuclear norm optimists typically only analyze support for the use of nuclear weapons by one's own government and leave open the question of how nuclear use would be perceived by foreign audiences.

Addressing how the identity of the country using nuclear weapons impacts public support for the use of such weapons matters because one unexplored possibility is that the nuclear taboo may only begin at the water's edge. In other words, members of the public may be willing to support nuclear use by their *own* government, but strongly oppose nuclear attacks by *foreign* governments. NSC 68—one of the most influential policy documents of the Cold War—made a similar argument. Specifically, that the American public would support the use of nuclear weapons by their own government, but that the reaction in foreign countries to nuclear use would be “proportionately” negative, even among allies:

“The ability of the United States to launch effective offensive operations [against the Soviet Union] is now limited to attack with atomic weapons...Although the American people would probably rally in support of the war effort...Many would doubt it was a ‘just

war'...Many more, proportionately, would hold such views in other countries, particularly in Western Europe..." (emphasis added).<sup>5</sup>

The assumption that allies and partners would strongly disapprove of nuclear use is common among policymakers.<sup>6</sup> However, I argue that this assumption is incorrect.

My theory builds on the well-established tendency towards in-group bias<sup>7</sup> and, in particular, Virtuous Violence Theory (VVT) in psychology.<sup>8</sup> VVT holds that when people engage in or support violence, it is typically done for the purpose of creating or regulating social relationships, which are at the core of humanity. In this context, people that engage in or support violence usually believe it is the moral—or “virtuous”—course of action. Since an important relationship that countries have is with their foreign allies and partners, individuals may be willing to support the use of violence—even nuclear violence—by foreign allies and partners in order to maintain and foster their relationship with them in the face of a security threat. In fact, if foreign allies and partners are perceived of as part of an individual’s in-group, then their use of nuclear violence may be viewed as an ethical and virtuous act of in-group protection. Consequently, I hypothesize that the public should be no less likely to approve of a nuclear attack or view a nuclear attack as less ethical when conducted by an allied or partner country than by their own government. If true, then this would contradict the expectations of NSC 68 and many other policymakers.

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<sup>5</sup> “A Report to the National Security Council by the Executive Secretary (Lay),” U.S. Department of State, <https://history.state.gov/historicaldocuments/frus1950v01/d85>, Accessed April 25, 2023.

<sup>6</sup> Nina Tannenwald, *The Nuclear Taboo: The United States and the Non-Use of Nuclear Weapons Since 1945* (New York: Cambridge University Press, 2008); Paul, *The Tradition of Non-Use of Nuclear Weapons*.

<sup>7</sup> For foundational works on in-group bias, see Marilynn B. Brewer, “In-Group Bias in the Minimal Intergroup Situation: A Cognitive-Motivational Analysis,” *Psychological Bulletin* 86, no. 2 (1979): 307-324, <https://psycnet.apa.org/doi/10.1037/0033-2909.86.2.307>; and Henri Tajfel and John Turner, “An Integrative Theory of Intergroup Conflict,” in William G. Austin and Stephen Worchel, ed., *The Social Psychology of Intergroup Relations* (Monterey, CA: Brooks Cole, 1979), 96-103.

<sup>8</sup> Alan Page Fiske and Taze Shatki Rai, *Virtuous Violence: Hurting and Killing to Create, Sustain, End, and Honor Social Relationships* (Cambridge: Cambridge University Press, 2014); and Paul Slovic, C.K. Mertz, David M. Markowitz, Andrew Quist, and Daniel Västfjäll, “Virtuous Violence from the War Room to Death Row,” *Proceedings of the National Academy of Science* 117, no. 34 (2020): 20474-20482, <https://doi.org/10.1073/pnas.2001583117>.

On the other hand, I do expect approval and the perceived morality for a nuclear attack will be lower when conducted by a non-allied or non-partner foreign country than by either (1) an individual's own country or (2) one of their allies or partners. Since non-allied and non-partner countries are not members of an individual's in-group, VVT would suggest that their employment of nuclear weapons will be viewed as a relatively less virtuous use of violence. However, this does not mean that absolute support for nuclear use by non-allied or non-partner countries will be low, as predicted by nuclear norm optimists. If non-allied or non-partner foreign countries use nuclear weapons against other out-groups (e.g., terrorist organizations) that threaten the security of an individual's in-group, then that use of violence may still garner significant support.

To test this theory, I designed and administered three survey experiments in the U.S. and one in India that made a simple modification to the seminal studies by Daryl Press, Scott Sagan, and Benjamin Valentino.<sup>9</sup> While they hold the country conducting the nuclear strike constant, I experimentally manipulate it.

These experiments yield four principal findings, which, on balance, bring into further question the constraints on nuclear use and provide additional support for the arguments of nuclear norm pessimists.<sup>10</sup> First, in contrast to the assumptions of many policymakers, I do *not* find convincing evidence that approval for or the perceived morality of nuclear attacks is—as NSC 68 put it—“proportionately” lower among individual members of the public when allied or partner countries conduct nuclear strikes compared to one's own government. This is a surprising finding that contradicts arguments from nuclear norm optimists that citizens will strongly disapprove of

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<sup>9</sup> Press et al., “Atomic Aversion;” Sagan and Valentino, “Revisiting Hiroshima in Iran.”

<sup>10</sup> For a debate about how results like the ones found here can be viewed pessimistically or optimistically, see Scott D. Sagan, Benjamin A. Valentino, Charli Carpenter, and Alexander H. Montgomery, “Does the Noncombatant Immunity Norm Have Stopping Power? A Debate,” *International Security* 45, no. 2 (Fall 2020): 170-186, [https://doi.org/10.1162/isec\\_a\\_00393](https://doi.org/10.1162/isec_a_00393).

and even potentially abandon allies and partners that use nuclear weapons. Second, absolute levels of support for nuclear use are quite high no matter which country presses the nuclear button, which belies the existence of an unthinking taboo. Third, support for nuclear use is lower when conducted by non-allied or non-partner foreign countries compared to an individual's own government or the government of one of their allies or partners. Nevertheless, I show that this dynamic also holds when analyzing support for the use of *conventional* weapons by non-allied or non-partner countries. This means that lower support for the use of nuclear weapons by these countries does not suggest the nuclear non-use norm is relatively strong; simply that support for the use of force by out-group countries is generally lower than support for the use of force by in-group countries.

Overall, this project contributes to the debate between nuclear norm optimists and pessimists by providing additional evidence that neither a nuclear taboo nor a very strong non-use norm exists, at least among the general public. To the contrary, my theory and evidence demonstrates that many individuals view the use of nuclear weapons as a virtuous and moral use of violence. From a policy perspective, this means the risks of nuclear use are higher than the conventional wisdom suggests, and thus leaders must be more active in their efforts to prevent nuclear use than if a stronger norm existed.

This project also contributes to broader debates in political and social science about the existence and boundaries of in-group bias.<sup>11</sup> In fact, this study constitutes a hard test of whether in-group bias exists and how far the in-group extends. It is a hard test of whether in-group bias exists because of arguments about the nuclear taboo. If there is an absolute prohibition on the use of nuclear weapons,<sup>12</sup> then support for nuclear attacks should be extremely low in a relative and

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<sup>11</sup> For an overview of this literature, see Michael Kalin and Nicholas Sambanis, "How to Think About Social Identity," *Annual Review of Political Science* 21, no 1 (May 2018): 239-257, <https://doi.org/10.1146/annurev-polisci-042016-024408>.

<sup>12</sup> Tannenwald, "The Nuclear Taboo," 436.

absolute sense no matter who is pressing the nuclear button. There should be no in-group bias, even when comparing support for nuclear use by one's own government to a non-allied or non-partner foreign country. This study is also a hard test of how far in-groups extend. The public is, of course, relatively likely to see their own country as part of the in-group compared to non-allied or non-partner foreign countries. Yet whether allied and partner foreign countries will be viewed as part of an individual's in-group along with their own country is less certain. Especially in the context of nuclear weapons use, which is allegedly morally revolting and may set a bad precedent, we might expect that the public will not give allies or partners a pass or show favoritism towards them. For example, the United States has oftentimes attempted to prevent its allies and partners from acquiring nuclear weapons.<sup>13</sup> However, despite these hard tests, I find that in-group bias does exist and that allies and (more informal) partners are considered members of the in-group. Given the hard nature of these tests, my results suggest similar dynamics with respect to public support for military force are likely to hold in other contexts outside of the nuclear realm as well.

This paper proceeds in five main parts. First, I review the literature on the nuclear non-use norm, highlight some of its gaps, and discuss prior work on in-group bias and VVT. Second, I utilize the VVT framework to develop a theory of how variation in the identity of the country carrying out a nuclear attack influences public support. Third, I describe a series of survey experiments designed to test the theory at the individual level of analysis. Fourth, I present the findings of these experiments. Finally, I conclude by discussing the policy and contemporary relevance of my findings and their implications for future scholarship on norms and nuclear weapons.

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<sup>13</sup> Gene Gerzhoy, "Alliance Coercion and Nuclear Restraint: How the United States Thwarted West Germany's Nuclear Ambitions," *International Security* 39, no. 4 (Spring 2015): 91-129, [https://doi.org/10.1162/ISEC\\_a\\_00198](https://doi.org/10.1162/ISEC_a_00198).

## *Debates over the Nuclear Non-Use Norm*

Despite the importance of the topic, there is still significant disagreement among scholars about the strength of the nuclear non-use norm. Broadly speaking, there are two schools of thought. Nuclear norm optimists contend the constraints against the use of nuclear weapons are strong, while nuclear norm pessimists argue that no strong non-use norm exists.

### NUCLEAR NORM OPTIMISTS

Some scholars argue that a “humanitarian revolution” has led to a widely held and deeply internalized norm against killing noncombatants.<sup>14</sup> In particular, one prominent school of thought holds that the constraints against killing noncombatants are strongest in the context of weapons of mass destruction use given their potential to inflict harm on a cataclysmic scale. Scholars in this camp contend that there is a well-developed norm or “tradition” against the use of nuclear weapons,<sup>15</sup> perhaps even rising to the level of a “taboo.”<sup>16</sup> While norms outline standards of appropriate behavior,<sup>17</sup> taboos are stronger and more deeply internalized than regular norms because they suggest a bright-line, absolute prohibition against the use of nuclear weapons; violations are viewed as so morally abhorrent that they are not even considered.<sup>18</sup> If a nuclear taboo or strong non-use tradition exists, then that could restrain the use of nuclear weapons even against non-nuclear states that cannot threaten nuclear retaliation.

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<sup>14</sup> Ward Thomas, *The Ethics of Destruction: Norms and Force in International Relations* (Ithaca, NY: Cornell University Press, 2001); Steven Pinker, *The Better Angels of Our Nature: Why Violence Has Declined* (New York: Viking, 2011).

<sup>15</sup> Paul, *The Tradition of Non-Use of Nuclear Weapons*.

<sup>16</sup> Tannenwald, “The Nuclear Taboo.”

<sup>17</sup> Martha Finnemore and Kathryn Sikkink, “International Norm Dynamics and Political Change,” *International Organization* 52, no 4 (Autumn 1998): 887-917, <https://doi.org/10.1162/002081898550789>.

<sup>18</sup> Tannenwald, “The Nuclear Taboo,” 436; and Müller, “Taboo or Tradition or What?”



Nuclear norm optimists argue that opposition to nuclear use can operate through three mechanisms: the conscience of individual decision-makers, domestic public opinion, and world opinion.<sup>19</sup> To support this argument, Nina Tannenwald points to “taboo talk” by policymakers that signals belief in an absolute prohibition against the use of nuclear weapons, as well as global and domestic public opinion polling. She also highlights the empirical fact that since 1945 the U.S. has refrained from using nuclear weapons, even when facing adversaries like the Vietcong that could not retaliate with their own nuclear weapons. Matthew Jones provides additional evidence that the use of nuclear weapons by the United States against Asian populations specifically became more difficult and less likely after 1945 because policymakers feared doing so would increase perceptions that the U.S. was racist.<sup>20</sup>

While the first wave of research on the nuclear non-use norm tended to focus on qualitative historical analyses, the second wave turned towards large-N quantitative methods, especially survey experiments focused on more systematically understanding public opinion towards the use of nuclear weapons.<sup>21</sup> Some studies adopting this approach have found support for the argument that the constraints against nuclear use are relatively high among the public, even if they may not rise to the level of a taboo. For example, Michal Smetana and Michal Onderco find that members of the Russian public are significantly more likely to disapprove of a nuclear attack than a conventional attack in the context of a war with NATO in the Baltics.<sup>22</sup> Similarly, Lauren Sukin finds that a majority of citizens in the U.S. and South would oppose being the first to use nuclear

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<sup>19</sup> Tannenwald, *The Nuclear Taboo*, 47.

<sup>20</sup> Matthew Jones, *After Hiroshima: The United States, Race, and Nuclear Weapons in Asia, 1945–1965* (New York: Cambridge University Press, 2010).

<sup>21</sup> Michal Smetana and Carmen Wunderlich, “Nuclear Taboo 3.0: Research Gaps and New Avenues in the Study of Nuclear Weapons Nonuse,” *International Studies Review* 23, no. 3 (September 2021): 1075-1082, <https://doi.org/10.1093/isr/viab002>.

<sup>22</sup> Michal Smetana and Michal Onderco, “From Moscow With a Mushroom Cloud? Russian Public Attitudes to the Use of Nuclear Weapons in a Conflict with NATO,” *Journal of Conflict Resolution* 67, nos. 2-3 (February/March 2023): 183-209, <https://doi.org/10.1177/00220027221118815>.

weapons in a conflict with Russia or North Korea, even when those countries have themselves threatened to use nuclear weapons.<sup>23</sup> Nonetheless, these studies are likely a relatively easy test of the nuclear non-use norm since they involve target countries that could retaliate using their own nuclear weapons.

Several other studies also suggest that support for nuclear use among the public can be reduced. For example, this can be achieved by priming ethical norms,<sup>24</sup> providing elite cues against the use of nuclear weapons,<sup>25</sup> including vivid information about the harm to civilians a nuclear attack would cause,<sup>26</sup> or presenting other negative effects of a nuclear strike like environmental degradation and casualties.<sup>27</sup> Still, these studies do not find evidence of a taboo-like absolute prohibition on support for the use of nuclear weapons.

## NUCLEAR NORM PESSIMISTS

In contrast to those that believe in a strong nuclear non-use norm or taboo, nuclear norm pessimists argue that there are large cracks in the foundation of the alleged nuclear taboo, meaning optimism is unwarranted. Most strikingly, studies by Press, Sagan, and Valentino<sup>28</sup> and Sagan and Valentino<sup>29</sup> demonstrate that a majority of American citizens would approve of a U.S. nuclear strike if doing so offers military advantages or preserves other core values like saving the lives of

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<sup>23</sup> Lauren Sukin, “Experimental Evidence on Determinants of Support for Nuclear Use in Response to Threats of Nuclear Retaliation,” *Peace and Conflict: Journal of Peace Psychology* 26, no. 3 (2020): 336-339, <https://psycnet.apa.org/doi/10.1037/pac0000407>.

<sup>24</sup> Carpenter and Montgomery, “The Stopping Power of Norms.”

<sup>25</sup> Abigail S. Post and Todd S. Sechser, “Public Opinion, Cues, and the Use of Nuclear Weapons,” (unpublished manuscript, 2022).

<sup>26</sup> Lisa Langdon Koch and Matthew Wells, “Still Taboo? Citizens’ Attitudes Toward the Use of Nuclear Weapons,” *Journal of Global Security Studies* 6, no. 3 (September 2021): 1-18, <https://doi.org/10.1093/jogss/ogaa024>.

<sup>27</sup> Tyler Bowen, Michael Goldfien, and Matthew Graham, “Public Opinion and Nuclear Use: Evidence from Factorial Experiments,” *Journal of Politics* 85, no. 1 (January 2023): 345-350, <https://doi.org/10.1086/720329>.

<sup>28</sup> Press, Sagan, and Valentino, “Atomic Aversion.”

<sup>29</sup> Sagan and Valentino, “Revisiting Hiroshima in Iran.”

co-national soldiers. The same dynamic largely holds true for citizens of France, Israel, and the United Kingdom as well.<sup>30</sup> These findings imply that nuclear use is far from “unthinkable” for many members of the public, at least when evaluating nuclear employment by their own government.

Furthermore, in contrast to the common assumption that nuclear use will only be supported for reasons having to do with the consequences of an attack, some nuclear norm pessimists argue and find evidence that support can also be based on a moral logic.<sup>31</sup> The reason it is assumed that support for nuclear use cannot be perceived of as ethical is that morality is often understood through a liberal and cosmopolitan lens.<sup>32</sup> According to this perspective, morality must be altruistic and other-regarding. Since nuclear weapons harm others, this view holds that their use will not be perceived of as ethical. Nevertheless, this is not the only conception of morality held by humans. Violence may be viewed as ethical if it protects members of the in-group and enacts retribution on those who threaten to harm it.<sup>33</sup> In accordance with this view, several studies show that individuals that subscribe to this kind of moral philosophy to a greater extent are more likely to support the use of nuclear weapons.<sup>34</sup> Thus, public support for nuclear weapons use should not be seen as “indicative of the absence of morality rather than the presence of a different set of nonliberal ethics.”<sup>35</sup>

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<sup>30</sup> Dill, Sagan, and Valentino, “Kettles of Hawks.”

<sup>31</sup> Brian C. Rathbun and Rachel Stein, “Greater Goods: Morality and Attitudes toward the Use of Nuclear Weapons,” *Journal of Conflict Resolution* 64, no. 5 (May 2020): 787-816, <https://doi.org/10.1177/0022002719879994>.

<sup>32</sup> Fiske and Rai, *Virtuous Violence*, 6; and Joshua D. Kertzer, Kathleen E. Powers, Brian C. Rathbun, and Ravi Iyer, “Moral Support: How Moral Values Shape Foreign Attitudes,” *Journal of Politics* 76, no. 3 (July 2014): 825-840, <https://doi.org/10.1017/S0022381614000073>.

<sup>33</sup> Ibid.

<sup>34</sup> Rathbun and Stein, “Greater Goods;” Slovic et al., “Virtuous Violence from the War Room to Death Row;” and Michal Smetana and Marek Vranka, “How Moral Foundations Shape Public Approval of Nuclear, Chemical, and Conventional Strikes: New Evidence From Experimental Surveys,” *International Interactions* 47, no. 2 (2021): 374-390, <https://doi.org/10.1080/03050629.2020.1848825>.

<sup>35</sup> I do not argue that this alternative ethical perspective is optimal. I am engaging in a positive analysis of what the world is like rather than normative analysis of what it should be like. Rathbun and Stein, “Greater Goods,” 791.

## GAPS IN THE NUCLEAR NORM LITERATURE

One notable theoretical and empirical gap in both the work by nuclear norm optimists and pessimists concerns how the identity of the country conducting a nuclear strike impacts public support for it. Scholars that believe in a strong norm or taboo against the use of nuclear weapons do not systematically or precisely distinguish between reactions to the use of nuclear weapons by a foreign government or one's own government. Instead, the assumption is that nuclear use will generally be viewed extremely unfavorably no matter who conducts the attack. Theoretically, since "world opinion" is an important hypothesized mechanism through which the nuclear non-use norm operates,<sup>36</sup> the lack of research on this topic by norm optimists is a notable omission.

The dearth of research on this topic is a particularly glaring lacuna because broader research on norms holds that foreign or third-party reactions to potential or actual violations of a norm are critically important.<sup>37</sup> The views of foreign audiences can matter because states may fear losing allies, turning non-aligned states against them, provoking a militarized response from enemies, incurring economic sanctions, and harming their international reputation and status. Although it is foreign leaders that directly decide whether to impose sanctions, utilize military force, or break off an alliance, the views of foreign publics are critical as well. Previous studies—including those conducted directly on elites—establish that policymakers respond to and are constrained by public opinion. For example, Michael Tomz, Jessica Weeks, and Keren Yarhi-Milo conducted experiments on actual members of the Israeli parliament and found they were more willing to use

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<sup>36</sup> Tannenwald, *The Nuclear Taboo*, 47.

<sup>37</sup> For example, see Friedrich Kratochwil and John Gerard Ruggie, "International Organization: A State of the Art on an Art of the State," *International Organization* 40, no. 4 (Autumn 1986): 753-775, <https://doi.org/10.1017/S0020818300027363>; Robert W. McElroy, *Morality and American Foreign Policy: The Role of Ethics in International Affairs* (Princeton, NJ: Princeton University Press, 1992); Diana Panke and Ulrich Petersohn, "Why International Norms Disappear Sometimes," *European Journal of International Relations* 18, no. 4 (December 2012): 719-42, <https://doi.org/10.1177/1354066111407690>; and Nicole Deitelhoff and Lisbeth Zimmermann, "Norms Under Challenge: Unpacking the Dynamics of Norm Robustness," *Journal of Global Security Studies* 4, no. 1 (January 2019): 2-16, <https://doi.org/10.1093/jogss/ogy041>.

military force when the public was in favor, as they feared the political consequences of defying public opinion.<sup>38</sup>

Empirically, studies have also demonstrated that political and military elites are highly concerned with how international audiences would view the use of nuclear weapons specifically and that these views played at least some role in preventing the use of nuclear weapons post-World War II.<sup>39</sup> Per the logic of NSC 68, President Truman was reluctant to use nuclear weapons during the Korean War due to fear of what the international reaction would be, especially among allies.<sup>40</sup> Similarly, State Department official John Emmerson said in a classified memo that nuclear use would be met with a huge international backlash and cause a “disastrous loss of confidence on the part of Western Europe.”<sup>41</sup> During the Eisenhower administration, Secretary of State John Dulles argued that using nuclear weapons in response to a new Soviet blockade on Berlin “would surely cost us our allies” and that “we’d be finished as far as present-day world opinion was concerned.”<sup>42</sup> With respect to the possibility of using nuclear weapons in Vietnam, Richard Nixon said doing so would have resulted in “domestic and international uproar [that] would have damaged our foreign policy on all fronts.”<sup>43</sup> State Department counselor (and later ambassador and assistant secretary of state) Douglas MacArthur II said that using nuclear weapons to help the French during the Battle of Dien Bien Phu would create a “great hue and cry throughout the parliaments of the free world.”<sup>44</sup> General Matthew Ridgway, who eventually became Supreme Allied Commander in Europe and

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<sup>38</sup> Michael Tomz, Jessica L.P. Weeks, and Keren Yarhi-Milo, “Public Opinion and Decisions About Military Force in Democracies,” *International Organization* 74, no. 1 (Winter 2020): 119-43, <https://doi.org/10.1017/S0020818319000341>.

<sup>39</sup> Tannenwald, *The Nuclear Taboo*; Paul, *The Tradition of Non-Use of Nuclear Weapons*; and Debak Das, “The Courtroom of World Opinion: Bringing the International Audience into Nuclear Crises,” *Global Studies Quarterly* 1, no. 4 (December 2021): 1-11, <https://doi.org/10.1093/isagsq/ksab028>.

<sup>40</sup> Paul, *The Tradition of Non-Use of Nuclear Weapons*, 49.

<sup>41</sup> *Ibid.*, 48.

<sup>42</sup> Tannenwald, *The Nuclear Taboo*, 173.

<sup>43</sup> Richard M. Nixon, *No More Vietnams* (New York: Arbor House, 1985), 102.

<sup>44</sup> Paul, *The Tradition of Non-Use of Nuclear Weapons*, 53.

the Army chief of staff, argued using nuclear weapons “would so revolt free world opinion as to leave us, quite possibly, friendless and isolated in a hostile world.”<sup>45</sup> A prominent report commissioned by the U.S. government to consider the use of nuclear weapons during the Vietnam War concluded:

“Whether or not U.S. first use of [tactical nuclear weapons] is countered by the Communists, the effect of first use on world opinion in general *and on our Allies in particular* would be extremely unfavorable. With the exception of Thailand and Laos, the action would almost certainly be condemned even in Asia and might result in the abrogation of treaty obligations by Japan” (emphasis added).<sup>46</sup>

In the context of (formerly) classified wargames, reputational logics were also used to eschew the use of nuclear weapons.<sup>47</sup> In one game, players pointed to “world revulsion toward the use of nuclear weapons.”<sup>48</sup> The U.S. State Department even launched an effort to shift foreign attitudes towards nuclear weapons in a more positive direction.<sup>49</sup> This demonstrates both that the U.S. government believes the views of foreign publics are important and that they anticipated a negative reaction among this audience to the use of nuclear weapons. Finally, through the use of elite interviews, Debak Das shows that Indian policymakers were highly concerned with international reactions during the Kargil War against Pakistan, which was the first instance of a limited war between two nuclear-armed states.<sup>50</sup>

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<sup>45</sup> Matthew Ridgway, *The Korean War* (Garden City, NY: Doubleday, 1967), 76; 247.

<sup>46</sup> Freeman J. Dyson, Robert Gomer, Steven Weinberg, and Stephen C. Wright, *Tactical Nuclear Weapons in Southeast Asia* (Alexandria, VA: Institute for Defense Analyses JASON Division, 1966), 50.

<sup>47</sup> Reid B.C. Pauly, “Would U.S. Leaders Push the Button? Wargames and the Sources of Nuclear Restraint,” *International Security* 43, no. 2 (Fall 2018): 151-92, [https://doi.org/10.1162/isec\\_a\\_00333](https://doi.org/10.1162/isec_a_00333).

<sup>48</sup> *Ibid.*, 172.

<sup>49</sup> Tannenwald, *The Nuclear Taboo*, 177-179.

<sup>50</sup> Das, “The Courtroom of World Opinion.”

These examples clearly establish that foreign views of nuclear use—especially among allies and partners—matter to policymakers and the general expectation is that support will be extremely low. If this assumption is accurate, then that would suggest the nuclear non-use norm is stronger than pessimists expect. However, nuclear norm pessimists also do not take into account how variation in the country conducting a nuclear strike will impact individual-level public support, as the seminal experimental studies<sup>51</sup> conducted by these scholars hold the country carrying out a nuclear strike constant.<sup>52</sup> We therefore need more theoretical and empirical work on this topic in order to comprehensively assess the strength of the nuclear non-use norm.

#### IN-GROUP BIAS AND VIRTUOUS VIOLENCE THEORY

Two related literatures can provide the building blocks for a theory about how country identity impacts public support for nuclear use. The first is the literature on in-group bias. In-group bias is the penchant of individuals to favor and more positively evaluate members of their own group (“us”) compared to members of out-groups (“them”). It has been shown to impact a wide range of political phenomena,<sup>53</sup> from partisan dynamics and support for international trade<sup>54</sup> to

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<sup>51</sup> Press, Sagan, and Valentino, “Atomic Aversion;” and Sagan and Valentino, “Revisiting Hiroshima in Iran.”

<sup>52</sup> Several studies test public support for nuclear use in countries besides the United States. For example, see Naomi Egel and R. Lincoln Hines, “Chinese Views on Nuclear Weapons: Evidence from an Online Survey,” *Research & Politics* 8, no. 3 (July/September 2021): 1-8, <https://doi.org/10.1177/20531680211032840>; David M. Allison, Stephen Herzog, and Jiyoung Ko, “Under the Umbrella: Nuclear Crises, Extended Deterrence, and Public Opinion,” *Journal of Conflict Resolution* 66, no. 10 (November 2022): 1766-1796, <https://doi.org/10.1177/00220027221100254>; and Doreen Horschig, “Israeli Public Opinion on the Use of Nuclear Weapons: Lessons from Terror Management Theory,” *Journal of Global Security Studies* 7, no. 2 (June 2022): 1-18, <https://doi.org/10.1093/jogss/ogac006>. However, none of these experimental designs can disentangle how support varies depending on the identity of the country conducting a nuclear attack.

<sup>53</sup> For a study that analyzes the impact of in-group bias in the nuclear realm, see Glenn Chafetz, “The Political Psychology of the Nuclear Nonproliferation Regime,” *Journal of Politics* 57, no. 3 (August 1995): 743-775, <https://doi.org/10.2307/2960191>.

<sup>54</sup> Diana C. Mutz and Eunji Kim, “The Impact of In-group Favoritism on Trade Preferences,” *International Organization* 71, no. 4 (Fall 2017): 827-850, <https://doi.org/10.1017/S0020818317000327>.

voting at the United Nations<sup>55</sup> and attitudes about violence during civil war.<sup>56</sup> There are many different cleavages upon which in-groups and out-groups can form. Categories such as race, religion, gender, class, political party, etc. could all result in an “us” vs. “them” dynamic. The common thread is that in-groups are based on some kind of “shared attribute.”<sup>57</sup>

A second relevant literature, and one which can help explain the logic of in-group bias, is VVT in psychology. VVT holds that people typically engage in or support violence because they believe it is moral—or “virtuous”—to do so. In other words, people view it as the right thing to do even if they do not inherently enjoy conducting or observing violence and are traumatized by it. People believe violence is the right thing to do in particular circumstances because the use or support of violence can help create, maintain, or enhance social relationships, which are at the core of humanity. For example, most would agree that the use of violence to protect your own child against the threat of an armed home invader is moral. The reason, according to the VVT framework, is that using violence in this case helps maintain the critical social relationship between parent and child. The broader moral motive driving this dynamic is *unity* with one’s in-group.<sup>58</sup> A sense of collective responsibility and common fate means that the use of violence by an in-group member to protect the larger group against a threat is likely to be perceived of as virtuous.<sup>59</sup> By contrast, when an out-group member utilizes violence, the same moral imperative of unity will not

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<sup>55</sup> Rochelle Terman and Erik Voeten, “The Relational Politics of Shame: Evidence from the Universal Periodic Review,” *Review of International Organizations* 13, no. 1 (2018): 1-23, <https://doi.org/10.1007/s11558-016-9264-x>.

<sup>56</sup> Jason Lyall, Graeme Blair, and Kosuke Imai, “Explaining Support for Combatants During Wartime: A Survey Experiment in Afghanistan,” *American Political Science Review* 107, no. 4 (November 2013): 679-705, <https://doi.org/10.1017/S0003055413000403>; Jason Lyall, Yuki Shiraito, and Kosuke Imai, “Coethnic Bias and Wartime Informing,” *Journal of Politics* 77, no. 3 (July 2015): 833-848, <https://doi.org/10.1086/681590>; and Douglas Page and Samuel Whitt, “Confronting Wartime Sexual Violence: Public Support for Survivors in Bosnia,” *Journal of Conflict Resolution* 64, no. 4 (April 2020): 674-702, <https://doi.org/10.1177/0022002719867473>.

<sup>57</sup> Kalin and Sambanis, “How to Think About Social Identity,” 240.

<sup>58</sup> Other critical moral motives in VVT include hierarchy, equality, and proportionality. Tage Shakti Rai and Alan Page Fiske, “Moral Psychology in Relationship Regulation: Moral Motives for Unity, Hierarchy, Equality, and Proportionality,” *Psychological Review* 118, no. 1 (2011): 57-75, <https://psycnet.apa.org/doi/10.1037/a0021867>.

<sup>59</sup> Fiske and Rai, *Virtuous Violence*, 18-19; 23.



be at play and thus the use of violence will be viewed as less virtuous. This difference reflects in-group bias. In summary, moral judgements are not “independent of the social-relational contexts in which they occur.”<sup>60</sup> Even if an action causes harm or “otherizes” by giving preference to an in-group at the expense of an out-group, it can still be evaluated as moral if it helps create or regulate a critical social relationship.

As previously discussed, nuclear scholars have deployed the logic of in-group bias to help explain public support for nuclear use. In particular, they have applied VVT and related psychological theories to explain why members of the public would support and even view as moral the use of nuclear weapons against out-groups.<sup>61</sup> However, they have not explicitly theorized or tested what the logic of in-group bias and VVT indicates about the relationship between the identity of the country conducting a nuclear attack and public support for nuclear use. Developing a set of theoretical expectations on this topic is the task I turn to next.

### *A Theory of Attacker Identity and Support for the Use of Nuclear Weapons*

Addressing a gap in the current literature, I argue that the identity of who conducts a nuclear attack does significantly impact how the general public evaluates the use of nuclear weapons. Specifically, the use of nuclear weapons by an in-group country should have greater overall public support and be viewed of as more ethical than the use of nuclear weapons by an out-group country. My theory builds on the well-established tendency towards in-group bias and, specifically, VVT in psychology.

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<sup>60</sup> Rai and Fiske, “Moral Psychology in Relationship Regulation,” 57.

<sup>61</sup> Rathbun and Stein, “Greater Goods;” Slovic et al., “Virtuous Violence from the War Room to Death Row;” and Smetana and Vranka, “How Moral Foundations Shape.”

In the context of nuclear weapons use, which actor or actors constitute the in-group and which constitute the out-group? In other words, which “shared attribute[s]”<sup>62</sup> are germane? One shared attribute that history and prior research establishes can lead to a strong “us” vs. “them” dynamic is national identification. The literature on nationalism is extensive and need not be reviewed in-depth here, but suffice it to say that identification with one’s own nation is a powerful force in international politics.<sup>63</sup> For example, simply presenting individuals with their country’s flag can increase animosity towards foreign countries and make individuals more supportive of hawkish policies towards foreign countries.<sup>64</sup> The “rally ‘round the flag” phenomenon, where a country unifies and support for national leaders increases in response to a foreign threat and/or the use of force abroad, further speaks to the power of national identification.<sup>65</sup> Clearly, then, one’s own country is highly likely to be viewed as part of the in-group.

I further argue that not *every* foreign country is likely to be considered as part of the out-group. If in-groups are based on shared attributes, then allied and partner countries may be considered members of the in-group due to shared interests, ideologies, and identities with an individual’s own country. I define allies narrowly as countries that have a formal defense pact with each other. I define partners as countries that have some kind of institutionalized and warm strategic relationship with each other. For instance, I would consider the U.S. and France allies because they are members of NATO, and the U.S. and Israel partners due to their close strategic

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<sup>62</sup> Kalin and Sambanis, “How to Think About Social Identity,” 240.

<sup>63</sup> For an overview, see Harris Mylonas and Maya Tudor, “Nationalism: What We Know and What We Still Need to Know,” *Annual Review of Political Science* 24, no. 1 (May 2021): 109-132, <https://doi.org/10.1146/annurev-polisci-041719-101841>.

<sup>64</sup> Ran R. Hassin, Melissa J. Ferguson, Daniella Shidlovski, and Tamar Gross, “Subliminal Exposure to National Flags Affects Political Thought and Behavior,” *Proceedings of the National Academy of Science* 104, no. 50 (2007): 19757-19761, <https://doi.org/10.1073/pnas.0704679104>; and Markus Kemmelmeier and David G. Winter, “Sowing Patriotism, but Reaping Nationalism? Consequences of Exposure to the American Flag,” *Political Psychology* 29, no. 6 (December 2008): 859-879, <https://doi.org/10.1111/j.1467-9221.2008.00670.x>.

<sup>65</sup> For example, see John E. Mueller, “Presidential Popularity from Truman to Johnson,” *American Political Science Review* 64, no. 1 (March 1970): 18-34, <https://doi.org/10.2307/1955610>.

relationship and the fact that Israel has been designed as a major non-NATO ally. Just as members of the Republican Party can form an in-group due to their shared interests, ideologies, and identity as party members, allied and partner countries may likewise consider each other as in-group members.

If allied and partner countries are considered part of the in-group, then the assumption embedded in NSC 68 that approval will be significantly lower when allies or partners employ nuclear weapons relative to one's own country might be incorrect. The principal reason is that relatively strong disapproval of an ally or partner's use of nuclear weapons would, per VVT, threaten a key relationship and undermine the in-group's security. Consequently, to maintain unity, protect a vital relationship, and enhance the in-group's security, I argue support for the use of nuclear weapons and the perceived morality of a nuclear attack will *not* be lower when conducted by an allied or partner country compared to one's own government. Instead, the use of violence by allied and partner countries is likely to be viewed as relatively virtuous in this case. If true, then this would be a significant blow to the nuclear non-use norm, as using nuclear weapons would not necessarily "cost us our allies" or leave countries "friendless and isolated in a hostile world," as is assumed by many policymakers and nuclear norm optimists. This discussion suggests the following hypothesis:

H<sub>1</sub>: Individuals will be no less likely to approve of a nuclear attack or view it as less ethical when conducted by an allied or partner country compared to one's own government.<sup>66</sup>

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<sup>66</sup> My initial, pre-registered expectation was that the opposite hypothesis would hold. In this context, the perceived morality of a nuclear attack could be conceptualized as a mechanism that determines whether individuals support the attack or not. However, it is not possible to disentangle whether an evaluation of the morality of a nuclear attack comes first before a determination of support, or whether the opposite holds. In other words, perceived morality may be a post-hoc justification for support rather than a mediator. Following VVT, I instead conceptualize perceived morality as simply another observable implication of my argument. If the use of nuclear weapons by an allied or partner country is viewed as a virtuous act of in-group protection, then perceived morality should not be lower when allied or partner foreign countries use nuclear weapons compared to an individual's own government.

This hypothesis constitutes a relatively hard test of how far in-groups extend for several reasons. First, most people would rank their nationality as a much more salient identity than, say, their country's affiliation with NATO. To the extent that nationality is a stronger identity than what formal alliances an individual's country is a member of, the use of nuclear weapons by these countries may be evaluated relatively harshly compared to use by one's own country. Second, since partner countries that do not have formal defense pacts with an individual's own country are even less likely to be viewed as part of the in-group than formally allied countries, including them in this hypothesis further stress tests the extent to which in-groups extend. Third, since nuclear norm optimists argue that nuclear weapons use in particular is morally revolting and may set a uniquely bad future precedent, we might expect that the public will be less likely to give allies or partners a pass or show favoritism towards them in this specific context. For example, the United States' successful effort to prevent its ally West Germany (among other allies) from *acquiring* nuclear weapons fits with this argument.<sup>67</sup>

Although allied and partner foreign countries may be viewed as part of an individual's in-group, I argue other foreign countries will *not* share this status. After all, non-allied and non-partner countries do not share interests, ideologies, and identities to the same extent with an individual's own country or that of its allies and partners. Since non-allied and non-partner countries are not members of an individual's in-group and there is much less of a relationship to maintain, the VVT framework I deploy suggests that their employment of nuclear weapons will be viewed as a relatively less virtuous use of violence. The moral imperative for unity will simply not be triggered to as significant an extent, if at all. This logic leads to the following hypotheses:<sup>68</sup>

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<sup>67</sup> For these reasons, my initial, pre-registered expectation was that although allied and partner countries would be viewed as part of an individual's in-group to some extent, support for nuclear use would still be lower when conducted by allied and partner countries than by an individual's own government.

<sup>68</sup> Both of these hypotheses were pre-registered. Gerzhoy, "Alliance Coercion and Nuclear Restraint."

H<sub>2</sub>: Individuals will be less likely to approve of a nuclear attack and view it as less ethical when conducted by a non-allied or non-partner country compared to one's own government.

H<sub>3</sub>: Individuals will be less likely to approve of a nuclear attack and view it as less ethical when conducted by a non-allied or non-partner country compared to an allied or partner country.

These hypotheses are a hard test for whether in-group bias exists because of the arguments made by nuclear norm optimists, especially those that believe in a nuclear taboo. If there is an absolute prohibition on the use of nuclear weapons and violations are not even considered,<sup>69</sup> then support for nuclear attacks among the public should be extremely low no matter the identity of the country conducting the attack. There should be no in-group bias when comparing support for nuclear use by one's own government to a non-allied or non-partner foreign country. Instead, support should be close to non-existent in both cases. This may be why nuclear norm optimists do not systematically or precisely distinguish how reactions to the use of nuclear weapons would differ depending on whether the country conducting the attack is one's own government, a foreign ally or partner country, or a non-allied or non-partner country.

Empirical support for H<sub>2</sub> and H<sub>3</sub> would provide mixed implications for the strength of the nuclear non-use norm. On the one hand, lower relative support for the use of nuclear weapons by non-allied or non-partner foreign countries could be interpreted as evidence in support of nuclear norm optimists. All else equal, lower relative support would imply that the constraints against nuclear use are greater than if higher support was found. It would also suggest that opposition to nuclear use is somewhat higher at the water's edge, which prior studies have not uncovered since

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<sup>69</sup> Tannenwald, "The Nuclear Taboo," 436.

they focus on nuclear use by an individual's own government. On other hand, support for these hypotheses would suggest that the nuclear non-use norm is not so strong that approval is non-existent no matter who is pressing the nuclear button.

More importantly, since finding evidence of favoritism in the context of nuclear weapons use is a relatively hard test for in-group bias, I would also expect similar findings in the context of *conventional* weapons use. Conventional weapons use is a relatively easier test for in-group bias since the same across-the-board prohibition that is theorized by some scholars to hold for nuclear weapons use is not posited for the use of conventional weapons. This logic leads to the following hypothesis:

H4: Individuals will be less likely to approve of a conventional attack and view it as less ethical when conducted by a non-allied or non-partner country compared to one's own government.<sup>70</sup>

If H4 were to hold, then that would suggest that support for nuclear use by out-group countries does not follow an entirely separate logic than support for the use of conventional weapons by out-group countries. Instead, the findings would indicate that support for the use of force—whether nuclear or conventional—by out-group countries is just generally lower than support for the use of force by in-group countries. Therefore, there would be no incentive for countries to forgo nuclear use and instead employ conventional weapons to avoid disapproval among non-allied or non-partner countries. No matter whether countries used nuclear or conventional weapons, they would face relatively higher rates of disapproval among non-allied or non-partner countries.

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<sup>70</sup> This hypothesis was not pre-registered, but follows logically from H<sub>2</sub>, which was pre-registered.

All of the above hypotheses concern *relative* support for the use of nuclear weapons since they focus on whether approval will differ depending on which country conducts the strike. Nevertheless, *absolute* support for the use of nuclear weapons is, of course, critically important as well. If absolute levels of approval are high, even when foreign countries conduct nuclear strikes, then that would suggest a weak nuclear non-use norm. Scholars that are relatively optimistic about the strength of the nuclear non-use norm would predict low absolute support for the use of nuclear weapons, even when the target state cannot threaten nuclear retaliation. By contrast, skeptics would anticipate higher absolute support than implied by a strong nuclear non-use norm or taboo.

Operationalizing these conflicting expectations is difficult, as any threshold of absolute support is somewhat subjective. Nonetheless, I believe the following is a fair test of the nuclear non-use norm's strength in the context of absolute approval:

H<sub>5</sub>: Less than a majority (50%) of individuals should approve of a nuclear attack and view it as ethical.

I choose 50% as the threshold for this test because prior nuclear research refers to this as a salient quantity.<sup>71</sup> It is also an intuitive threshold for understanding support in the political arena. For example, whether a majority of citizens plan to vote for a particular presidential candidate is quite informative. In one sense, this is an easy test for nuclear non-use norm optimists. If the norm against nuclear use is such a strong tradition, or even a full-fledged taboo, then approval for a nuclear strike should be significantly lower than 50%. On the other hand, note that H<sub>5</sub> puts the statistical burden of proof on nuclear norm optimists to show that support is less than 50%; I do not have a separate hypothesis stating that approval should be *greater* than 50%. On balance, I

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<sup>71</sup> Sagan and Valentino, "Revisiting Hiroshima in Iran," 45; and Carpenter and Montgomery, "The Stopping Power of Norms," 167.

believe this is a relatively easy test for the arguments of norm optimists given the strong arguments they make about the nuclear non-use norm's robustness. Given H<sub>2</sub> and H<sub>3</sub>, my theory also necessarily implies that H<sub>5</sub> is less likely to hold when an individual's own government or the government of an ally or partner conducts a nuclear strike compared to when a non-allied or non-partner country carries out a nuclear attack.

### *Research Design*

To test these hypotheses, I conducted four survey experiments on members of the American and Indian general public. These four studies constitute a test of my hypotheses at the individual level of analysis. Compared to historical case studies or public opinion polls, the benefit of experiments is that they allow researchers to hold salient elements of a scenario constant (e.g., the target of an attack, civilian casualties, and the military context), while varying other factors in order to isolate their impact (e.g., which country conducts a nuclear attack). More importantly, since nuclear weapons have only been used by one country in human history, experiments are an especially useful tool for analyzing how individual-level public opinion would vary depending on which country conducts a nuclear attack. After all, the sample size of non-U.S. countries that have conducted nuclear strikes in the real world is zero.

Specifically, I designed and administered four survey experiments that made a simple modification to the seminal studies by Press, Sagan, and Valentino and Sagan and Valentino. While they hold the country conducting a nuclear strike constant (the U.S.), I experimentally manipulate it. No previous experimental study of which I am aware has randomized the country conducting the nuclear strike. There are two advantages to this design strategy. The first is comparability. By using the Press, Sagan, and Valentino and Sagan and Valentino frameworks,



which have been used extensively in the literature on nuclear use,<sup>72</sup> it is easier to make apples-to-apples comparisons between the results in this study and previous ones. In essence, this framework allows us to analyze whether making a small modification to past studies (i.e., the country conducting a nuclear attack) has a significant impact on public approval of a nuclear strike.

The second advantage of this approach is that these two studies vary on several dimensions: the target of the strike (a non-state actor vs. a nation-state), the benefits of the strike (ensuring destruction of a terrorist atomic weapons lab vs. compelling surrender of a nation-state in order to save lives that would be lost if warfare continued), whether civilians were specifically targeted (no vs. yes), civilian deaths (1,000 vs. 100,000), and whether survey respondents are evaluating the strike retrospectively or prospectively. Consequently, analyzing whether the results hold in these two different contexts provides a useful stress test of external validity.<sup>73</sup>

Per Press, Sagan, and Valentino and Sagan and Valentino, the main outcome measure in all four studies is the extent of approval for the nuclear strike on a 6-point Likert scale. I also ask respondents the degree to which they believe the nuclear strike would be ethical on a 6-point scale.

All studies were carried out on samples recruited online through Lucid in 2021.<sup>74</sup> Lucid generates representative samples based on age, gender, ethnicity, and region.<sup>75</sup> It has been shown

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<sup>72</sup> Rathbun and Stein, “Greater Goods;” Carpenter and Montgomery, “The Stopping Power of Norms;” Koch and Wells, “Still Taboo?”; Slovic et al., “Virtuous Violence from the War Room to Death Row” and Smetana and Vranka, “How Moral Foundations Shape.”

<sup>73</sup> In accordance with previous literature, neither scenario involves the use of nuclear weapons against a nuclear-armed actor since the goal of these experiments is to test the strength of the nuclear non-use norm rather than nuclear deterrence.

<sup>74</sup> Study 1 was conducted in June, Study 2 in July, Study 3 in September, and Study 4 in December. To mitigate the negative effects of respondent inattention, I included a *pre-treatment* attention screener to weed out inattentive respondents in accordance with best practices in the literature.

<sup>75</sup> For the Indian study, the sample is representative on age. It also tracks relatively well with actual political identification in India. See the appendix for a discussion of the representativeness of Study 3. There is no evidence that suggests the core results from Study 3 are due to demographic skews in the sample.

to perform well replicating previous studies,<sup>76</sup> even during the COVID-19 pandemic.<sup>77</sup> In total, there are just under 800 respondents in Study 1 (about 200 per experimental condition), 900 in Study 2 (about 225 per experimental condition), over 650 in Study 3 (about 220 per experimental condition), and 926 in Study 4 (about 231 per experimental condition), which should yield ample statistical power to detect differences between treatment groups.

## STUDY 1: NUCLEAR TERRORISM

The design of this study is closely based off of Press, Sagan, and Valentino’s retrospective experiment and is conducted on members of the U.S. public.<sup>78</sup> It involves the discovery of an underground Islamic State atomic weapons lab, which precipitates a nuclear strike to destroy the lab. The nuclear attack results in 1,000 unintentional civilian deaths and 1,200 injuries. While Press, Sagan, and Valentino hold the country conducting the strike constant (the U.S.), I randomize whether it is the U.S. (one’s own country), France (a close treaty ally), Russia (an enemy), or Pakistan (a “frenemy,” for lack of a better term).<sup>79</sup> Gallup polling data confirms that France is generally viewed favorably by the U.S. public, while Russia and Pakistan are not. About 87% of the American public has a favorable opinion of France, compared to just 22% for Russia and 21% for Pakistan.<sup>80</sup> All four countries have nuclear weapons and thus could plausibly conduct the strike,

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<sup>76</sup> Alexander Coppock and Oliver A. McClellan, “Validating the Demographic, Political, Psychological, and Experimental Results Obtained from a New Source of Online Survey Respondents,” *Research & Politics* 6, no. 1 (January/March 2019): 1-14, <https://doi.org/10.1177/2053168018822174>.

<sup>77</sup> Kyle Peyton, Gregory A. Huber, and Alexander Coppock, “The Generalizability of Online Experiments Conducted During The COVID-19 Pandemic,” *Journal of Experimental Political Science* 9, no. 3 (2022): 379-394, <https://doi.org/10.1017/XPS.2021.17>.

<sup>78</sup> It is retrospective because the strike has already occurred when respondents are asked to evaluate it.

<sup>79</sup> Note that this design cannot disentangle why some countries are allies or partners and some are not. Possible explanations include shared interests, regime type, or ethnicity, and each of these factors could have individual effects on support for nuclear use. Nonetheless, this design can still effectively test the broader question of to what extent support for nuclear strikes by allies or partners differs from non-allies or non-partners.

<sup>80</sup> However, a higher percentage of Americans view Russia unfavorably compared to Pakistan. Data on France and Russia is from 2021, while data on Pakistan is from 2016 (the last time Gallup asked the U.S. public about their views

and the threat of nuclear terrorism could realistically endanger these four countries. By including one's own country (the U.S.), an ally of that country (France), and two non-allied foreign countries (Russia and Pakistan), all hypotheses except H<sub>4</sub> can be tested. Since U.S. citizens have relatively strong security incentives to support an attack against an Islamic State atomic weapons lab no matter the identity of the country who is pressing the nuclear button, and the principal consequences of the strike (i.e., civilian casualties and whether the lab is destroyed or not) are held constant, it is not obvious that support should be less when Russia or Pakistan conduct the strike compared to the U.S. or France.

In the context of Press, Sagan, and Valentino's retrospective experiment, it is quite easy to modify which country is conducting the nuclear strike. For example, the headline of their mock news article states that, "Red Cross Estimates 1,000 Dead in U.S. Nuclear Strike against Al Qaeda Atomic Bomb Lab in Syria." I simply replace "U.S." with "French," "Russian," or "Pakistani" in order to manipulate which country is conducting the strike and then carry this change through for the entire vignette. In total, this yields a simple 4 factor between-subjects design.

## STUDY 2: HIROSHIMA IN IRAN

The design of Study 2 closely follows that of Sagan and Valentino's prospective experiment and is also conducted on the American public.<sup>81</sup> It entails a war with Iran that begins after the discovery of a covert nuclear facility. During the course of the war, *all* of Iran's nuclear infrastructure and air force assets have been destroyed, meaning the nuclear threat Iran poses is

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on Pakistan). See [here](#). Polling from Gallup on different countries' favorability ratings, which is conducted frequently, provides the best *aggregate* measure of how U.S. citizens en masse view foreign countries. Although favorability towards a country can certainly differ depending on the specific issue-area (e.g., security versus human rights versus democracy), aggregate favorability towards a country helps indicate whether that country is generally perceived of positively or negatively when averaging across these different issues.

<sup>81</sup> It is prospective because the strike has not yet occurred when respondents are asked to evaluate it.

less than imminent. However, Iran is still resisting unconditional surrender. To coerce Iran to capitulate before more troops die in the ongoing ground conflict, a nuclear strike is being considered that would specifically target and kill an estimated 100,000 Iranian civilians.

Note that there are several features of this scenario that might make nuclear use less attractive compared to Study 1. First, the nuclear threat posed by Iran is ostensibly less than that posed by the Islamic State since Iran's nuclear infrastructure has already been neutralized. Second, civilians are intentionally being targeted in this scenario whereas they were not in Study 1. Third, 100,000 civilians are expected to die in this scenario compared to 1,000 in Study 1. Study 2 may thus serve as a harder test of the arguments of nuclear taboo skeptics than Study 1.<sup>82</sup>

While Sagan and Valentino hold the country considering the strike constant (the U.S.), I randomize whether it is the U.S. (one's own country) or Israel (a close partner). I utilize Israel in this experiment rather than France, Russia, or Pakistan because Israel is much more likely to go to war with Iran over their nuclear program than these other countries. Therefore, the use of Israel makes this experiment more realistic. Gallup polling also suggests that Israel—like France—is generally viewed favorably by the U.S. public: 75% have a very or mostly favorable view of Israel. Since a non-allied or non-partner country is not included in this study, only  $H_1$  and  $H_5$  can be tested.<sup>83</sup>

In Study 2 I also ask respondents two additional dependent variable questions besides overall approval for the strike and the perceived morality of the attack. First, I ask whether they would prefer to launch the nuclear attack or continue the ground war. Even if respondents approve

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<sup>82</sup> Sagan and Valentino, "Revisiting Hiroshima in Iran," 53-54.

<sup>83</sup> I also experimentally manipulated leader gender. For an example of a study that manipulates leader gender in a similar way, see Joshua A. Schwartz and Christopher W. Blair, "Do Women Make More Credible Threats? Gender Stereotypes, Audience Costs, and Crisis Bargaining," *International Organization* 74, no. 4 (Fall 2020): 872-895, <https://doi.org/10.1017/S0020818320000223>. This yields a fully crossed 2 x 2 between-subjects design. See the appendix for the full survey instrument and an explanation for why gender was manipulated.

of a nuclear attack, that may not be their *preference*, which this question will help me assess. Second, I ask respondents whether they would prefer to conduct the nuclear strike or withdraw all soldiers from Iran completely. Sagan and Valentino did not ask respondents this question in their study. Including it in Study 2 helps address a reasonable critique made by Charli Carpenter and Alexander Montgomery about how giving respondents only two options (conduct a nuclear strike or continue a costly ground war) is not very realistic.<sup>84</sup>

### STUDY 3: GENERALIZABILITY TO OTHER AUDIENCES

The third experiment utilizes the same basic scenario as Study 1 but is conducted on citizens of India rather than the United States to probe external validity. Although studies conducted on the U.S. public are extremely valuable given the outsized role America plays in foreign affairs, the relative lack of research in other countries is a major gap in the nuclear non-use norm literature.<sup>85</sup> India is an especially relevant country to survey given that they are a nuclear weapons state and a major power, meaning their citizens' views on nuclear use are substantively meaningful. In Study 3, I randomize whether the country carrying out a nuclear attack is India (one's own country), the U.S. (a strategic partner), or Pakistan (an enemy). Although India and the U.S. do not have a formal defense pact, they have a strategic relationship and have formed partnerships such as the Quadrilateral Security Dialogue ("the Quad"). Given that India and the U.S. are not as closely aligned as the U.S. and France or the U.S. and Israel, it is reasonable to consider Study 3 a harder test of H<sub>1</sub>.<sup>86</sup>

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<sup>84</sup> Carpenter and Montgomery, "The Stopping Power of Norms," 150.

<sup>85</sup> Smetana and Wunderlich, "Nuclear Taboo 3.0," 1076-1077.

<sup>86</sup> Favorable views of the U.S. in India have varied between 50% and 75% in recent years. This is lower than favorable views towards France and Israel among U.S. citizens. See [here](#).

## STUDY 4: NUCLEAR VS. CONVENTIONAL WEAPONS USE

The fourth experiment also uses the same scenario as Study 1 and is conducted on U.S. citizens. There are two primary differences from Study 1. First, I only include the U.S. and Russia as countries carrying out a nuclear attack. Second, and more importantly, I randomly vary whether the country conducting the attack utilizes nuclear or conventional weapons. Doing so enables me to test whether any in-group bias that may exist when comparing support for a *nuclear* attack by the United States and Russia also holds for the use of *conventional* weapons (H<sub>4</sub>). This yields a fully crossed 2 x 2 between-subjects experiment.

### ARE THESE SCENARIOS FAIR TESTS OF THE NUCLEAR NON-USE NORM?

One potential objection to the validity of this design is that the survey scenarios used by Press, Sagan, and Valentino and Sagan and Valentino may be a “fairly unrealistic hard case” for testing the nuclear non-use norm.<sup>87</sup> While all survey experiments involve some level of abstraction and I agree these vignettes stress test the nuclear non-use norm by suggesting there are benefits to nuclear use, I argue these are *not* unrealistic scenarios nor do they constitute an inappropriately hard case for testing the strength of the nuclear non-use norm. They are not unrealistic because terrorist groups and Iran are two of the United States’ most prominent enemies today, and both have indeed pursued nuclear weapons in the past.<sup>88</sup> They are also not inappropriately hard cases for testing the alleged nuclear non-use norm because we cannot evaluate the strength and robustness of a norm without determining “how much they constrain behavior when other values are at stake.”<sup>89</sup> It is easy to uphold the nuclear non-use norm in times of peace or when the use of

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<sup>87</sup> Carpenter and Montgomery, “The Stopping Power of Norms,” 143.

<sup>88</sup> Sagan and Valentino, “Revisiting Hiroshima in Iran,” 22.

<sup>89</sup> Sagan et al., “Does the Noncombatant Immunity Norm Have Stopping Power?” 175.

such weapons provides no possible benefits. Whether people are willing to oppose the use of nuclear weapons when doing so offers potential advantages—as in the case of World War II—reveals the true strength of the norm. For example, the true test of the anti-torture norm’s strength was not before 9/11, but after 9/11 when violating the norm offered at least theoretical benefits to the United States.<sup>90</sup> The torture norm failed that test, and it should not give us much reassurance that torture may not have been used if it had faced an “easier” test.

### WILL SURVEY RESPONDENTS BE HONEST?

Another potential concern with this design is the possibility of response bias, where survey subjects conceal their true beliefs about nuclear attacks.<sup>91</sup> One prominent reason why this could occur is social desirability bias, where respondents avoid taking potentially unpopular stances (like supporting nuclear weapons use) for fear of some kind of social sanction (e.g., embarrassment) if their true opinion became known. Even in the context of anonymous online surveys like this one, scholars have found evidence that respondents sometimes conceal their true beliefs.<sup>92</sup> However, new research directly analyzes whether social desirability bias exists in surveys on the public about nuclear weapons use and finds *no* evidence that it does.<sup>93</sup> Consequently, social desirability bias is unlikely to distort the results of these studies.

A second reason why response bias could occur is demand effects, where respondents surmise researchers’ goals and adjust their answers to accord with those goals. For example,

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<sup>90</sup> Ibid., 178-180.

<sup>91</sup> Carpenter and Montgomery, “The Stopping Power of Norms,” 149-151.

<sup>92</sup> For example, see Matthew J. Streb, Barbara Burrell, Brian Frederick, and Michael A. Genovese, “Social Desirability Effects and Support for a Female American President.” *Public Opinion Quarterly* 72, no. 1 (Spring 2008): 76-89, <https://doi.org/10.1093/poq/nfm035>.

<sup>93</sup> Christopher W. Blair, Jonathan A. Chu, and Joshua A. Schwartz, “The Two Faces of Opposition to Chemical Weapons: Sincere Versus Insincere Norm-Holders,” *Journal of Conflict Resolution* 66, nos. 4-5 (May 2022): 677-702, <https://doi.org/10.1177/00220027211057057>. Although this study does find evidence for social desirability bias in the context of public support for chemical weapons use in anonymous online surveys.

perhaps respondents will interpret some of the benefits of using nuclear weapons in the experimental scenarios as an indication that the researchers would like them to support nuclear weapons use. If this is the case, then survey subjects may report support for nuclear weapons use even if they truly oppose it. Nevertheless, research by Jonathan Mummolo and Erik Peterson finds no significant evidence for the existence of demand effects in survey experiments.<sup>94</sup> They experimentally manipulated the amount of information provided to survey subjects about the research team's goals and hypotheses, and they found it did not significantly impact treatment effects. Thus, demand effects are also unlikely to bias the results of these studies.

#### DO SURVEYS OF THE PUBLIC REVEAL ANYTHING ABOUT POLICYMAKERS' VIEWS?

Given that it is political elites that ultimately choose whether or not to use nuclear weapons or punish states that do, skeptics might wonder about the utility of survey experiments conducted on the general public. I contend that these surveys do have significant value for two reasons. First, as previously discussed, prior work clearly shows that policymakers respond to and are constrained by public opinion.<sup>95</sup> This means studies conducted on the public have intrinsic value. Second, in a meta-analysis of 162 paired experiments on members of the public and elites, Joshua Kertzer finds that elites react to experimental treatments in similar ways as the public in the large majority of cases.<sup>96</sup> For example, of the 162 treatment effects he analyzes, over 98% do not differ in sign (i.e., whether the relationship between the independent and dependent variable was positive or negative)

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<sup>94</sup> Jonathan Mummolo and Erik Petersen, "Demand Effects in Survey Experiments: An Empirical Assessment," *American Political Science Review* 113, no. 2 (May 2019): 517-529, <https://doi.org/10.1017/S0003055418000837>.

<sup>95</sup> For another example, see Jonathan A. Chu and Stefano Recchia, "Does Public Opinion Affect the Preferences of Foreign Policy Leaders? Experimental Evidence from the UK Parliament," *Journal of Politics* 84, no. 3 (2022): 1874-1877, <https://doi.org/10.1086/719007>.

<sup>96</sup> Joshua D. Kertzer, "Re-Assessing Elite-Public Gaps in Political Behavior," *American Journal of Political Science* 66, no. 3 (July 2022): 539-553, <https://doi.org/10.1111/ajps.12583>.



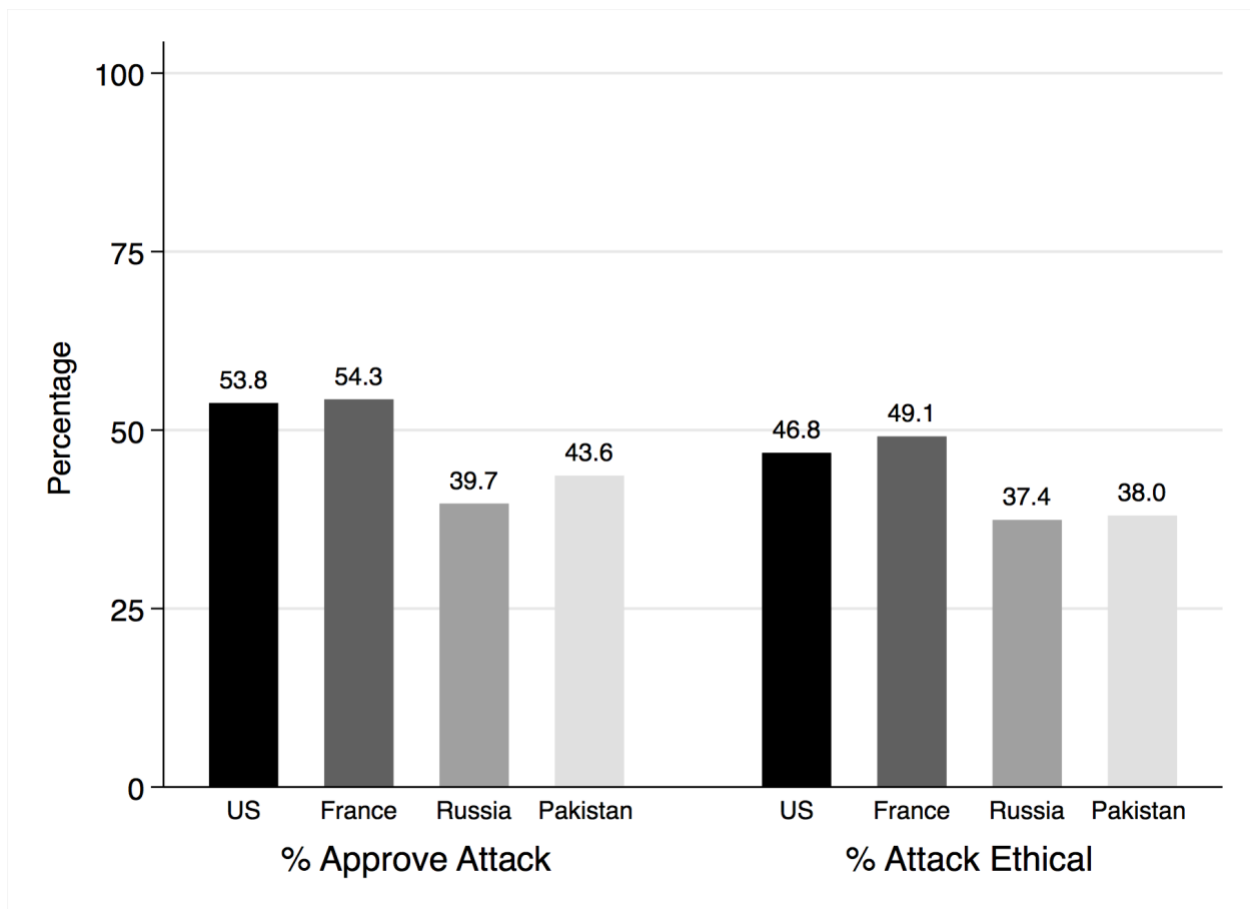
between members of the public and elites. Therefore, the results presented below may reflect how policymakers would view the use of nuclear weapons by a foreign country relative to their own country. Of course, only future studies conducted directly on policymakers could confirm this.

## Results

### STUDY 1: NUCLEAR USE AGAINST A TERRORIST GROUP

The results for Study 1 support my hypotheses and provide evidence that neither a nuclear taboo nor a very strong non-use norm exists among members of the public, even when it is foreign countries pressing the nuclear button.

**Figure 1:** Summary of Results in Study 1



First, in contrast to the expectations outlined by NSC 68, other policymakers, and nuclear norm optimists—but in accordance with H<sub>1</sub> and my argument that allied countries will be considered in-group members—I do *not* find any evidence that approval for a French nuclear strike is less than for a U.S. nuclear strike among members of the U.S. public. As Figure 1 shows, approval (53.8% for the U.S. and 54.3% for France) and the perceived morality of a strike (46.8% for the U.S. and 49.1% for France) are nearly identical for both countries.<sup>97</sup>

Table 1, which calculates the difference in approval and perceived morality for a nuclear strike by the U.S. compared to France (and differences between other countries), further shows that these differences are not statistically significant.<sup>98</sup> Thus, the results support my argument that the use of nuclear weapons by allied foreign countries to combat security threats will not be viewed as less virtuous than use by individual citizens' own government.<sup>99</sup> As previously discussed, political and military leaders have, historically, clearly been worried that allies would react very negatively to the use of nuclear weapons and even potentially abandon their partners entirely. The results from Study 1 suggest that this would not necessarily be the case, which implies the nuclear non-use norm is weaker than many optimists expect.

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<sup>97</sup> In accordance with previous studies, I collapse the 6-point measures of approval and perceived morality into binary measures in order to more clearly illustrate substantive effects. As demonstrated in the appendix, the results are also robust to using the full 6-point measure, including respondents that failed a factual manipulation check, and in a regression that controls for a range of factors.

<sup>98</sup> It is fascinating and somewhat surprising that approval for a nuclear strike by the U.S. is marginally less than approval for a nuclear strike by France among American citizens. Nevertheless, since the difference is not statistically significant, this finding may be due to chance.

<sup>99</sup> Since Kertzer finds that political elites differ from members of the public in terms of their typical gender, education, income, and age, I also analyze in the appendix whether the results are significantly weaker among members of the public that are more “elite-like.” I do not find evidence that they are, which provides suggestive evidence that these findings may also hold among policymakers. For an example of a similar analysis, see Michaela Mattes and Jessica L.P. Weeks, “Reacting to the Olive Branch: Hawks, Doves, and Public Support for Cooperation,” *International Organization* 76, no. 4 (Fall 2022): 957-976, <https://doi.org/10.1017/S0020818322000170>.

**Table 1:** Relative Differences in Approval and Morality in Study 1

	Difference in Approval (Percentage Points)	Difference in Morality (Percentage Points)
<b>U.S. compared to France</b>	-0.5	-2.3
<b>U.S. compared to Russia</b>	14.1***	9.4**
<b>U.S. compared to Pakistan</b>	10.2**	8.8*
<b>France compared to Russia</b>	14.7***	11.7**
<b>France compared to Pakistan</b>	10.7**	11.1**
<b>Russia compared to Pakistan</b>	-4.0	-0.6

*Note:* Results are calculated from 2,000 bootstraps. \* =  $p < 0.10$ , \*\* =  $p < 0.05$ , and \*\*\* =  $p < 0.01$ .

Second, I find evidence in support of my argument that the use of nuclear weapons by non-allied or non-partner countries will be perceived of as a less virtuous use of violence by the general public (H<sub>2</sub> and H<sub>3</sub>). Approval and the perceived morality of a nuclear attack by non-allied or non-partner foreign countries is between 9 and 15 percentage points less among U.S. citizens than for an identical nuclear attack by one's own government or an allied foreign country. These findings suggest that the identity of which country conducts nuclear attacks does condition the constraints against nuclear use. This adds nuance to the literature since prior work does not theoretically or empirically consider the significance of attacker identity. Substantively, the results indicate that there is not an absolute prohibition on the use of nuclear weapons among the public. If this was the case, then support for nuclear attacks should be extremely low no matter the identity of the country that conducted the attack. There should be no evidence of in-group bias. These results also provide strong evidence for the existence of in-group bias in public support for military force more generally, as this is a hard case given the arguments made by those who believe there is a unique

taboo against the use of nuclear weapons that does not extend to conventional weapons. Additionally, given that U.S. citizens have relatively strong security incentives to support an attack against an Islamic State atomic weapons lab no matter the identity of which country is conducting the attack, it is particularly striking that in-group bias still holds for this scenario.

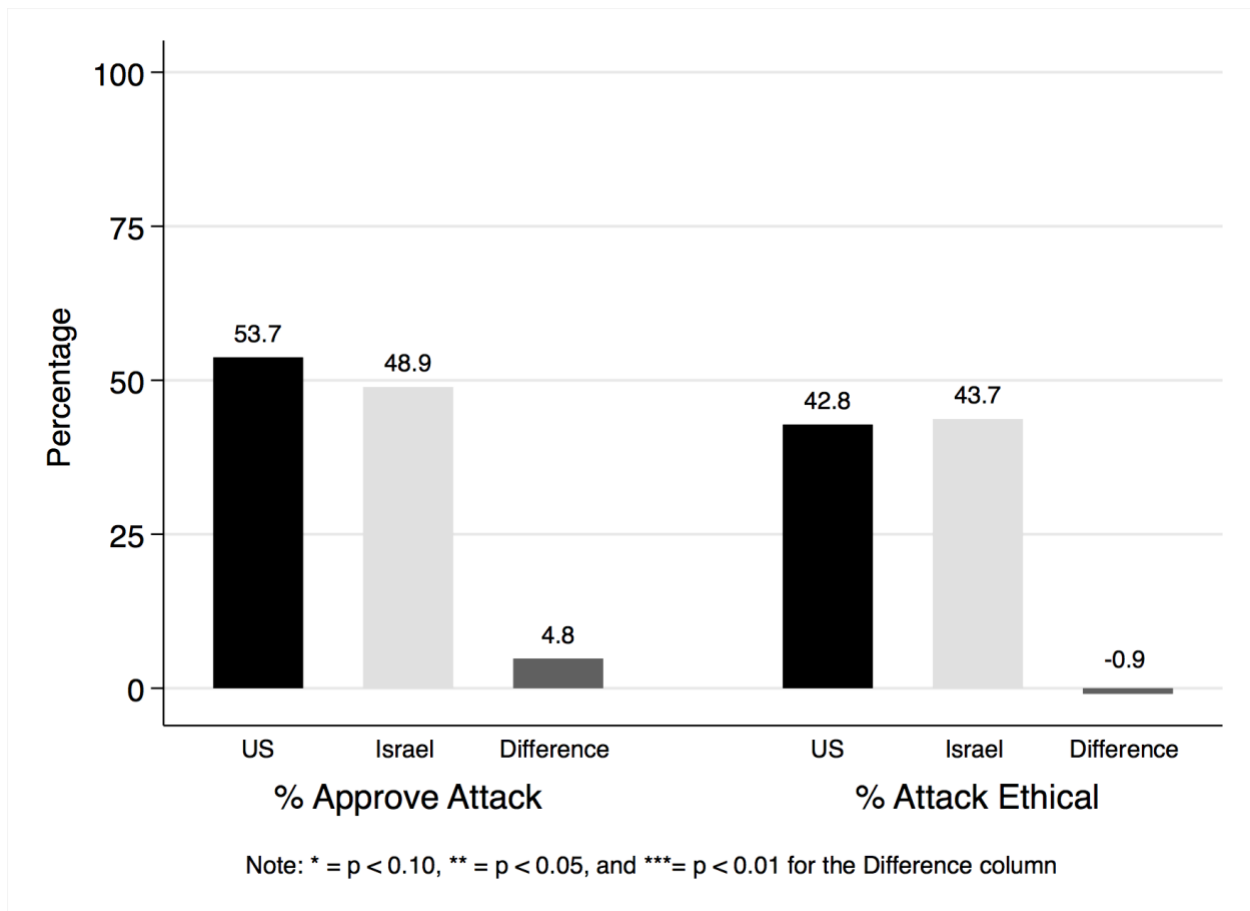
Third, an analysis of *absolute* support for the use of nuclear weapons also provides evidence for the arguments of nuclear norm pessimists that neither a nuclear taboo nor a very strong non-use norm exists among members of the public. In accordance with the arguments of nuclear norm pessimists and contrary to H<sub>5</sub>, there is not statistically significant evidence that less than a majority of citizens approve of a nuclear attack or view it as ethical when conducted by the U.S. or France. Given the strong arguments made by nuclear norm optimists, setting a threshold of less than majority support was an easy test of their contentions. Therefore, the null finding for this test provides relatively powerful evidence in favor of nuclear norm pessimists. On the other hand, H<sub>5</sub> is supported for Russia and Pakistan, as approval and the perceived morality of a nuclear attack by these countries is statistically less than 50%. Still, the relatively high absolute levels of support for those countries' use of nuclear weapons—about two fifths of respondents—are inconsistent with the existence of a nuclear taboo. Clearly, nuclear use is far from “unthinkable” for many members of the public, even when it is out-group foreign countries pushing the nuclear button.

Finally, the results from Study 1 align with a key contention of VVT: that there will be a close connection between support for the use of violence and the perceived morality of violence. I find that for respondents that believed the strike was ethical 89% approved. For those that believed it was unethical just 17% approved.

## STUDY 2: NUCLEAR USE AGAINST IRAN

Study 1 did *not* find any evidence that approval for a nuclear strike is less for France than it is for the United States. This contradicts arguments from nuclear norm optimists that citizens will strongly disapprove of and even support abandoning allies and partners that use nuclear weapons. Does the same hold true in Study 2 when the comparison is between the U.S. and Israel (who are close strategic partners but *not* formal allies) in a context where we might expect nuclear use to be less attractive? In a bad sign for the strength of the nuclear non-use norm, Study 2 also yields similar results. Furthermore, absolute support for the strike is quite high for both countries.

**Figure 2:** Summary of Results in Study 2



First, per H<sub>1</sub> and my argument that partner countries will be considered in-group members, I do *not* find any evidence that approval for an Israeli nuclear strike is less than for an American nuclear strike among members of the U.S. public.<sup>100</sup> Thus, I do not find convincing evidence that approval for nuclear attacks is—as NSC 68 put it—“proportionately” lower when partner countries conduct nuclear strikes compared to one’s own government. This finding provides strong evidence that in-groups can extend relatively far. Since partner countries that do not have formal defense pacts with an individual’s own country—like Israel—are even less likely to be viewed as part of the in-group than formally allied countries, this was a relatively hard test of how far in-groups extend.

Second, examining absolute approval for conducting a nuclear strike also suggests the nuclear non-use norm is not as strong as some optimists suggest. Support among the public for a nuclear attack is not significantly less than 50% for either a U.S. or Israeli strike. That a majority of respondents in the case of a U.S. strike (53.7%) and a near-majority in the case of an Israeli strike (48.9%) would approve of a nuclear attack is particularly strong evidence against the arguments of nuclear norm optimists in the context of Study 2. Recall that Study 2 involves *intentionally* targeting Iranian civilians with nuclear weapons *after* their nuclear infrastructure has already been neutralized and with the expectation that 100,000 civilians will be killed.<sup>101</sup> These results are inconsistent with the existence of a nuclear taboo or even a powerful norm or tradition of non-use.

Third, other results from Study 2 paint at least a slightly more optimistic picture with respect to the strength of the nuclear non-use norm. While approval among the U.S. public for a

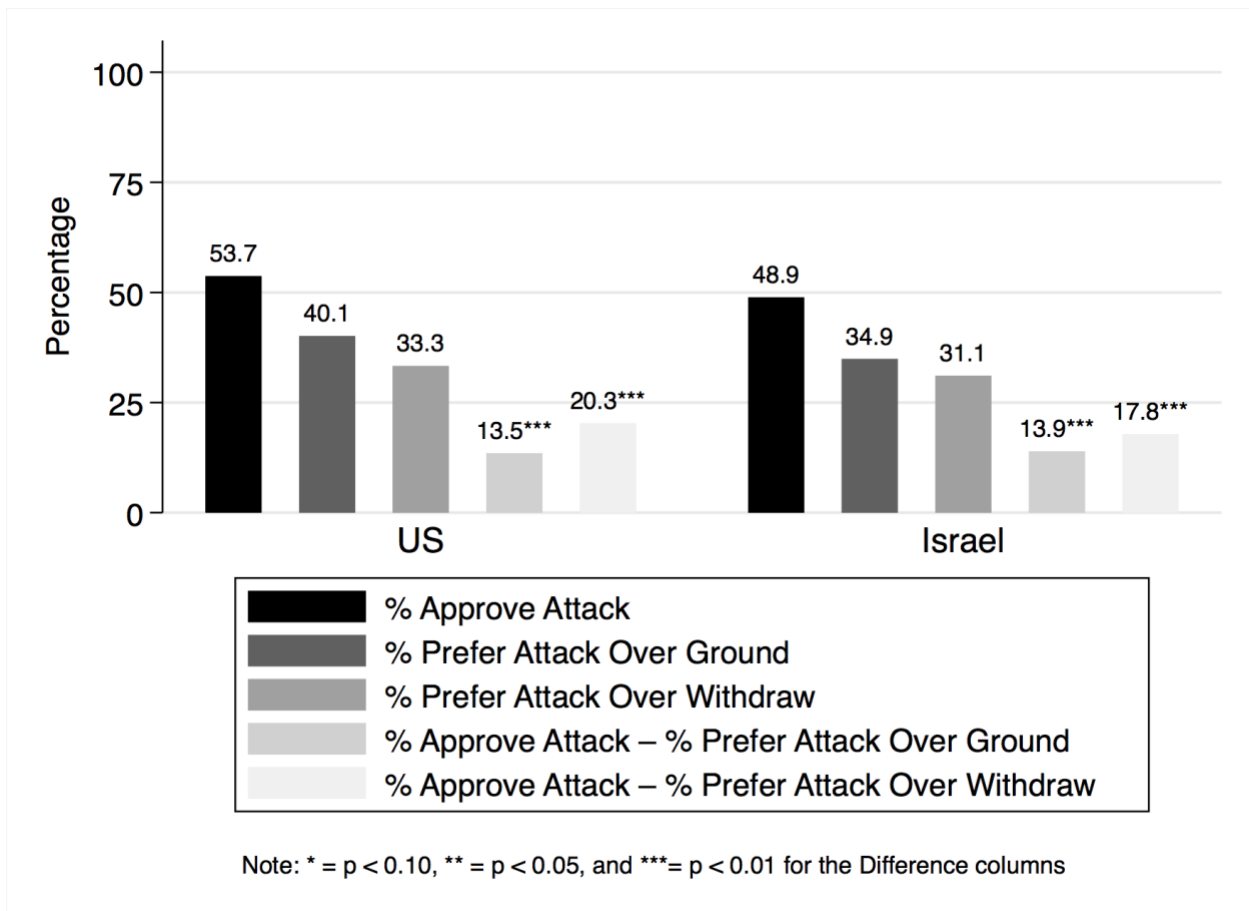
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<sup>100</sup> In the appendix, I show that these null results are strongest when comparing U.S. and Israeli male leaders. More significant differences emerge when comparing female leaders, a dynamic which is ripe for additional research. I offer an initial explanation for this heterogeneity in the appendix.

<sup>101</sup> Note that absolute approval for a nuclear attack is quite similar in Studies 1 and 2.

nuclear attack is not statistically less than 50% for either a U.S. or Israeli strike, the perceived morality of such an attack is. About 43% of respondents perceive a nuclear strike against Iranian citizens as ethical, which does not suggest there is a particularly strong nuclear non-use norm, but is still statistically less than a majority and supports H5. Figure 3 also shows that if respondents had to choose between launching the nuclear attack against the Iranian city or continuing the ground war, a majority would support the latter. In fact, approval for a nuclear attack relative to continuing the ground war is around 13 to 14 percentage points less than approval for the nuclear option in general.<sup>102</sup>

**Figure 3:** Approval for a Nuclear Strike Relative to a Ground Operation or Withdraw in Study 2



<sup>102</sup> By contrast, Sagan and Valentino found no significant difference between these quantities in their study. This discrepancy could be because the nuclear non-use norm has somewhat strengthened in the last few years.

Results for the question about whether respondents would prefer to conduct the nuclear attack or withdraw all soldiers from Iran completely are also presented in Figure 3. They show that even fewer respondents—only about one third—would prefer to use nuclear weapons against Iranian civilians rather than withdraw. The strong majority that prefer to withdraw entirely from Iran—before securing their surrender—rather than use nuclear weapons provides some evidence for the arguments of nuclear norm optimists. On the other hand, general approval for a nuclear attack may still be the most salient measure from a policy perspective, as political leaders likely care more about whether the public approves of their actions after the fact than which policy the public would have theoretically preferred before the decision was made.<sup>103</sup> Moreover, the general approval numbers are quite telling because they were asked *after* the questions about support for a nuclear strike relative to continuing the ground war or withdrawing. This means that respondents were reminded that there were other options besides using nuclear weapons, but a majority or near majority still approved of a nuclear attack anyway.

### STUDY 3: INDIA VS. U.S. VS. PAKISTAN

Study 3 demonstrates that the findings from Studies 1 and 2, which indicate a relatively weak nuclear non-use norm among the public, also hold among Indian citizens. Most strikingly, per H<sub>1</sub>, I do not find any evidence that approval for a nuclear strike by the U.S. is less than approval for a nuclear strike by India among members of the Indian public. Given that India and the U.S. are neither allies like the U.S. and France nor as closely aligned as the U.S. and Israel, this null finding provides relatively strong evidence that approval for a nuclear strike is not less for allied or partner countries than one's own government. High absolute levels of support for a nuclear

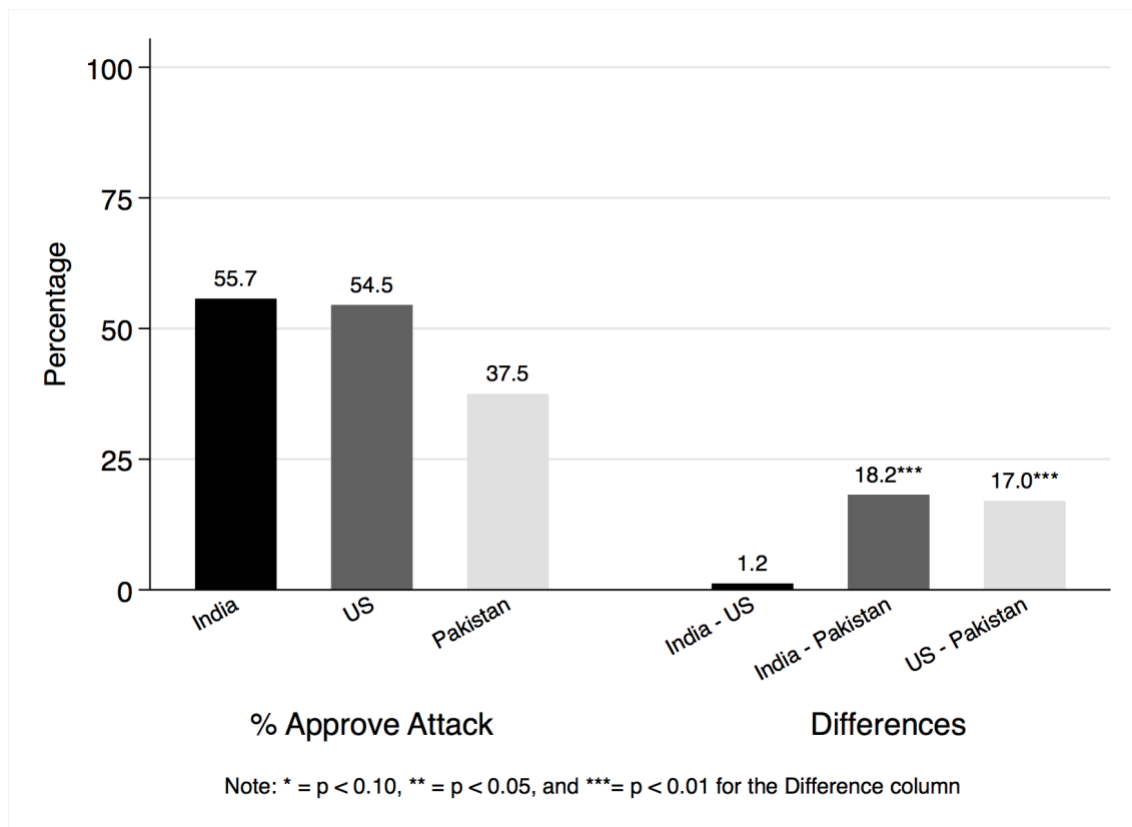
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<sup>103</sup> Sagan and Valentino, "Revisiting Hiroshima in Iran," 57-58.



attack among Indian citizens also suggests a relatively weak nuclear non-use norm, even outside of the U.S. context.<sup>104</sup> This is consistent with the work of Janina Dill, Scott Sagan, and Benjamin Valentino.<sup>105</sup> Finally, in accordance with H<sub>2</sub> and H<sub>3</sub>, as well as Study 1, I find support for a nuclear strike by one’s own government (India in this case) or a partner country (the U.S. in this case) is significantly greater than approval for a nuclear strike by a non-allied or non-partner country (Pakistan in this case). Overall, Study 3 demonstrates the generalizability of this paper’s results.

**Figure 4: Summary of Results in Study 3**



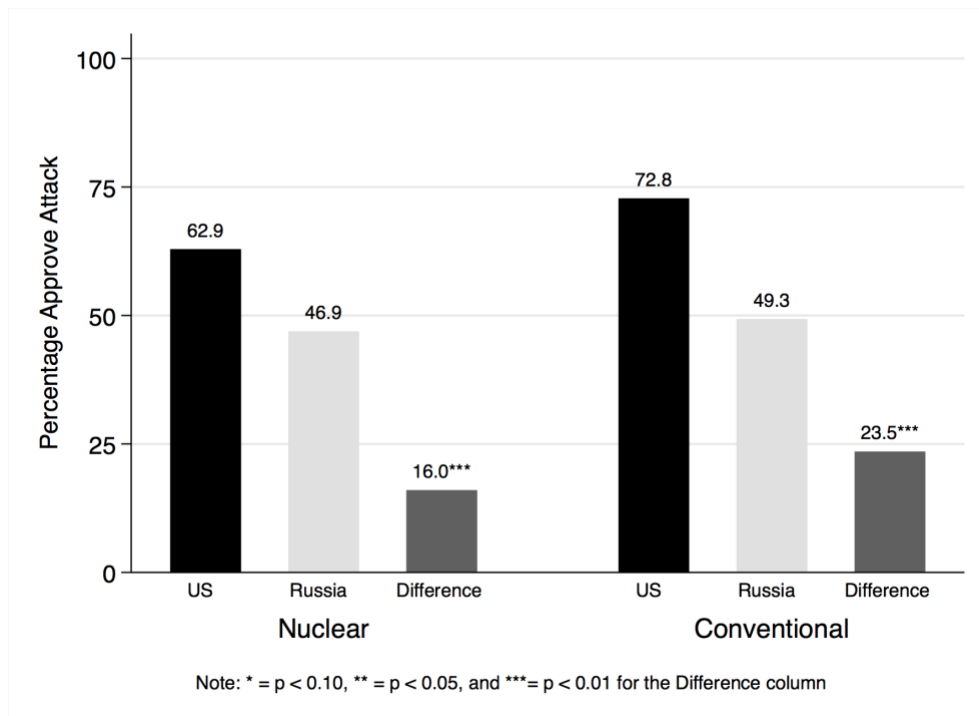
<sup>104</sup> The results hold for a series of robustness checks described in the appendix, and, as previously mentioned, there is no evidence that the core results from Study 3 are due to demographic skews in the sample. As in Studies 1 and 2, there is also a strong correlation between the perceived morality of a nuclear attack among survey respondents and support for the attack.

<sup>105</sup> Dill et al., “Kettles of Hawks.”

## STUDY 4: NUCLEAR VS. CONVENTIONAL WEAPONS

The results from Study 4 further indicate the relative weakness of the nuclear non-use norm among the public by demonstrating that the dynamic of lower approval for nuclear use by non-allied or non-partner countries also holds for the use of conventional weapons. Approval among the U.S. public for the use of either nuclear or conventional weapons by the U.S. is greater than approval for the use of nuclear or conventional weapons by Russia, and the difference in in-group bias between nuclear and conventional strikes is not statistically significant. This means states that cannot avoid a disproportionately negative reaction from non-allied or non-partner foreign countries by using conventional rather than nuclear weapons. Lower support for the use of nuclear weapons by non-allied or non-partner countries therefore does not indicate that the nuclear non-use norm is particularly strong at the water's edge; simply that support for the use of force by out-group countries is generally lower than support for the use of force by in-group countries.

**Figure 5: Nuclear vs. Conventional Attacks**



## *Conclusion*

My identity-based theory of support for nuclear weapons use combined with four survey experiments produced several striking results that challenge the arguments of nuclear norm optimists. First, I find that public approval for the use of nuclear weapons by allies or strategic partners is not significantly less than support for the employment of nuclear weapons by one's own government. This contradicts arguments from many policymakers and norm optimists that citizens will strongly disapprove of and even potentially support abandoning allies or partners that use nuclear weapons. Second, absolute levels of public support for nuclear use are quite high even when it is foreign countries pressing the nuclear button, which belies the existence of an unthinking and absolute nuclear taboo. Moreover, many members of the public believe that the use of nuclear weapons is actually ethical and virtuous. Finally, I demonstrate that the identity of the attacker matters when it comes to support for nuclear use, which prior work does not systematically or precisely consider. Public support is lower when non-allied or non-partner foreign countries conduct a nuclear attack than when one's own country or an allied or partner country carries out an identical nuclear strike. This dynamic also holds when analyzing support for the use of conventional weapons by non-allied or non-partner countries, which indicates there is nothing special about nuclear use that incentivizes countries to employ conventional rather than nuclear weapons. Overall, these findings robustly challenge the arguments of nuclear norm optimists that there is a strong tradition, norm, or even taboo against the use of nuclear weapons among members of the public. More broadly, they contradict arguments that a "humanitarian revolution" has led to a widely held and deeply internalized norm against killing noncombatants.<sup>106</sup>

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<sup>106</sup> Thomas, *The Ethics of Destruction*; Pinker, *The Better Angels of Our Nature*.

This project also has significant implications for policy and contemporary international security issues. Given the results presented here and by nuclear norm pessimists more broadly, policymakers should be more active in their efforts to prevent nuclear use. In a world where public opposition to nuclear use followed the logic of a taboo or a strong non-use norm, policymakers could, potentially, afford to adopt riskier strategies because doing so would still be relatively unlikely to ultimately lead to nuclear use. However, since public views toward nuclear use do not appear to follow the logic of a taboo or strong non-use norm, policymakers should be less willing to rock the boat in ways that could further raise the risks of nuclear use. For example, they should be more averse to making nuclear threats, abandoning nuclear arms control agreements, engaging in nuclear arms races, and allowing nuclear proliferation. All of these actions have the potential to increase the probability that nuclear weapons will be used to an even greater extent. For instance, nuclear threats may put a leader's reputation on the line if they fail to carry out the threat, and nuclear proliferation increases the number of actors that have the capability to use nuclear weapons. Contrary to these suggestions, contemporary events indicate that policymakers have taken actions that further raise the risk of nuclear weapons being used. The leaders of the world's two largest nuclear powers (Vladimir Putin and Donald Trump) have made nuclear threats, Russia suspended participation in inspections under the New START Treaty, China has initiated a large-scale investment to expand their nuclear arsenal, and Iran has made major progress towards acquiring a nuclear weapons capability. These recent developments, combined with the findings in this paper that public opinion is less of a constraint against nuclear use than norm optimists argue, suggest that the risk nuclear weapons will be used for the first time since 1945 is non-zero and should be taken seriously.

This paper also highlights a number of promising avenues for future research. First, while much experimental work on the nuclear taboo focuses on the public, relatively little has examined the views of policymakers themselves.<sup>107</sup> Given the growing use of elite surveys and arguments that the nuclear taboo is “increasingly an elite phenomenon,”<sup>108</sup> scholars should analyze elites’ first and second-order beliefs about nuclear use. They should also consider whether updating policymakers’ second-order beliefs (e.g., their beliefs about what domestic and foreign publics believe about nuclear use) would impact their first-order preferences regarding nuclear use.<sup>109</sup> While in the past policymakers may have believed foreign reactions to the use of nuclear weapons would be harsh, this view will not necessarily endure in the future if it is a misperception of true public opinion, as the results in this study imply might be the case. Essentially, if policymakers are confronted with evidence that foreign reactions to nuclear use are not as severe among foreign audiences as they previously expected, then policymakers may update their beliefs. On the other hand, perception can sometimes be more impactful than reality. Thus, if policymakers continue to believe that, for example, disapproval for nuclear use among members of the public in allied countries will be extremely high, then that could deter countries from using nuclear weapons.

Second, future work should assess whether elite cues could potentially shift who the public views as members of the in-group or out-group.<sup>110</sup> My expectation is that elite cues would have

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<sup>107</sup> For exceptions, see Paul C. Avey, “MAD and Taboo: US Expert Views on Nuclear Deterrence, Coercion, and Non-Use Norms,” *Foreign Policy Analysis* 17, no. 2 (April 2021): 1-14; and Michal Smetana and Michal Onderco, “Elite-Public Gaps in Attitudes to Nuclear Weapons: New Evidence from a Survey of German Citizens and Parliamentarians,” *International Studies Quarterly* 66, no. 2 (June 2022): 1-10.

<sup>108</sup> Nina Tannenwald, “Public Support for Using Nuclear Weapons on Muslims: A Response to Sagan, Valentino, and Press,” *International Studies Review* 23, no. 3 (September 2021): 1080, <https://doi.org/10.1093/isr/viab002>.

<sup>109</sup> For an example of a study that does this, see Matto Mildemberger and Dustin Tingley, “Beliefs about Climate Beliefs: The Importance of Second-Order Opinions for Climate Politics,” *British Journal of Political Science* 49, no. 4 (October 2019): 1279-1307, <https://doi.org/10.1017/S0007123417000321>.

<sup>110</sup> For research on the role of elite cues in the nuclear realm, see Stephen Herzog, Jonathan Baron, and Rebecca Davis Gibbons, “Antinormative Messaging, Group Cues, and the Nuclear Ban Treaty,” *Journal of Politics* 84, no. 1 (January 2022): 591-596, <https://doi.org/10.1086/714924>; and Post and Sechser, “Public Opinion, Cues, and the Use of Nuclear Weapons.”

only a limited ability to alter perceptions of group identity for countries that members of the public have strong feelings about and know more about. For example, U.S. policymakers may not be able to significantly alter perceptions of the United Kingdom as an in-group country or North Korea as an out-group country. On the other hand, for countries that the public has less strong feelings about and knows less about—for example, India or Indonesia—perceptions of group identity may be more malleable.

Third, scholars should consider possible antecedent variables that may help more fully explain the results found in this paper. Specifically, they should assess what are the “shared attributes” that determine whether a country becomes an ally or partner. Put another way, what determines whether countries become in-group rather than out-group members? Possible answers include race, religion, regime type, geography, and shared interests or values. These factors are not exactly alternative explanations for my findings. Instead, they may exist earlier in the causal chain and help explain why individuals value unity more with some countries rather than others, driving divergent perceptions of when the use of violence is more or less virtuous.

Fourth, would the results in this paper vary depending on how strongly individuals believe in the tenets of virtuous violence theory or value in-group loyalty? Prior work has demonstrated that support for nuclear use is greater among individuals that support policies—like the death penalty—which involve harming those that are perceived of as deserving punishment.<sup>111</sup> It stands to reason that the principal results in this paper would also be stronger for those members of the public that embrace the principles of virtuous violence theory and in-group loyalty.<sup>112</sup>

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<sup>111</sup> Sagan and Valentino, “Revisiting Hiroshima in Iran;” Rathbun and Stein, “Greater Goods;” and Slovic et al., “Virtuous Violence from the War Room to Death Row.”

<sup>112</sup> I did not measure these factors in this study due to survey space constraints and to avoid priming respondents in any way before being presented with the treatment.

Fifth, future work should analyze the external validity of the results in this paper to a scenario involving two nuclear-armed actors.<sup>113</sup> While relative support among the public for the use of nuclear weapons by in-group countries should still be higher than use by out-group countries, I would expect that absolute support for nuclear use would be lower in general given the fear of nuclear retaliation. I also anticipate a similar dynamic would hold—lower levels of absolute approval but similar levels of relative approval for in versus out-group countries—if vivid information about the consequences of a nuclear strike<sup>114</sup> or international law<sup>115</sup> was primed.

Sixth, future research should analyze how variation in the *target* country impacts support for nuclear use. Presumably, the results should be the opposite of what was found in this study: support for nuclear use against in-group targets should be *lower* than for out-group targets.

Seventh, more work should be done on how the strength of the nuclear non-use norm has evolved—and, perhaps, weakened—over time. Since prior studies have demonstrated that vivid information about the costs of a nuclear attack can generally lower support for nuclear use,<sup>116</sup> and that the atomic bombing of Japan in particular served as a vivid and salient example of these costs,<sup>117</sup> the passage of time since 1945 may help explain the weakening of the norm.

Finally, scholars should analyze how other aspects of identity—such as the race, gender, partisan affiliation, and foreign policy disposition of individual leaders—impact support for

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<sup>113</sup> For examples of work along these lines, see Sukin, “Experimental Evidence on Determinants of Support for Nuclear Use in Response to Threats of Nuclear Retaliation;” and Smetana and Onderco, “From Moscow With a Mushroom Cloud?”

<sup>114</sup> Koch and Wells, “Still Taboo?”

<sup>115</sup> Carpenter and Montgomery, “The Stopping Power of Norms.”

<sup>116</sup> Koch and Wells, “Still Taboo?”

<sup>117</sup> Jones, *After Hiroshima*.

nuclear use.<sup>118</sup> As this paper demonstrates, the identity of who presses the nuclear button is important for understanding the constraints—or lack thereof—against nuclear use.

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<sup>118</sup> For an example of a paper that analyzes the intersection of identity and nuclear weapons, see Matthew Fuhrmann and Michael C. Horowitz, “When Leaders Matter: Rebel Experience and Nuclear Proliferation,” *Journal of Politics* 77, no. 1 (January 2015): 72-87, <https://doi.org/10.1086/678308>.