

# The Psychology of Nuclear Brinkmanship

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Although the role of psychology and human emotions has increasingly made inroads into our understanding of the micro-foundations of decision-making in many areas of conflict studies, much less work has examined how they influence nuclear strategy. This article highlights the critical role of these factors in nuclear brinkmanship. As the field of international relations seeks to update theories of nuclear strategy and the utility of nuclear weapons in the wake of the notable return to great power conflict, we highlight the centrality of the conscious choice that leaders must undertake in deciding to use nuclear weapons. Human emotions can introduce chance into bargaining in ways that contradict the expectations of the rational cost-benefit assumptions that undergird deterrence theory.

This article brings the study of psychology and emotion to bear on the central puzzle of how “chance” can generate coercive leverage in nuclear crises while leaders still retain agency over the “choice” to escalate. Leverage is the ability to generate power or influence over an adversary to get them to bend to your will. Nuclear threats can produce leverage if made credibly. But a rational decision-maker should never choose mutually assured destruction (MAD); therefore canonical theories of brinkmanship assume that the “threat that leaves something to chance” removes leaders from the process of escalation.<sup>1</sup> We argue instead that chance can coexist with choice. In a MAD world, it is indeed irrational to carry out a nuclear threat if massive nuclear retaliation is expected; but a human decision-maker acting on emotion or psychological bias might do so anyway. Psychological factors explain how brinkmanship can operate even when leaders retain control over their nuclear forces.

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For comments on drafts and useful discussions the authors thank Omar Afzaal, Dan Altman, Matthew Bunn, Williamson Murray, Cullen Nutt, Beenish Pervaiz, Daniel Post, Scott Sagan, Paul Slovic, the anonymous reviewers, and participants in a Peace Science Society (International) workshop and a symposium at the U.S. Naval War College. The authors dedicate this article to Bob Jervis, who, despite failing health, reflected deeply on their working paper. He is missed.

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1. Thomas C. Schelling, *The Strategy of Conflict* (Cambridge, MA: Harvard University Press, 1960); Thomas C. Schelling, *Arms and Influence* (New Haven, CT: Yale University Press, 1966).

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*International Security*, Vol. 47, No. 3 (Winter 2022/23), 9–51, [https://doi.org/10.1162/isec\\_a\\_00451](https://doi.org/10.1162/isec_a_00451)  
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We identify three mechanisms that are the sources of risk in nuclear brinkmanship—accidents, self-control, and control of others—by considering research on the role of psychology and emotion in crisis decision-making. Each of these mechanisms introduces an opportunity for decision-makers to make choices that can turn chance into leverage over an adversary. Each mechanism also allows for the possibility of bias to factor into how these choices are made because of normal human decision-making tendencies. Accidents risk a decision-maker overreacting to chance events in a way that unintentionally raises the prospect of nuclear war. Self-control differs across individuals, and although leaders may retain agency to act in a crisis, they may have greater or lesser ability to control their own emotional responses to humiliation or provocation. Furthermore, leaders may not correctly perceive their environment or the nature of their adversary and may not be aware of their own biases. Finally, sometimes a leader cannot control the actions of others in crises but can nonetheless choose how to respond. In doing so, they may fall prey to inferential biases in interpreting the motivations or intentions of their adversaries. Each of these mechanisms of brinkmanship can be influenced by universal aspects of human decision-making architecture, including emotional responses. The ability to recognize and control these responses differs profoundly across individuals.

Nuclear threats can be credible in the face of assured retaliation precisely because of the uncertainty and unpredictability of normal human emotions. Different people react differently to the same situation, just as they often react similarly to different situations. One side's leader can never be exactly sure what the other leader is thinking or feeling. By focusing on how chance becomes leverage via individual differences in risk tolerance, emotional self-control, and resilience, we offer a fuller account of how human psychology affects nuclear strategy and crisis decision-making.

The theory of nuclear brinkmanship is core to the security studies canon. It explains how states can manipulate the risk of disaster to compete under the shadow of a nuclear war that threatens their mutual survival. A nuclear war cannot be won. Therefore, Thomas Schelling's "threat that leaves something to chance" helps to explain both enduring great power competition and the absence of large-scale war among nuclear powers, providing strong evidence in support of the theory of the nuclear revolution.<sup>2</sup> Nuclear weapons did not

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2. On the theory of the nuclear revolution, see Robert Jervis, *The Meaning of the Nuclear Revolution: Statecraft and the Prospect of Armageddon* (Ithaca, NY: Cornell University Press, 1989); Bernard

eliminate war or the security dilemma, and nuclear powers were not typically satisfied to build small arsenals to achieve minimum deterrence. Instead, what nuclear weapons changed about international politics was *how* nuclear powers competed. Nuclear-armed states still disagree over the status quo and challenge one another's interests. But they typically do so *without* making credible threats of nuclear annihilation. They use brinkmanship instead. And this theory of nuclear brinkmanship helps to explain big and important cases of nuclear crises, such as those over Cuba, Berlin, or Taiwan.

Brinkmanship is also, as a theory, poorly understood. The puzzle that brinkmanship is meant to solve is that nuclear powers cannot credibly threaten to use their nuclear weapons against nuclear-armed rivals. Carrying out such a threat would result in irrational, mutual annihilation. Therefore, rather than power or interests deciding the outcome of coercive bargains, it is the balance of resolve that shapes the outcome via belligerents' manipulation of the *risk* of disaster. Those who can stomach more risk are understood to be more resolved over the stakes. Those who are more resolved thus prove willing to take riskier actions because they possess higher risk tolerance to get what they want. As the overall threat of nuclear conflagration rises, less resolved belligerents will call it quits when the chance of nuclear war is too great. According to the theory, for instance, President John F. Kennedy's 1962 naval quarantine of Cuba pressured the Soviets to remove missiles from the island by raising the possibility that shots would be fired.<sup>3</sup> The near-simultaneous accidental incursion of a confused U.S. U-2 pilot into Soviet air space, the actual shooting down of a U-2 over Cuba without the permission of Moscow, and multiple false missile warnings all made it seem as though the situation were slipping out of control.<sup>4</sup> Soviet Premier Nikita Khrushchev proved less willing to tolerate the risk of escalation than Kennedy in this circumstance.

Schelling called these signals of nuclear risk "threat[s] that leave something to chance" and offered that they were a solution to the problem of agency in

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Brodie, ed., *The Absolute Weapon: Atomic Power and World Order* (New York: Harcourt Brace, 1946). For critiques, see Brendan Rittenhouse Green, *The Revolution That Failed: Nuclear Competition, Arms Control, and the Cold War* (Cambridge: Cambridge University Press, 2020); Austin Long and Brendan Rittenhouse Green, "Stalking the Secure Second Strike: Intelligence, Counterforce, and Nuclear Strategy," *Journal of Strategic Studies* 38, nos. 1–2 (2015): 38–73, <https://doi.org/10.1080/01402390.2014.958150>; Keir A. Lieber and Daryl G. Press, *The Myth of the Nuclear Revolution: Power Politics in the Atomic Age* (Ithaca, NY: Cornell University Press, 2020).

3. See Michael Dobbs, *One Minute to Midnight: Kennedy, Khrushchev, and Castro on the Brink of Nuclear War* (New York: Alfred A. Knopf, 2008).

4. Scott D. Sagan, *The Limits of Safety: Organizations, Accidents, and Nuclear Weapons* (Princeton, NJ: Princeton University Press, 1993).

coercion. If a leader cannot credibly threaten to start a nuclear war, perhaps they can at least signal that the decision is out of their hands. The leader can communicate that certain elements of the crisis incorporate chance beyond the decision-maker's control that could go the wrong way. Researchers subsequently studied the causes of nuclear risk, such as bureaucratic and organizational pathologies,<sup>5</sup> accidents,<sup>6</sup> or inadvertent escalation.<sup>7</sup> We acknowledge that these theories are crucially important and have contributed greatly to understanding nuclear risk. Yet, they have often minimized the role of the individual decision-maker, a lens that is key to analyzing how a small group or an individual can decide to authorize using nuclear weapons.

Thus, our central puzzle springs from the recognition that threats that leave something to chance do not actually eliminate human decision-making from crises. Rather, human emotions prove central to understanding the psychological dynamics that underlie such events. Leaders do not control risky incidents and near-misses, but even so they can choose whether and how to respond to these chance events. Said another way, leaders retain the choice to further escalate a crisis even when they lose control over discrete escalatory incidents, as the Cuban missile crisis example demonstrates. Barring a preexisting doomsday machine,<sup>8</sup> leaders still must make a conscious choice to use nuclear weapons, even in response to an attack that is assumed to be so provocative as to demand one.<sup>9</sup> Jumping into the abyss is considered irrational, therefore the canon assumes that chance cannot translate into leverage while agency remains. Yet choices can remain even when chance events occur. Thus, nuclear strategy scholarship does not fully answer the question: how does chance become leverage in nuclear crises?

This analysis tackles the challenge posed by this theoretical gap between chance and choice in threats that leave something to chance by bringing perceptual and emotional variables into our understanding of nuclear brinkmanship. We argue that these psychological variables are central to achieving a

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5. Graham T. Allison, "Conceptual Models and the Cuban Missile Crisis," *American Political Science Review* 63, no. 3 (1969): 689–718, <https://doi.org/10.2307/1954423>.

6. Sagan, *The Limits of Safety*.

7. Barry R. Posen, *Inadvertent Escalation: Conventional War and Nuclear Risks* (Ithaca, NY: Cornell University Press, 1991).

8. The Russians came closest to building such an automatic retaliation system. See David E. Hoffman, *The Dead Hand: The Untold Story of the Cold War Arms Race and Its Dangerous Legacy* (New York: Doubleday, 2009).

9. Even Barry Posen, in arguing that leaders are highly likely to respond to conventional attacks that target their nuclear forces, acknowledges that some leaders might ignore the effect of these actions on their weapons. Posen, *Inadvertent Escalation*.

more accurate understanding of threats that leave something to chance. A distinction between chance and choice is embedded in the idea of threats that leave something to chance. Therefore, one does not have to eliminate choice to generate chance.

Psychological and emotional variables are sources of risk, uncertainty, and ambiguity when leaders retain the choice to use nuclear weapons. In conflict or crisis, a coercer may or may not do what they threaten, and a target may not know whether to believe the threat. Either the coercer or the target could also become swept away by emotions such as anger or fear and take an action that they had not planned at the outset, especially under stress or in the face of loss. These factors can make an already uncertain situation even more unstable and unpredictable. Belligerents in nuclear crises can know this and thus fear that the other will make an irrational choice. The greater the fear, the more leverage the chance generates.<sup>10</sup> In this way, our argument seeks to provide a greater conceptual explication of brinkmanship by incorporating the critical psychological elements of risk perception and emotion regulation into the theory.<sup>11</sup>

The rest of this article proceeds as follows. Section two discusses the literature on brinkmanship in greater detail to provide a foundation for our work. Section three divides a novel typology of threats that leave something to chance into three distinct mechanisms of brinkmanship: accidents, self-control, and control of others. These sources of chance together explain how it is possible to generate leverage in crises without eliminating leaders' choices. Sections four, five, and six unpack each mechanism's emotional elements and processes. We also distinguish these mechanisms from the alternative "madman theory." The final section provides some conclusions about how our approach improves the understanding of past, present, and future nuclear crises and opens new avenues for research.

### *Situating Our Work in a Literature That Discounts Humans*

Brinkmanship purports to solve a problem of threat credibility. For a target to acquiesce to a coercive demand, it must believe that it will actually be pun-

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10. We thank Jacqueline Hazelton for helpful guidance on this point.

11. On "emotion regulation," see James J. Gross, "Emotion Regulation: Current Status and Future Prospects," *Psychological Inquiry* 26, no. 1 (2015): 1–26, <https://doi.org/10.1080/1047840X.2014.940781>.

ished for defiance and rewarded for submission. Coercers therefore take great pains to generate leverage over their targets by demonstrating both the capability to hurt and the resolve to punish if their demands are not met.<sup>12</sup> These ideas are captured in several generations of theories about how states can signal their resolve and make their threats credible—costly signaling, such as tying hands and sunk costs,<sup>13</sup> audience costs,<sup>14</sup> reputation,<sup>15</sup> and strategies of commitment.<sup>16</sup> To this list, and specific to nuclear coercion, Schelling added brinkmanship as a strategy of communicating resolve via “the threat that leaves something to chance.”<sup>17</sup>

Schelling’s analogy, which we return to throughout the article, was to two mountaineers chained together at the edge of a cliff. One climber cannot credibly threaten to push the other off the cliff, because that would doom them both; just as if one state threatens nuclear war, unacceptable retaliation might ensue. But each climber could still generate leverage over the other by taking risks. One climber could take a step closer to the edge, stand on one foot, even dance around on the smooth slope or loose gravel below their feet. In this way,

12. Alexander L. George, *Forceful Persuasion: Coercive Diplomacy as an Alternative to War* (Washington, DC: United States Institute of Peace, 1991); Alexander L. George and William E. Simons, eds., *The Limits of Coercive Diplomacy: Laos, Cuba, Vietnam*, 2nd ed. (Boulder, CO: Westview Press, 1994); Robert J. Art and Patrick M. Cronin, eds., *The United States and Coercive Diplomacy* (Washington, DC: United States Institute of Peace, 2003); Barry M. Blechman and Stephen S. Kaplan, *Force without War: U.S. Armed Forces as a Political Instrument* (Washington, DC: Brookings Institution, 1978).

13. James D. Fearon, “Domestic Political Audiences and the Escalation of International Disputes,” *American Political Science Review* 88, no. 3 (September 1994): 577–592, <https://www.jstor.org/stable/2944796>; James D. Fearon, “Signaling Foreign Policy Interests: Tying Hands versus Sinking Costs,” *Journal of Conflict Resolution* 41, no. 1 (February 1997): 68–90, <https://www.jstor.org/stable/174487>; Branislav L. Slantchev, “Military Coercion in Interstate Crises,” *American Political Science Review* 99, no. 4 (November 2005): 533–547, <https://www.jstor.org/stable/30038963>. On signaling in general see Robert Jervis, *The Logic of Images in International Relations* (New York: Columbia University Press, 1970).

14. Fearon, “Domestic Political Audiences”; Fearon, “Signaling Foreign Policy Interests”; Kenneth A. Schultz, *Democracy and Coercive Diplomacy* (Cambridge: Cambridge University Press, 2001); Kristopher W. Ramsay, “Politics at the Water’s Edge: Crisis Bargaining and Electoral Competition,” *Journal of Conflict Resolution* 48, no. 4 (August 2004): 459–486, <https://www.jstor.org/stable/4149804>; Jessica L. Weeks, “Autocratic Audience Costs: Regime Type and Signaling Resolve,” *International Organization* 62, no. 1 (Winter 2008): 35–64, <https://www.jstor.org/stable/40071874>.

15. Daryl G. Press, *Calculating Credibility: How Leaders Assess Military Threats* (Ithaca, NY: Cornell University Press, 2005); Jonathan Mercer, *Reputation and International Politics* (Ithaca, NY: Cornell University Press, 1996); Anne E. Sartori, *Deterrence by Diplomacy* (Princeton, NJ: Princeton University Press, 2005); Ryan Brutger and Joshua D. Kertzer, “A Dispositional Theory of Reputation Costs,” *International Organization* 72, no. 3 (2018): 693–724, <https://doi.org/10.1017/S0020818318000188>.

16. Schelling, *The Strategy of Conflict*; Schelling, *Arms and Influence*.

17. *Ibid.*

the climbers are engaged in brinkmanship—a competition in risk-taking or manipulating the chance of mutual disaster. The ground could always give way underneath one of them, unintentionally plunging both to their deaths.

As both climbers move further down the path toward oblivion by engaging in increasingly risky behavior, a rationalist theory predicts that whichever actor cares more about the stakes of a nuclear crisis will have a higher risk tolerance and thus be willing to accept more risk of nuclear war.<sup>18</sup> The less resolved actor will concede if the more resolved actor manipulates sufficient risk. Thus, even if one side or the other cannot credibly threaten to use nuclear weapons in a crisis, each can still try to generate bargaining leverage by taking steps that raise the risk that a crisis might unintentionally escalate to strategic nuclear war.

Schelling's theory of threats that leave something to chance, introduced in *The Strategy of Conflict* and developed in *Arms and Influence*, is simple and powerful. It purports to explain both how states could stumble into war without intention and why actors might strategically seek to manipulate risk to achieve advantage. It shows how there can be strength in vulnerability, since those who take the greatest risk stand to gain the biggest reward. And, like most of Schelling's work, the idea was policy relevant, prescribing and explaining canonical Cold War crisis behavior, such as the Cuban missile crisis.<sup>19</sup> The theory is also a crucial complement to the theory of the nuclear revolution, as it explains competition and coercion between nuclear powers despite the stalemate that their arsenals are supposed to induce. Nuclear weapons still changed international politics, they just did so by changing the way that states compete, not the fact that they do.

Yet the threat that leaves something to chance, as Schelling presented it, has a key flaw: it discounts humans. It does not reckon with the role of decision-makers in crisis and the psychological biases inherent in human behavior. Advances in the study of human psychology since Schelling's writing have made this missing perspective even more noticeable. Indeed, debates about nuclear strategy and coercion have mostly baked in this implicit original assumption that for brinkmanship to work, humans must lose agency over the choice to engage in nuclear war. Escalation in the aftermath of an accident or a false

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18. Schelling, *The Strategy of Conflict*. On rationalist bargaining theory, see also Fearon, "Signaling Foreign Policy Interests."

19. Jeffrey A. Frieden and David A. Lake, "International Relations as a Social Science: Rigor and Relevance," *ANNALS of the American Academy of Political and Social Sciences* 600, no. 1 (2005): 136–156, <https://doi.org/10.1177/0002716205276732>.

warning is unnecessarily presumed to have a quality of automaticity. Yet, the reality is exactly the opposite: for brinkmanship to work, humans must retain agency to choose in the face of chance events.

The simplifying assumption comes from the seeming incompatibility of rational decision-making with nuclear conflict. If strategic nuclear war is irrational but decision-makers are assumed to be rational, then scholars must discount the decision-making actor and assign to events a momentum of their own. The problem with this assumption, of course, is that not all decision-makers are rational, and it cannot be assumed that they are, or that they cannot make disastrous mistakes even if they are largely rational in cost-benefit terms. Said in terms of Schelling's analogy, the climber can still fall despite trying not to, dragging the other climber to their mutual doom. An accurate understanding of human psychology under conditions of threat requires proper consideration of the role of emotion and the desire for revenge in the motivation for attack.<sup>20</sup> In the rest of this section we unpack how theories of nuclear brinkmanship fail to account for imperfect human decision-making.

Robert Powell's theoretical distinction between the risk model and the punishment model of nuclear strategy is one of the most important contributions to the literature on brinkmanship after Schelling.<sup>21</sup> Powell argued that Schelling's brinkmanship model—the risk model—applied when escalation was uncontrolled; and the punishment model applied when leaders remained in control of escalation. Thus, for Powell, mutually invulnerable strategic forces replaced the risk model with the punishment model, because limited options would always remain limited if escalation were rational. "The threat that leaves something to chance also relies on a particular irrational act," he wrote. "The implausibility of this particular act implies that there is nothing to be left to chance."<sup>22</sup> For Powell, there is no bargaining advantage in the pre-emptive use of nuclear force. The only threat that leaves something to chance derives from accidents or irrationality. But Powell underappreciated how much choice and chance can coexist, particularly regarding the uncertainty introduced by human emotional responses to threat, loss, and risk. Decision-makers must still choose to actually respond or escalate to nuclear use, even

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20. Rose McDermott, Anthony C. Lopez, and Peter K. Hatemi, "Blunt Not the Heart, Enrage It: The Psychology of Revenge and Deterrence," *Texas National Security Review* 1, no. 1 (November 2017): 69–89, <http://hdl.handle.net/2152/63934>.

21. Robert Powell, "The Theoretical Foundations of Strategic Nuclear Deterrence," *Political Science Quarterly* 100, no. 1 (Spring 1985): 75–96, <https://www.jstor.org/stable/2150861>.

22. *Ibid.*, 85.



when they face very strong incentives to do so. Leaders can still retain choice in how to respond, including the choice to manipulate risk, even when confronting external events that they cannot control.

Brinkmanship is also at the center of debates about the coercive utility of nuclear weapons.<sup>23</sup> Nuclear coercionists are careful to articulate two different schools of thought around the effects of nuclear weapons on crisis outcomes.<sup>24</sup> The first is passive: that the mere existence of nuclear weapons and the ability to launch them pervades crises with a nuclear shadow. This nonzero probability of nuclear war means that leaders must make choices in crisis attuned to the risk of nuclear escalation. The second school sees the role of nuclear weapons as more active, as Schelling did. Nuclear weapons affect the outcome of the crisis when leaders choose to engage in brinkmanship tactics to raise the risk of nuclear war (and the possession of nuclear weapons should make it more likely that a leader would be emboldened to use these tactics). Neither school provides a satisfying theory of nuclear leverage in crisis. Each assumes that the risk of nuclear war is generated through the existence or operation of military forces alone. War just sometimes gets out of hand. The human element of choice is forgotten.

Matthew Kroenig, for instance, attempts to resolve what we find puzzling about brinkmanship—the seeming paradox of choice and chance—but he does so by introducing counterforce and damage limitation strategies to contest Schelling’s original analogy.<sup>25</sup> Actors with superior nuclear arsenals, he argues, are willing to risk more at the brink. In terms of the mountaintop example, through counterforce and damage limitation, one climber aims to cut the rope that tethers the two climbers together before pushing the other climber

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23. Todd S. Sechser and Matthew Fuhrmann, *Nuclear Weapons and Coercive Diplomacy* (Cambridge: Cambridge University Press, 2017); Kyungwon Suh, “Nuclear Balance and the Initiation of Nuclear Crises: Does Superiority Matter?,” *Journal of Peace Research*, online preprint, May 2022, <https://doi.org/10.1177/00223433211067899>; Kyungwon Suh, “Bargaining with the Bomb: Militarized Nuclear Signals and Crisis Bargaining” (working paper presented at the International Security Research Colloquium, Centre for International Security, Hertie School, Berlin, April 14, 2022). See also Robert A. Pape, *Bombing to Win: Air Power and Coercion in War* (Ithaca, NY: Cornell University Press, 1996), 20–21; Mark S. Bell and Julia Macdonald, “How to Think about Nuclear Crises,” *Texas National Security Review* 2, no. 2 (February 2019): 41–64, <http://dx.doi.org/10.26153/tsw/1944>; David C. Logan, “The Nuclear Balance Is What States Make of It,” *International Security* 46, no. 4 (Spring 2022): 172–215, [https://doi.org/10.1162/isec\\_a\\_00434](https://doi.org/10.1162/isec_a_00434).

24. Marc Trachtenberg, “The Influence of Nuclear Weapons in the Cuban Missile Crisis,” *International Security* 10, no. 1 (Summer 1985): 137–163, <https://doi.org/10.2307/2538793>. Todd Sechser and Matthew Fuhrmann make the same distinction in *Nuclear Weapons and Coercive Diplomacy*.

25. Matthew Kroenig, *The Logic of American Nuclear Strategy: Why Strategic Superiority Matters* (New York: Oxford University Press, 2018).

off the cliff. Doing so successfully requires no brinkmanship. But what if the knife is not sharp enough to sever the rope, or what if the other climber pre-empts when they see the knife drawn? Both climbers can still fall to their fates. We assume, like Schelling, that neither actor possesses a disarming first-strike counterforce capability, yet brinkmanship can still occur.

Other nuclear posture choices can also affect the magnitude of risk in brinkmanship, such as command-and-control structures, authorization and delegation to use nuclear weapons, tactical nuclear options, as well as sheer capacity for retaliation. To extend the analogy, one climber may have better balance, better spikes or traction on their boots, or they may possess superior knowledge regarding the structure and stability of the cliff itself, knowing where to stand and what rocks are unstable. Yet the foremost studies either make posture a dependent variable or examine the effects of nuclear posture on only deterrence and not compellence.<sup>26</sup> In his important work, Vipin Narang does not theorize risk acceptance as an explanatory variable for posture choice (although we infer some effects later in this article). Instead, Narang's coding of "civil-military arrangements" as "assertive or delegative" pertains to civil-military relations and the balance between addressing internal and external threats to the state. Negative and positive controls over nuclear forces are a consequence of this choice.<sup>27</sup> Moreover, in other work Matthew Fuhrmann and Todd Sechser see forward deployed nuclear weapons as ex ante sunk cost signals that manipulate the risk of accident or unauthorized use. For example, the United States may deploy tactical nuclear weapons on the territories of North Atlantic Treaty Organization (NATO) allies to make credible claims of extended deterrence.<sup>28</sup> Thus, both approaches have similarly removed human agency in crisis from their theorizing.

The literature on escalation does not do much better at accounting for the role of human psychology in decision-making. We see the study of escalation as being divided into two schools.<sup>29</sup> One school sees conflict escalation as a se-

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26. Vipin Narang, *Nuclear Strategy in the Modern Era: Regional Powers and International Conflict* (Princeton, NJ: Princeton University Press, 2014).

27. *Ibid.*, 36–39.

28. Fearon, "Domestic Political Audiences"; Matthew Fuhrmann and Todd S. Sechser, "Signaling Alliance Commitments: Hand-Tying and Sunk Costs in Extended Nuclear Deterrence," *American Journal of Political Science* 58, no. 4 (October 2014): 919–935, <https://www.jstor.org/stable/24363534>. Thomas Schelling thought of threats that leave something to chance as a much more dynamic phenomenon that could be rapidly manipulated in a crisis.

29. We thank Daniel R. Post for his clarifying work on escalation. Post, "Escalation and Coercion: Exploring 'Escalate to De-escalate' Strategies in Past Wargames and Crisis Simulations" (unpublished manuscript, 2022).

ries of deliberate decisions—to signal and bargain in limited war.<sup>30</sup> Within this school, scholars understand escalatory steps as calibrated to breach some salient threshold: vertical escalation to use new weapons or more violence, horizontal to expand conflict to new geographies, or political if they breach a norm. In nuclear strategy literature, deliberate escalation is chiefly understood to be used either for warfighting or to signal resolve.<sup>31</sup> A second school sees escalation as a natural phenomenon involving accidental or inadvertent pathways—war can get out of hand, “it has fire-like properties that cause it to continue once it begins,”<sup>32</sup> or “war is like love, it always finds a way.”<sup>33</sup> Richard Smoke developed it generally, arguing that smaller conflicts grow larger bit by bit until leaders lose control over their ability to prevent escalation.<sup>34</sup> And Bernard Brodie applied the intuition to the nuclear age, offering that “violence between great opponents is inherently difficult to control.”<sup>35</sup> Specific to limited nuclear war, Robert Jervis distinguished between two mechanisms of threats that leave something to chance: intended and unintended escalation;<sup>36</sup> Morton Halperin uses similar categories of explicit decisions versus unintended “explosions” of violence.<sup>37</sup>

To paraphrase Scott Sagan, one school sees escalation as a staircase and the other as an escalator.<sup>38</sup> Neither is fully satisfying when applied to nuclear brinkmanship. The former school assumes that rational humans will make decisions to gain advantage, so there should be no risk of strategic nuclear war because the rational leader will stop short of annihilation. In terms of the

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30. Forrest E. Morgan et al., *Dangerous Thresholds: Managing Escalation in the 21st Century* (Santa Monica, CA: RAND, 2008); Herman Kahn, *On Thermonuclear War* (New Brunswick, NJ: Transaction Publishers, 1960); Herman Kahn, *Thinking about the Unthinkable* (New York: Horizon Press, 1962).

31. J. Michael Legge, *Theater Nuclear Weapons and the NATO Strategy of Flexible Response*, R-2964-FF (Santa Monica, CA: RAND, 1983), 19.

32. Michelle English, “3 Questions: Stephen Van Evera Revisits World War I,” *MIT News*, November 8, 2018, <https://news.mit.edu/2018/3-questions-stephen-van-evera-revisits-world-war-i-100-years-after-bitter-end-1108>.

33. Bertolt Brecht, *Mother Courage*, quoted in Richard K. Betts, “Must War Find a Way? A Review Essay,” *International Security* 24, no. 2 (Fall 1999), 166, <https://doi.org/10.1162/016228899560112>.

34. Richard Smoke, *War: Controlling Escalation* (Cambridge, MA: Harvard University Press, 1977).

35. Bernard Brodie, “What Price Conventional Capabilities in Europe?” *Reporter*, May 23, 1963, 32, quoted in Robert Jervis, *The Illogic of American Nuclear Strategy* (Ithaca, NY: Cornell University Press, 1984), 137.

36. Jervis, *The Illogic of American Nuclear Strategy*.

37. Morton H. Halperin, *Limited War in the Nuclear Age* (New York: Wiley, 1963).

38. Eric Schlosser, “What If Russia Uses Nuclear Weapons in Ukraine?,” *Atlantic*, June 20, 2022, <https://www.theatlantic.com/ideas/archive/2022/06/russia-ukraine-nuclear-weapon-us-response/661315/>.

mountaineering analogy, every decision to jump down the cliff is more like a choice to descend to a ledge some distance below. Leaping into the abyss is irrational, but the climbers might survive the drop to each shelf on the way down. The latter school tends to bury the element of human choice in the aftermath of accidents and inadvertence, denying human agency a role in determining the outcome. In some sense, the climbers are assumed to be clumsy, and given no opportunity to catch their footing or react after they stumble. Decision-making decisively influenced by powerful emotions suggests a far less linear path to escalation. Rather than a series of steps, or ledges, emotional dynamics are more likely to produce tipping points, whereby little changes until some event precipitates a much larger shift—equivalent to a suicidal jumping off the ledge entirely.<sup>39</sup>

Jervis and others articulated how worst-case assumptions and misperceptions of adversary interests can lead actors to improperly calibrate military signals.<sup>40</sup> But this approach only begins to explain the mechanisms underlying brinkmanship. A leader might escalate because of a misperception of enemy intention, while not believing themselves to be an irrational or unpredictable decision-maker. Bargaining leverage can also originate from such perceptions: each side makes an assessment, however inaccurate, about the other's willingness to use nuclear weapons. Each side may simultaneously be convinced that they are not irrational, but the other side might be prone to unwarranted escalation. Brinkmanship can thus come down to each side's ability to manipulate the other side's perception of its intentions. Generating sufficient leverage to get the other side to back down can derive from just such an ability to manipulate perception on the other side. The black box of how this "choice" to escalate is made deserves further investigation. What remains missing is a theory that accounts for the role of individual decision-making in escalating conflicts and crises. All types of escalation—deliberate, inadvertent, or accidental—can result from emotional or psychological causes as well as effects.

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39. P. J. Lamberson and Scott Page draw a distinction between direct tips and contextual tips: "A direct tip occurs when a gradual change in the value of a variable leads to a large, i.e. discontinuous, jump in that same variable in the future. A contextual tip occurs when a gradual change in the value of one variable leads to a discontinuous jump in some other variable of interest." P. J. Lamberson and Scott E. Page, "Tipping Points," *Quarterly Journal of Political Science* 7, no. 2 (2012): 175–208, quote at 175, <http://dx.doi.org/10.1561/100.00011061>. From this perspective, these kinds of contextual tipping points can precipitate escalation in a more sudden way than suggested by linear models of change.

40. Robert Jervis, *Perception and Misperception in International Politics*, rev. ed. (Princeton, NJ: Princeton University Press, 2017).

Moreover, the valuable literature on organizations, nuclear accidents, and accidental war does not entirely solve the puzzle of how threats that leave something to chance might work in a crisis.<sup>41</sup> The prospect of accidents introduces risk into a crisis but is not in itself a necessary or sufficient mechanism to explain the onset of thermonuclear war. Powell, for instance, models only “autonomous” risk—just the fact of being in a crisis creates a risk that increases throughout the crisis.<sup>42</sup> But this operationalization is not quite right because leaders may actually choose to do things to create those risks. And even in the aftermath of accidents or inadvertence, decisions need to be made about how to respond to specific events.

Here, we seek to bring advances in the study of human psychology to bear on nuclear strategy. Pathbreaking work on the role of psychology and deterrence examines the role of various psychological and emotional factors in enhancing or undercutting deterrence.<sup>43</sup> But this work has rarely made the leap to study the psychological underpinning of successful or failed compellence.<sup>44</sup> Schelling was the first to clearly explicate the difference between deterrence, trying to prevent someone from doing something you do not like, and compellence, trying to get someone to start doing something you want. Compellence is widely recognized as being more difficult and has historically received less attention in the literature.<sup>45</sup> Brinkmanship can be deterrent or compellent but

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41. See Bruce G. Blair, *The Logic of Accidental Nuclear War* (Washington, DC: Brookings Institution, 1993); Paul J. Bracken, *The Command and Control of Nuclear Forces* (New Haven, CT: Yale University Press, 1983); Peter D. Feaver, *Guarding the Guardians: Civilian Control of Nuclear Weapons in the United States* (Ithaca, NY: Cornell University Press, 1992); Sagan, *The Limits of Safety*; Bradley A. Thayer, “The Risk of Nuclear Inadvertence: A Review Essay,” *Security Studies* 3, no. 3 (Spring 1994): 428–493, <https://doi.org/10.1080/09636419409347557>; and other essays in this issue.

42. Robert Powell, *Nuclear Deterrence Theory: The Search for Credibility* (Cambridge: Cambridge University Press, 1990).

43. Jervis, *The Illogic of American Nuclear Strategy*; Jervis, *The Meaning of the Nuclear Revolution*; Robert Jervis, Richard Ned Lebow, and Janice Gross Stein, *Psychology and Deterrence* (Baltimore: Johns Hopkins University Press, 1989).

44. We build on the terrific work of Roseanne McManus, who has investigated the coercive effects of different forms of perceived “madness,” not specific to nuclear coercion. See Roseanne W. McManus, “Revisiting the Madman Theory: Evaluating the Impact of Different Forms of Perceived Madness in Coercive Bargaining,” *Security Studies* 28, no. 5 (2019): 976–1009, <https://doi.org/10.1080/09636412.2019.1662482>. On psychology and compellence, see also Kathleen E. Powers and Dan Altman, “The Psychology of Coercion Failure: How Reactance Explains Resistance to Threats,” *American Journal of Political Science*, online preprint, June 2022, <https://doi.org/10.1111/ajps.12711>.

45. For exceptions, see Todd S. Sechser and Matthew Fuhrmann, “Crisis Bargaining and Nuclear Blackmail,” *International Organization* 67, no. 1 (2013): 173–95, <http://www.jstor.org/stable/43282156>; Matthew Kroenig, “Nuclear Superiority and the Balance of Resolve: Explaining Nuclear Crisis Outcomes,” *International Organization* 67, no. 1 (2013): 141–71, <http://www.jstor.org/stable/43282155>; James W. Davis Jr., *Threats and Promises: The Pursuit of International Influence* (Baltimore:

is intimately connected to the concept of compellence, since two actors engaged in brinkmanship disagree over the status quo, and at least one of them seeks to change it. Nonetheless, we use Schelling's definition of coercion to include both deterrence and compellence. For all his innovative brilliance, Schelling underappreciated the role of psychology in coercion, which is not surprising given his economic model of human decision-making.<sup>46</sup> Because Schelling's influence was both foundational and pervasive, and rightly so, the bulk of subsequent scholarship tended to overlook the role of psychology in decision-making.<sup>47</sup> Sometimes the role of individual leaders is dismissed entirely.

Thus, these questions persist: How does human decision-making affect brinkmanship? How might leaders retain choice yet create chance in nuclear crises?

### *Bringing Humans Back In*

The literature on nuclear brinkmanship has taken for granted that nuclear weapons innately engender a risk of nuclear war and that crises peak that risk. But if it is irrational to jump off the cliff, then why would brinkmanship work? As long as a seemingly rational decision-maker retains a choice over whether to escalate to strategic nuclear war, their threats to do so should not be credible. What is the real source of risk when agency remains? We locate it in the architecture of human psychological decision-making.

Because we are proposing a theory, we must be clear about our scope condi-

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Johns Hopkins University Press, 2000); Todd S. Sechser, "Military Compellent Threats, 1918–2001," *Conflict Management and Peace Science* 28, no. 4 (2011): 377–401, <https://doi.org/10.1177/0738894211413066>; Reid B. C. Pauly, "Deniability in the Nuclear Nonproliferation Regime: The Upside of the Dual-Use Dilemma," *International Studies Quarterly* 66, no. 1 (March 2022): sqab036, <https://doi.org/10.1093/isq/sqab036>; Cullen G. Nutt and Reid B. C. Pauly, "Caught Red-Handed: How States Wield Proof to Coerce Wrongdoers," *International Security* 46, no. 2 (Fall 2021): 7–50, [https://doi.org/10.1162/isec\\_a\\_00421](https://doi.org/10.1162/isec_a_00421). Much of this work became subsumed in the study of coercive diplomacy; see footnote 12.

46. Benjamin Wilson, "Keynes Goes Nuclear: Thomas Schelling and the Macroeconomic Origins of Strategic Stability," *Modern Intellectual History* 18, no. 1 (2019): 171–201, <https://doi.org/10.1017/S1479244319000271>. Benjamin Wilson argues that Schelling's confidence in the stability of deterrence, even after shocks to the system, came not from the game theory to which it is most often ascribed but from his training in Keynesian economic modeling. Wilson focuses on an early paper, Thomas C. Schelling, *Randomization of Threats and Promises*, RAND P-1716 (Santa Monica, CA: RAND, 1959), which became chapter 7 of Schelling's *The Strategy of Conflict*.

47. Robert Jervis's work stands as an important exception, particularly Jervis, *Perception and Misperception in International Politics*.

tions. First, our argument centers around the sources of risk in nuclear crises. It may not apply outside the high-stakes context of nuclear crises, but it should be widely applicable to crises between states with secure second-strike nuclear forces.<sup>48</sup> We proceed from Mark Bell and Julia Macdonald's definition of a nuclear crisis (based on the International Crisis Behavior project) as an interaction between two nuclear-armed states in which there is a "heightened probability of military hostilities" that "destabilizes their relationship" and begins with a "disruptive act or event."<sup>49</sup> This initial disruptive act should be a discrete escalatory event, but it need not involve a nuclear-specific risk. That is, nuclear accidents or close calls are not the only contexts in which these mechanisms operate. They are also at play when leaders alert nuclear forces, make or imply nuclear threats, operate their conventional forces to signal their resolve to escalate further, or otherwise engage in brinkmanship.

Second, our unpacking of the mechanisms of brinkmanship is decision-theoretical and not game-theoretical. We do not intend to model a strategic interaction; however, each side may try to anticipate what the other will do. Our logic applies to both sides: the coercer and the target. Each side may misjudge the other's intentions, and each side may know that their judgments of the other's intentions may be wrong, introducing inherent uncertainty. Regardless, even though nuclear brinkmanship is dyadic and dynamic, each mechanism applies to a single decision-maker. In brinkmanship, there is no single coercer and target since in theory both sides may simultaneously be engaged in bargaining and generating leverage for deterrence or compellence.

Third, we focus on bringing individual psychology to bear on the study of nuclear strategy. As such, we do not do justice to other promising levels of analysis, such as bureaucracy as a source of risk. This is not to say that bureaucracy has nothing to do with brinkmanship. Indeed, it likely does; but our primary aim is to explain the underappreciated risk-generating role of the individual decision-maker who has authority over the use of nuclear weapons in a crisis.

In table 1, we summarize three distinct mechanisms by which chance can be converted into leverage in nuclear crises: (1) accidents; (2) a lack of self-control;

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48. No specific nuclear postures are scoped in or out of our theory, save for the assumption that neither actor has a perfect counterforce capability against the other (i.e., that the rope tying the two climbers together is not severable). Nonetheless, we do discuss the effects of specific posture choices.

49. Bell and Macdonald, "How to Think about Nuclear Crises," 42. We comment in the conclusion on the possibility of nuclear brinkmanship involving only one nuclear-armed actor.

Table 1. Disentangling Chance and Choice in Nuclear Brinkmanship

Mechanisms	Concept mentioned in Schelling's <i>Strategy of Conflict</i>	Relationship to choice
accidents	accident mechanical failure	The decider has agency in the aftermath of the risk-generating event.
self-control	panic madness	The decider has agency but cannot control themselves.
	false alarm misapprehension of enemy intentions	The decider has agency but acts on misperception.
control of others	pre-delegation mischief	The decider does not have agency, a third party or unauthorized decider does.
	limited war as a generator of risk	The decider retains a choice, but the adversary also has agency over the decision for nuclear war.

and (3) a loss of control over others. The categories may bleed together in the real world, and they are not mutually exclusive, but they are analytically distinct. Each may apply to any actor on any side of a crisis.<sup>50</sup>

Our original contribution lies especially in the right-most column of table 1, and in how the mechanisms interact. Mechanism 1—the chance of an accident—is generally understood in the literature to be a source of risk in threats that leave something to chance. But accidents do not remove the need for either side to decide whether to use nuclear weapons. Rather, they generate risk because psychological and emotional factors—discussed in mechanisms 2 and 3—make the outcomes of those decisions more uncertain than a cost-benefit calculus would suggest. We therefore spell out the relationship of each mechanism to the “choice” to begin a strategic nuclear war—in other words, making the decision to jump off the cliff—and unpack the dynamics of that choice in the rest of the article.

To understand brinkmanship and the choices that surround threats that

50. For simplicity, each mechanism is conceived of—in this article and in Schelling's presentation—as the behavior of just one belligerent in a crisis, even though, in reality, both sides may engage in brinkmanship simultaneously. The final mechanism (on limited war) comes closest to capturing this interaction effect, which is core to other aspects of Schelling's work.



leave something to chance, we argue that it is critical to delineate the relationship between choice and chance. Schelling wrote of brinkmanship: "Where does the uncertain element in the decision come from? It must come from somewhere outside of the threatener's control. Whether we call it 'chance,' accident, third-party influence, imperfection in the machinery of decision, or just processes that we do not entirely understand, it is an ingredient in the situation that neither we nor the party we threaten can entirely control."<sup>51</sup> The choice over whether and when a nuclear war will break out is understood to be a hindrance to effective brinkmanship, since it cannot be made credible.

But chance and choice are not as contradictory as they appear, or as Schelling thought. Uncertainty can indeed emanate from within decision-makers or from their inability to read their antagonists properly, both of which can be, to some degree, within their awareness if not their control. A leader does not have to lose control to threaten to make an irrational choice in crisis. Leaders may also threaten or undertake actions that they do not consider to be irrational, although they may be judged so by outsiders. Before the attack on Pearl Harbor, for example, Japanese leaders knew they were taking a tremendous risk, but they also believed that the attack offered their best chance of survival.<sup>52</sup> Foreshadowing Schelling, they even spoke of leaps to potential doom. "Sometimes a man has to jump, with his eyes closed, from the veranda of Kiyomizu Temple," argued General Hideki Tojo to Prince Fumimaro Konoe in 1941.<sup>53</sup> Many wars start or fail to end in the ways that instigators anticipated precisely because central players do not possess a shared sense of value. Material cost-benefit arguments are unlikely to dissuade suicide bombers who seek their rewards in heaven.

Chance refers to an event or a cause that cannot be controlled. It introduces some elements of uncertainty and unpredictability.<sup>54</sup> Carl von Clausewitz long

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51. Schelling, *The Strategy of Conflict*, 188. See also Daniel Kahneman, Olivier Sibony, and Cass R. Sunstein, *Noise: A Flaw in Human Judgment* (New York: Little, Brown Spark, 2021).

52. Scott D. Sagan, "Origins of the Pacific War," *Journal of Interdisciplinary History* 18, no. 4 (Spring 1988): 893–922, <https://doi.org/10.2307/204828>.

53. Chihiro Hosoya, "Retgression in Japan's Foreign Policy Decision-Making Process," in James W. Morley, ed., *Dilemmas of Growth in Prewar Japan* (Princeton, NJ: Princeton University Press, 1971), 92.

54. Peter Katzenstein and Lucia Seybert argue that Schelling inappropriately conflated risk and uncertainty. Risk can be assigned probabilities, whereas uncertainty is neither measurable nor quantifiable. Peter J. Katzenstein and Lucia A. Seybert, eds., *Protean Power: Exploring the Uncertain and Unexpected in World Politics* (Cambridge: Cambridge University Press, 2018), 11, 42–43. See also Benoit Pelopidas, "The Book That Leaves Nothing to Chance: How *The Strategy of Conflict* and Its Legacy Normalized the Practice of Nuclear Threats" (unpublished manuscript, October 24, 2016);

ago appreciated that “no other human activity is so continuously or universally bound up with chance” as war.<sup>55</sup> Choice on the other hand refers to the extent to which a person or leader can direct events or believes themselves able to do so. At their best, people should be able to control their responses. When they retain choice, leaders can make decisions about the direction of a crisis or conflict. The possibility, and indeed the likelihood, that the leader’s beliefs about their own agency could be incorrect provides the area of overlap between chance and choice—unpredictability unifies both notions. Chance introduces the possibility that events may not occur as planned; a leader’s false sense of control or overconfidence in the ability to direct events allows for the same outcome.

But the fact that these outcomes overlap does not mean that their causes are the same. Rather, the causal component in chance derives from the probabilistic nature of the universe, whereas the causal element in choice emerges from the architecture of human decision-making, or the variation in individuals’ skills and temperaments.<sup>56</sup> Some leaders are better at controlling certain types of encounters given their greater interpersonal skills or psychological resources, such as cognitive intelligence. Some leaders are more perceptive and intuitively accurate about their environment, the nature of their adversary, as well as their own relative strengths, weaknesses, and strategic positions. Some also possess more capacity to perceive how plans may go off the rails. Importantly, some are much better at recognizing and controlling their own emotional reactions to upsetting or threatening events or people. Arrogance can cause others to overestimate their own skills and positions, failing to consider others’ goals, perceptions, and capabilities. These leaders show less sophistication and flexibility in their planning, refusing to accept the possibility that things may not go as planned. For example, General Douglas MacArthur’s narcissism cost many men their lives. Less than a third of the 90,000 personnel whom he abandoned on Corregidor Island in the Philippines on March 11, 1942, lived to see his return to Leyte on October 20, 1944.<sup>57</sup>

Our argument is that this distinction between chance and choice is elemen-

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Mark Blyth, “Great Punctuations: Prediction, Randomness, and the Evolution of Comparative Political Science,” *American Political Science Review* 100, no. 4 (2006): 493–498, <https://www.jstor.org/stable/27644375>.

55. Carl von Clausewitz, *On War*, ed. and trans., Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976), 85.

56. Kahneman, Sibony, and Sunstein, *Noise*.

57. Uri Bar-Joseph and Rose McDermott, *Intelligence Success and Failure: The Human Factor* (New York: Oxford University Press, 2017).

tal to whether leaders can generate leverage in nuclear crises. The most important moments in brinkmanship when chance becomes leverage happen in the war room, not on the battlefield. It is those who retain agency, a choice over what comes next, who are an unexplained source of risk. Their moment of decision—to escalate or not—is key to illuminating the operative mechanisms of threats that leave something to chance. There may be times when using force is rational in the strictest sense, particularly if a leader believes that their regime, or their state, confronts an existential peril. There are also many psychological and emotional reasons to believe that choosing to use force might not be rational in a particular crisis, and yet it is employed nonetheless in service of a leader's own bias, status, or ego. This occurs precisely because chance and choice and decision-making itself are often not rational processes; in moments of crisis, they are as much psychological and emotional as strategic in nature.

Threats that leave something to chance therefore generate leverage not by removing the decision to employ nuclear weapons from humans on either side, as Schelling argued, but rather precisely because of the psychological and emotional factors that make the outcomes of those decisions more uncertain than a cost-benefit calculus would suggest. Extreme emotions, such as might be expected during a crisis or war, can short-circuit more deliberate forms of decision-making; Daniel Kahneman refers to the fast, intuitive form of decision-making that characterizes so-called gut instinct as type I processing.<sup>58</sup> The habits that humans rely on in these moments can be advantageous in some circumstances and disastrous in others, especially under the shadow of nuclear war. Therefore, the unpredictability of type I fast, intuitive, emotional decision-making makes the already uncertain context of brinkmanship even more terrifying. Decision-makers are humans, and all humans have emotions, and those emotions can be both idiosyncratic and unpredictable. Therefore, these psychological issues become part of the calculus and introduce inherent uncertainty that Schelling overlooked. Whether the other side would act on their emotions or not is unknown to all.

Emotion thus complicates the elements of chance and choice in brinkmanship because a coercer can choose to act on an emotion such as fear or anger, or not. And most people are not able to control such strong emotions in moments of stress. Most people also know that the same is true for others. Indeed, even the legal system has built in diminished responsibility for those acting in the

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58. Daniel Kahneman, *Thinking, Fast and Slow* (New York: Farrar, Straus and Giroux, 2011).

heat of passion. So each side suspecting that the other may be unable to control their emotions under pressure further heightens uncertainty surrounding any signals sent by either side and intensifies the role of chance in brinkmanship.

The rest of this article unpacks each of the mechanisms in sequence, explaining the psychological underpinning of the risks associated with each type of chance and choice. We use illustrative examples from nuclear crises and beyond.

### *Mechanism 1: Accidents*

The first mechanism—accidents—is the category most familiar to the brinkmanship literature. Sometimes, escalation occurs despite the best intentions of the belligerents—an accidental launch, a mechanical failure that causes two planes to collide in the air, or a misaimed warning shot. The shooting down of civilian airliners during moments of heightened tensions provide examples that are all too common: Korean Air Lines Flight 007 shot down over the Soviet Union in 1983; Iran Air Flight 655 shot down by a U.S. guided missile cruiser in the Persian Gulf in 1988; Malaysia Airlines Flight 17 shot down over Ukraine in 2014; Ukraine International Airlines Flight 752 shot down over Iran in 2020; and many more. The fog of war ensures imperfect target selection. The Bill Clinton administration's 1999 accidental bombing of the Chinese Embassy in Belgrade or myriad drone strikes in Afghanistan that killed innocent people provide other examples. The longer a crisis goes on, the more likely an unexpected event could happen. Schelling conceived of this possibility as a kind of iterated Russian roulette. However unlikely they may seem, as Sagan writes, "things that have never happened before happen all the time."<sup>59</sup> Thus, all crises have some baseline level of risk.

Moreover, leaders can manipulate the magnitude of these risks in crises. First, leaders may choose to augment the risk of accidents to signal their resolve by mobilizing more military forces, placing them on ever higher alert, forward deploying them, or ordering them to operate near the enemy. A leader who approves "buzzing" tactics by pilots, for instance, is delegating to agents the risk of accidents occurring in the field. A fighter jet buzzing another aircraft was for Schelling "the purest real-life example I can think of in international affairs" of a threat that leaves something to chance.<sup>60</sup>

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59. Sagan, *The Limits of Safety*.

60. Schelling, *Arms and Influence*, 104.

The second way that leaders can manipulate the magnitude of these risks is through decisions about how much risk to bake into the nuclear postures around which states have organized their nuclear forces. Nuclear command-and-control arrangements can be “delegative” to military operators or can assert centralized control over launch procedures.<sup>61</sup> Using Narang’s typology of nuclear postures, an asymmetric escalation posture with delegative control should be more suitable for brinkmanship than an assured retaliation posture with assertive control, and catalytic postures work precisely by signaling the risk of nuclear escalation to a third-party intervener.<sup>62</sup> In general, leaders who delegate more authority to use nuclear weapons, have more mobile and numerous nuclear forces, and do not institute negative controls, such as permissive action links, raise the risk of accidents in a crisis.<sup>63</sup> (Mechanism 3 discusses how devolving or pre-delegating authorities on the use of force down the chain of command also raises the risks of escalation by others.)

Third, bureaucratic and organizational structures also affect the risk of accidents. Organization theory on “normal accidents” suggests that accidents and mechanical failures will always happen eventually in complex, tightly coupled systems like the military organizations that manage nuclear weapons.<sup>64</sup> The Cuban missile crisis is also replete with examples of how military standard operating procedures raised the level of risk beyond that which leaders intended.<sup>65</sup> For instance, because of standard nuclear alerting procedures, the fighter aircraft that scrambled to intercept a U-2 that strayed into Soviet airspace were armed with nuclear-tipped air-to-air missiles.<sup>66</sup> All these factors can augment the risk of accidents or close calls. But they do not remove choice

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61. Peter D. Feaver and David Arceneaux, “The Fulcrum of Fragility: Command and Control in Regional Nuclear Powers,” in Scott D. Sagan and Vipin Narang, eds., *The Fragile Balance of Terror: Deterrence in the New Nuclear Age* (Ithaca, NY: Cornell University Press, 2023); David Arceneaux, “Beyond the Rubicon: Command and Control in Regional Nuclear Powers” (PhD diss., Syracuse University, 2019).

62. Narang, *Nuclear Strategy in the Modern Era*.

63. Leaders have historically resisted devolving control of nuclear weapons in this fashion, however. The United States, which consistently planned to fight and win a nuclear war against the Soviet Union, resisted introducing limited options into its war plans. Long and Green, “Stalking the Secure Second Strike”; Lieber and Press, *The Myth of the Nuclear Revolution*; Scott D. Sagan, “SIOP-62: The Nuclear War Plan Briefing to President Kennedy,” *International Security* 12, no. 1 (Summer 1987): 22–51, <https://doi.org/10.2307/2538916>. Today it is debated how much Pakistan is prepared to loosen control over its tactical nuclear forces in crisis. Arceneaux, “Beyond the Rubicon.”

64. Charles Perrow, *Normal Accidents: Living with High-Risk Technologies* (Princeton, NJ: Princeton University Press, 1999); Sagan, *The Limits of Safety*.

65. Allison, “Conceptual Models and the Cuban Missile Crisis.”

66. Sagan, *The Limits of Safety*, 137.

entirely. And, most importantly, choice does not have to be removed for brinkmanship to function.

#### THE EXPLANATORY LIMITS OF ACCIDENTS

Accidents can only go so far in explaining the sources of bargaining leverage in brinkmanship. They do not dispatch the problem of choice. After an accident or mechanical failure causes a crisis to escalate, for a nuclear war to begin, one leader must decide to be the first to launch deliberately. Even if the chance event involves the accidental use of a nuclear weapon, a nuclear war does not start without a nuclear response. Accidents themselves do not eliminate leaders, their credibility, or their deficiencies from the equation.<sup>67</sup> Leaders can increase the odds of an accident, and they can choose not to respond to provocations that result from transgressions.

In his original climbing analogy, accidents are what made Schelling describe the brink as a curved slope. But it is more accurate to think of these chance events as ledges on the cliff. Falling all the way down the abyss at once is unlikely. If the climber ever fell, she might find herself on a lower ledge, perhaps injured but still with the acumen to decide whether to plummet another ledge down or try to climb back up to the top. Nonetheless, the abyss never ceases to exist, so it remains irrational at any ledge to simply leap into the bottomless chasm. (In limited war, the climber intentionally leaps to a lower ledge, which we discuss as a subcategory of mechanism 3.)

Two well-established psychological biases suggest that leaders will downplay the significance of the risk of accidents in their crisis decision-making. First, the “illusion of control” may plague leaders in crisis. Actors atop hierarchies tend to overestimate their own control over events and outcomes.<sup>68</sup> Leaders also often suffer from overconfidence in ways that risk expanding conflict.<sup>69</sup> Robert Trivers, for example, points out that human males have a strong tendency toward overconfidence and illusions of control. He notes that this tendency offers a strong evolutionary advantage, particularly in combat, since those who can bring more people to their side by projecting a strong like-

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67. We build here on Katzenstein and Seybert, *Protean Power*, 42.

68. E. J. Langer, “The Illusion of Control,” *Journal of Personality and Social Psychology* 32, no. 2 (1975): 311–328, <https://doi.org/10.1037/0022-3514.32.2.311>; Robert Jervis, *Perception and Misperception in International Politics* (Princeton, NJ: Princeton University Press, 1976).

69. Dominic D. P. Johnson, *Overconfidence and War: The Havoc and Glory of Positive Illusions* (Cambridge, MA: Harvard University Press, 2004); Dominic D. P. Johnson and James H. Fowler, “The Evolution of Overconfidence,” *Nature* 477 (2011): 317–320, <https://doi.org/10.1038/nature10384>.

likelihood of victory are more likely to win. They may even win without having to fight by getting the other side to back down in fear of overwhelming odds. People can often tell when enthusiasm is lacking, however. Therefore, bluffing or lying to oneself about one's prospects for victory is the surest way to deceive others, recruit more followers, and thus be more likely to actually win a fight. But such illusions also have negative consequences. Illusions of control can result in illusory pattern recognition; that is, perceiving patterns that do not exist, including exaggerating the prospect that others would actually submit.<sup>70</sup> Those who argued that the Iraqis would greet U.S. forces as liberators, like so many French citizens had done at the end of World War II, fell prey to this misconception. The problem of overconfidence can plague both sides in a context of brinkmanship. Both leaders may feel like they are more likely to emerge victorious from a conflict, and thus may prove more risk acceptant and willing to escalate than may be wise given the stakes.

The second psychological bias is reflected in Jervis's argument that leaders tend to overestimate the adversary's unity and control. They see others' behaviors as more centralized, disciplined, and coordinated than they actually may be, while simultaneously recognizing their own system as being more fractured, and expecting the other side to accurately perceive as much.<sup>71</sup> During the Cold War, many U.S. leaders believed that the Soviet Union was a united monolith, and treated it as such, failing to recognize the importance of divisions about future directions without the Politburo. Those same officials remained fully aware of the fractious nature of the U.S. government and assumed the Soviets were fully aware that decisions and statements were subject to revision based on Congressional oversight. In other words, in any situation, leaders assume that opponents are more united than they are, yet also believe that those same opponents recognize their own internal divisions. Both these tendencies reflect failures of imagination and an inability to see outside one's own experience. Jervis also warned against confident expectations in the case of nuclear war, writing that "decision makers can never be absolutely

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70. Robert Trivers, *The Folly of Fools: The Logic of Deceit and Self-Deception in Human Life* (New York: Basic Books, 2011), 22–23. Trivers's main argument is that humans have evolved to lie to ourselves in order to more effectively lie to others.

71. Hypothesis 9 in Robert Jervis, "Hypotheses on Misperception," *World Politics* 20, no. 3 (April 1968): 454–479, <https://doi.org/10.2307/2009777>. Hypothesis 10 is related: because a state gets most of its information about another state via the other state's foreign office, it tends to assume that the foreign office's position is exactly that of the other state. That is, we assume no rifts or disagreements within the other state.

sure how they or the citizens of their countries will react if nuclear bombs were to explode even as demonstrations.”<sup>72</sup>

In sum, in the aftermath of accidents, choices remain. Accidents are insufficient as a sole mechanism of brinkmanship. They beg another solution to the puzzle of agency or choice and must work in tandem with the other mechanisms. In terms of Schelling’s analogy, we want to know: what makes one climber respond to events that are slipping out of control with an irrational decision to step further toward the abyss while another strives to pull back from the edge? This is where individual variance in risk acceptance and temperamental variables can come into play in decisive ways.

### *Mechanism 2: Self-Control*

The second mechanism is that of losing self-control. The risk of escalation comes from within the system, not outside it. Here we see two subcategories. First, a decider may choose to escalate out of panic or madness. We explore the possibility of these irrational choices below. Second, Schelling cited false alarms and the misapprehension of enemy intentions (or a correct apprehension of the enemy’s misapprehension of its adversary) as sources of biased decision-making in crisis. In such circumstances, the decider still chooses war, but this decision is based on incorrect information or misperception about the enemy’s intentions and actions. The reciprocal fear of surprise attack would be pernicious in crisis and incentivize a first strike, especially if a state’s warning systems were postured to accept the risk of type I errors (false positives) because leaders are worried more about type II errors (false negatives). U.S. early warning radars, hastily set up to face south during the Cuban missile crisis, were apt to deliver exactly such false alarms of incoming ballistic missiles.<sup>73</sup> This mechanism also seems most affected by Schelling’s notion of “the imperfect process of decision” whereby governments, as groups of imperfect units, fail to move information to where it needs to be on time. We build more on Jervis’s psychological interpretation of that “imperfect process” of policy-making, driven by the fact that “the workings of machines and the reaction of humans in time of stress cannot be predicted with high confidence.”<sup>74</sup>

To restate the puzzle, chance is Schelling’s proposed rational solution to the

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72. Jervis, *Logic of Images*, 239.

73. Sagan, *The Limits of Safety*, chap. 3.

74. Jervis, *The Illlogic of American Nuclear Strategy*.



problem of nuclear threat credibility because it removes the actor from the equation. But if the actor cannot be entirely removed, then individuals retain some degree of choice that must be explained. To square this circle, we explain how the emotions of the decision-makers on each side influence chance and risk in brinkmanship.

Most leaders control their emotions most of the time, and some people certainly have greater emotional awareness and emotional regulation.<sup>75</sup> But many people are not able to completely or consistently control their feelings. In times of stress and crisis, one of the most destabilizing of these pressures is the desire for vengeance in the face of an attack.<sup>76</sup> The desire for revenge, as universal as it may be, is not the only emotion that might decisively affect a leader's decision-making calculus. Pride, shame, envy, status-seeking, or a desire to defend one's own or one's family's honor might ignite aggression as well. Documented psychological processes—such as “psychic numbing,”<sup>77</sup> which makes individuals relatively less sensitive to the suffering of larger numbers of people affected by a tragedy, and “security prominence,” whereby most people tend to privilege small increases in security over even much larger benefits in other domains—constitute meaningful ways in which thoughts and feelings systematically deceive most people.<sup>78</sup> These notable dynamics cause individuals to behave in ways that often contradict expressed values. In addition, feelings and emotions can be wildly unstable, buffeted by the vagaries of limited attention spans, time pressures, and other immediate situational factors that people do not consciously control.<sup>79</sup>

There are at least two areas in which Schelling's original economically inspired notions neglected some critically important and universal aspects of human psychological architecture. First, he wrote that “to inflict suffering gains nothing and saves nothing directly; it can only make people behave to avoid it.”<sup>80</sup> This was, after all, his basic premise in theorizing about the diplomacy of violence. Notwithstanding that such a construction neglects the existence of

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75. Gross, “Emotion Regulation.”

76. McDermott, Lopez, and Hatemi, “Blunt Not the Heart, Enrage It.”

77. Paul Slovic et al., “Psychic Numbing and Mass Atrocity,” in Eldar Shafir, ed., *The Behavioral Foundations of Public Policy* (Princeton, NJ: Princeton University Press, 2013), 126–142.

78. Paul Slovic et al., “Virtuous Violence from the War Room to Death Row,” *Proceedings of the National Academy of Sciences* 117, no. 34 (2020): 20474–20482, <https://doi.org/10.1073/pnas.2001583117>.

79. Stephan Dickert and Paul Slovic, “Unstable Values in Lifesaving Decisions,” *Frontiers in Psychology* 2, no. 294 (2011), <https://doi.org/10.3389/fpsyg.2011.00294>.

80. Schelling, *Arms and Influence*, 2.

sociopaths who revel in inflicting harm, and who may inhabit high offices more frequently than we might like to acknowledge, there are a few things that are psychologically and biologically naive about this contention. Anyone who revels in another's misfortune or who feels the hormonal rush that follows winning a physical fight or intense competition knows that inflicting suffering on others can generate endogenous pleasure, particularly if those others have caused them harm. Almost all violence is perceived by the perpetrators to be virtuous, and individuals thus feel quite justified in attacking others whom they consider bad and blameworthy.<sup>81</sup> The German word for this feeling is *schadenfreude*, which is well intuited by most. What is more, the physical rush that accompanies a victorious fight—even if verbal and not physical—is automatic, effortless, immediate, and endogenous.<sup>82</sup> The feeling cannot be bought, nor can it be tamped down easily. Achieving dominance can trigger this strong biological rush. There are precious few other ways to produce it. Indeed, there is a long evolutionary history that sets people up for the cascade of positive internal feelings that follow successful combat. Victory feels great; defeat feels awful. Those who win like the feeling and want to fight again; those who lose are less inclined to try again.<sup>83</sup> Those who have obtained victory often learn to like the taste of blood; one need only look at the difficulty of successfully re-incorporating military personnel with long combat histories back into civilian society to see the downside of such reinforcement.<sup>84</sup> Many who succeed at inflicting suffering become addicted to the experience.<sup>85</sup>

A rationalist approach to brinkmanship also fails to account for the per-

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81. Slovic et al. "Virtuous Violence from the War Room to Death Row."

82. Pranjal H. Mehta, Amanda C. Jones, and Robert A. Josephs, "The Social Endocrinology of Dominance: Basal Testosterone Predicts Cortisol Changes and Behavior Following Victory and Defeat," *Journal of Personality and Social Psychology* 94, no. 6 (2008): 1078, <https://doi.org/10.1037/0022-3514.94.6.1078>.

83. Brian A. Gladue, Michael Boehler, and Kevin D. McCaul, "Hormonal Response to Competition in Human Males," *Aggressive Behavior* 15, no. 6 (1989): 409–422, [https://psycnet.apa.org/doi/10.1002/1098-2337\(1989\)15:6%3C409::AID-AB2480150602%3E3.0.CO;2-P](https://psycnet.apa.org/doi/10.1002/1098-2337(1989)15:6%3C409::AID-AB2480150602%3E3.0.CO;2-P); Michael Elias, "Serum Cortisol, Testosterone, and Testosterone-Binding Globulin Responses to Competitive Fighting in Human Males," *Aggressive Behavior* 7, no. 3 (1981): 215–224, [https://doi.org/10.1002/1098-2337\(1981\)7:3%3C215::AID-AB2480070305%3E3.0.CO;2-M](https://doi.org/10.1002/1098-2337(1981)7:3%3C215::AID-AB2480070305%3E3.0.CO;2-M); Pranjal H. Mehta and Robert A. Josephs, "Testosterone and Cortisol Jointly Regulate Dominance: Evidence for a Dual-Hormone Hypothesis," *Hormones and Behavior* 58, no. 5 (2010): 898–906, <https://doi.org/10.1016/j.yhbeh.2010.08.020>; Pranjal H. Mehta and Robert A. Josephs, "Testosterone Change after Losing Predicts the Decision to Compete Again," *Hormones and Behavior* 50, no. 5 (2006): 684–692, <https://doi.org/10.1016/j.yhbeh.2006.07.001>.

84. This manifests in tragic suicides and high rates of violence.

85. Lionel P. Solorsh, Charles A. Meyer Jr., and William P. Nolan, "Addiction to Violence in the United States Vietnam Combat Veteran," *Med. & Law*. 10, no. 375 (1991): 1775010.

ceived emotional and psychological, as well as material, values of retaliation, and the strong and instinctual drive for revenge against those who cause us harm. Rose McDermott, Anthony Lopez, and Peter Hatemi argue that “the human psychology of revenge explains why and when policymakers readily commit to otherwise apparently ‘irrational’ retaliation” such as that envisioned by second-strike nuclear forces.<sup>86</sup> The psychology of vengeance underlies the stability of nuclear deterrence far more than a rational theory of the nuclear revolution appreciates.

Policymakers have sometimes intuited the value of such revenge and anger in coercive bargaining. During the 1973 Yom Kippur War, as the two Cold War superpowers traded threats of intervention and escalation, in reply to Secretary of State Henry Kissinger’s warning that “[Washington] would not accept Soviet troops in any guise” in the conflict, Soviet Ambassador Anatoly Dobrynin rejoined that in Moscow “they have become so angry, they want troops.”<sup>87</sup> It was not material interest driving policy, he was suggesting, but emotion. Secretary of State James Baker also explicitly invoked emotion to deter Saddam Hussein from using chemical weapons in a 1991 meeting with Iraqi Minister of Foreign Affairs Tariq Aziz. “If the conflict starts, God forbid, and chemical or biological weapons are used against our forces, the American people would demand vengeance,” Baker threatened.<sup>88</sup> Whether or not they work, nuclear strategists have indeed often made these appeals to emotion in their threat-making. To bolster U.S. deterrence of biological warfare or cyberattacks against critical infrastructure (“significant non-nuclear strategic attacks”), John Harvey et al. write that “the American people would not seek to take any military option off the table in responding to such a catastrophic attack.”<sup>89</sup> The anticipated emotions of domestic publics can tie the hands of leaders, in some cases to stabilizing effect.

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86. McDermott, Lopez, and Hatemi, “Blunt Not the Heart, Enrage It.”

87. Henry Kissinger, *Years of Upheaval: The Second Volume of His Classic Memoirs* (New York: Simon and Schuster, 2011), 582, quoted in Barry M. Blechman and Douglas M. Hart, “The Political Utility of Nuclear Weapons: The 1973 Middle East Crisis,” *International Security* 7, no. 1 (Summer 1982): 138, <https://doi.org/10.2307/2538692>.

88. Quoted in Scott D. Sagan, “The Commitment Trap: Why the United States Should Not Use Nuclear Threats to Deter Biological and Chemical Weapons Attacks,” *International Security* 24, no. 4 (Spring 2000): 85–115, <https://doi.org/10.1162/016228800560318>. Scott Sagan and Allan Weiner also see invoking public pressure to carry out a threat as a common strategy when leaders would rather bluff. See Christopher A. Ford et al., “Are Belligerent Reprisals against Civilians Legal?,” *International Security* 46, no. 2 (Fall 2021): 166–172, [https://doi.org/10.1162/isec\\_c\\_00422](https://doi.org/10.1162/isec_c_00422).

89. John A. Harvey et al., “Continuity and Change in U.S. Nuclear Policy,” *Real Clear Defense*, February 7, 2018, [https://www.realcleardefense.com/articles/2018/02/07/continuity\\_and\\_change\\_in\\_us\\_nuclear\\_policy\\_113025.html](https://www.realcleardefense.com/articles/2018/02/07/continuity_and_change_in_us_nuclear_policy_113025.html). See also *Nuclear Posture Review* (Washington, DC: Office of the

Once force is used, however, emotions can quickly exhaust their strategic utility. In 1898, despite two successive presidential administrations attempting to avoid conflict with Spain, the destruction of the USS *Maine* in Havana harbor so angered the U.S. Congress that it chose war. President William McKinley later reflected that “but for the inflamed state of public opinion, and the fact that Congress could no longer be held in check, a peaceful solution might have been held.”<sup>90</sup>

In war itself, these emotions can be taken to extremes. Wanton cruelty is a lamentably common occurrence in warfare, from Alexander the Great’s siege of Tyre to the Pacific Islands of World War II.<sup>91</sup> Alexander III of Macedon was said to have grown so angry at the duration of the siege of Tyre in 332 BC that he took vengeance on its occupants by allowing his Macedonian troops to “vent their fury at such a brutal siege upon those who survived,”<sup>92</sup> Roman historian Quintus Curtius Rufus called Alexander’s choice “an irrational temper tantrum.”<sup>93</sup> In the words of Schelling, “any use of force tends to be brutal, thoughtless, vengeful, or plain obstinate.”<sup>94</sup> For instance, depictions of the Crusaders breaching the walls of Jerusalem in 1099 describe how “pent up emotions found an outlet in murder, rape and plunder, which discipline [was] powerless to prevent.”<sup>95</sup> In the nuclear era, these psychological patterns bear on the question of whether limited nuclear war can be terminated or whether, as we suggest, leaders are unlikely to succeed in escalating to deescalate and instead continue the use of nuclear weapons once instigated.

A second way in which the theory of brinkmanship must better account for human psychology is in its observation of the value of irrationality. Schelling wrote, “Another paradox of deterrence is that it does not always help to be, or to be believed to be, fully rational, cool-headed, and in control of oneself or of

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Secretary of Defense, 2018), <https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF>; and Ford et al., “Are Belligerent Reprisals against Civilians Legal?,” in which Sagan and Weiner call this approach “a common strategem, when making veiled threats of illegal or incredible action, to place the onus on others for executing those threats.”

90. Richard F. Hamilton, *President McKinley, War and Empire*, vol. 1, *President McKinley and the Coming of War, 1898* (New Brunswick, NJ: Transaction Books, 2007). This example is used in McDermott, Lopez, and Hatemi, “Blunt Not the Heart, Enrage It.”

91. Schelling, *Arms and Influence*, 5. On the brutality of the Pacific War, see John W. Dower, *War without Mercy: Race and Power in the Pacific War* (New York: Pantheon Books, 1986).

92. Stephen English, *The Army of Alexander the Great* (Barnsley, UK: Pen and Sword, 2009), 148.

93. Stephen English, *The Sieges of Alexander the Great* (Barnsley, UK: Pen and Sword, 2010), 57.

94. *Ibid.*, 5.

95. Schelling, *Arms and Influence*, 9.

one's country."<sup>96</sup> Nevertheless, Schelling overall indicated that leaders are more influenced by a kind of cost-benefit analysis that privileges economic forms of decision-making; we argue instead that leaders tend to favor more psychological and emotional forces in their decision-making. Not all actors, even leaders, are always rational. Adolf Hitler provides the classic example; his hatred of the Jewish people led him to keep using the railroads to ship them to concentration camps, from the outskirts to the center, when it would have been much better for his military prospects, especially at the end of the war, to use that transport to ship men to the front, from the center out.<sup>97</sup> Hitler is usually understood as an atypical leader but other examples abound. Vladimir Putin's 2022 invasion of Ukraine, especially his doubling down after the unprecedented sanctions imposed in its wake and the underperformance of the Russian military, would hardly seem rational from a cost-benefit perspective. But his actions appear more comprehensible when explained in terms of his view of his own role in Russian history.

Additional work in psychology validates the notion that people weigh unpredictable threats more heavily in making decisions. For example, Paul Slovic notes the importance of risk perception in understanding the nature of the threats that humans confront. Specifically, he notes that people are most scared of so-called "dread" risks, those that feel uncontrollable or that appear to be harbingers of unpredictably worse things yet to come. The threat of climate change might easily fall into this category. Yet, Slovic specifically uses nuclear war as an example of an existential fear outside most people's control, helping to explain, at least in part, the dread associated with the risk.<sup>98</sup> Next we explore these psychological consequences of unpredictability by distinguishing the mechanism of self-control from President Richard Nixon's infamous "madman theory."<sup>99</sup>

#### HOW (AND HOW NOT) TO LOSE SELF-CONTROL: NIXON THE "MADMAN"

Schelling's notion of the rationality of irrationality rests on the idea that getting others to believe that one is irrational and might do something crazy or

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96. *Ibid.*, 37.

97. Yaron Pasher, *Holocaust versus Wehrmacht: How Hitler's "Final Solution" Undermined the German War Effort* (Lawrence: University Press of Kansas, 2014).

98. Paul Slovic, "Perception of Risk," *Science* 236, no. 4799 (1987): 280–285, <https://doi.org/10.1126/science.3563507>.

99. H. R. Haldeman and Joseph DiMona, *The Ends of Power* (New York: W. H. Allen, 1978), 83.

unpredictable may sometimes prove to be a rational strategy if it gets the adversary to back off or back down without a fight. President Donald Trump tried, unsuccessfully, to play this game with Kim Jung Un.<sup>100</sup> It is a strategy designed to win without incurring the costs of fighting, if a leader can pull it off. In this way, irrationality operates as a kind of strategic manipulation.

There are various ways that such a strategy might be pursued, and one of the most noteworthy is the so-called madman strategy. The madman approach can be understood as a subtype of Schelling's larger rationality of irrationality notion. The idea became famous because Nixon used it to try to drive the North Vietnamese leadership to the negotiating table during the Vietnam War. The most authoritative account comes from Nixon's White House Chief of Staff H. R. "Bob" Haldeman's memoirs:

The threat was the key, and Nixon coined a phrase for his theory which I'm sure will bring smiles of delight to Nixon-haters everywhere. We were walking along a foggy beach after a long day of speech writing. He said, "I call it the Madman theory, Bob. I want the North Vietnamese to believe I've reached the point where I might do anything to stop the war. We'll just slip the word to them that, 'for God's sake, you know Nixon is obsessed about Communism. We can't restrain him when he's angry—and he has his hand on the nuclear button'—and Ho Chi Minh himself will be in Paris in two days begging for peace."<sup>101</sup>

Nixon complemented the strategy with a bomber alert meant to look like the United States was preparing for nuclear war. Operation Giant Lance tasked eighteen thermonuclear-armed B-52 bombers to fly toward Soviet airspace, turn at the last minute, and loiter in an oval pattern nearby.<sup>102</sup> The mission also unleashed its share of accident risks, as one base used untrained crews to load the bombers while two B-52s "accidentally flew so close to each

100. Daniel W. Drezner, "Trump Likes to Be 'Unpredictable.' That Won't Work So Well in Diplomacy," *Washington Post*, November 23, 2016, <https://www.washingtonpost.com/posteverything/wp/2016/11/23/trump-likes-to-be-unpredictable-that-wont-work-in-diplomacy/>.

101. Haldeman and DiMona, *The Ends of Power*, 83. See also Schelling, *The Strategy of Conflict*; Scott D. Sagan and Jeremi Suri, "The Madman Nuclear Alert: Secrecy, Signaling, and Safety in October 1969," *International Security* 27, no. 4 (Spring 2003): 150–183, <https://doi.org/10.1162/016228803321951126>.

102. Sagan and Suri, "The Madman Nuclear Alert," 174. See also William Burr and Jeffrey P. Kimball, "Nixon's Secret Nuclear Alert: Vietnam War Diplomacy and the Joint Chiefs of Staff Readiness Test, October 1969," *Cold War History* 3, no. 2 (2003): 113–156, <http://dx.doi.org/10.1080/713999987>; William Burr and Jeffrey P. Kimball, *Nixon's Nuclear Specter: The Secret Alert of 1969, Madman Diplomacy, and the Vietnam War* (Lawrence: University Press of Kansas, 2015); Todd S. Sechser and Matthew Fuhrmann, "The Madman Myth: Trump and the Bomb," *H-Diplo*, ISSF Policy Series, March 22, 2017, <https://issforum.org/policy/1-5w-madman>.

other that a classified Strategic Air Command report later called the operation unsafe," writes Sagan.<sup>103</sup> Nixon in fact instructed Kissinger to "shake his head" in a meeting with the Soviet ambassador and say, "I am sorry Mr. Ambassador, but Nixon is out of control."<sup>104</sup> In this way, Nixon thought that he could game the Soviets and North Vietnamese by getting them to believe he was more irrational than he really was, or at least more than he believed himself to be.

The strategy failed, however; and it failed in a way that illuminates the important role of perceptions of rationality or irrationality in brinkmanship. Nixon's threat failed because the North Vietnamese understood Nixon to be a manipulative, strategic actor. To them, Nixon was being crazy like a fox more than crazy like a loon. As Nguyen Co Thach—vice minister of foreign affairs and a top aide to Foreign Minister Le Duc Tho in his negotiations with Kissinger in Paris—later reported in an interview with Jeffrey Kimball, "he would like to show to the Vietnamese that he was a changeable [unpredictable] person, that he can surprise—how to say, a big stick surprise. But this backfired on Nixon, because we saw that Nixon could not have a big stick, because of the step-by-step withdrawal of American forces. That means the stick becomes smaller and smaller."<sup>105</sup> Meanwhile, Ambassador Dobrynin derived a similar inference from Nixon's attempt to appear unpredictable. Dobrynin took Nixon's behavior to indicate that Nixon was not, in fact, a strong leader.<sup>106</sup>

Despite its lack of success, Nixon employed this strategy widely, never fully backing down from it and continuing to believe that it would produce the diplomatic results that he desired. As Kimball writes:

The madman theory lay at the heart of the president's strategy for dealing with foreign adversaries, such as North Vietnam and the Soviet Union. This striking phrase, Haldeman reported, was Nixon's alternative name for the "principle of a threat of excessive force." Nixon thought that military force was an essential component of diplomacy because of its coercive power, but its coer-

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103. Scott D. Sagan, "The World's Most Dangerous Man: Putin's Unconstrained Power over Russia's Nuclear Arsenal," *Foreign Affairs*, March 16, 2022, <https://www.foreignaffairs.com/articles/russian-federation/2022-03-16/worlds-most-dangerous-man>.

104. Quoted in Sechser and Fuhrmann, "The Madman Myth." U.S. Department of State, *Soviet-American Relations: The Detente Years, 1969–1972* (Washington, DC: U.S. Government Printing Office, 2007), 87.

105. Nguyen Co Thach, interview by Jeffrey Kimball, Hanoi, September 24, 1994, in Jeffrey P. Kimball, *The Vietnam War Files: Uncovering the Secret History of Nixon-Era Strategy* (Lawrence: University Press of Kansas, 2003), 286.

106. Burr and Kimball, *Nixon's Nuclear Specter*, 291.

cive power, he believed, could be enhanced if his opponents could be convinced that he was capable of or intent upon using extreme force, since this would suggest that he possessed one or more of the interrelated qualities of madness. . . . He meant to convey his supposed madness as irrationality, unpredictability, unorthodoxy, reckless risk-taking, obsession, and fury.<sup>107</sup>

In these instances, Nixon incorrectly believed that he could control the other side's perception of him and thus manipulate chance itself. And, in the most crucial case of the North Vietnamese, he was wrong. His belief that he could trick the enemy into believing that he was unpredictable and irrational produced the exact opposite effect: it merely convinced them that he was completely in control and trying to manipulate them, causing resentment and blowback and making their opposition to him more entrenched. Ironically, because of his serious drinking, Nixon probably had less control of himself than either he or the North Vietnamese believed.<sup>108</sup>

A leader's sense of his own agency in manipulating chance constitutes a central aspect of the mechanism of self-control. As Nixon feigned in his original madman bluff, he assumed that if the North Vietnamese believed he were "crazy," they would fear that he could do anything, including to use nuclear weapons against them. He thought that this strategy would drive them to acquiesce to U.S. demands. He incorrectly believed that the North Vietnamese would give in if they thought that he had no reason to spare them.

This assurance argument has been used to explain why a "madman's" threats, often expressed by personalist dictators, fail: such leaders are unpredictable, so they may punish their adversaries regardless of their behavior.<sup>109</sup> If one side genuinely believes that the other is "crazy," then it would have no reason to give in because it would not believe that the other side would cease hostilities if it were to submit. After all, one of the defining features of mental illness is its imperviousness to environmental input.<sup>110</sup> If a target believes that

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107. Kimball, *The Vietnam War Files*, 15.

108. Rose McDermott, *Presidential Leadership, Illness, and Decision Making* (Cambridge: Cambridge University Press, 2007).

109. Roseanne W. McManus, "Crazy Like a Fox? Are Leaders with Reputations for Madness More Successful at International Coercion?," *British Journal of Political Science* 51, no. 1 (2021): 275–293, <https://doi.org/10.1017/S0007123419000401>; McManus, "Revisiting the Madman Theory," 976–1009; Reid B. C. Pauly, "Stop or I'll Shoot, Comply and I Won't: Coercive Assurance in International Politics" (PhD diss., Massachusetts Institute of Technology, 2019).

110. We note that there exists a true difference between those who might feign madness for strategic leverage, real or imagined, and those who may have a mental illness or who may be unable to control or manage their feelings or behavior. An additional complication arises when leaders who have a mental illness or other forms of neurocognitive compromise may nonetheless believe that



no benefit can reliably follow from concession, but costs are certain, then there is no clear incentive to acquiescence. It stands to reason that successful threats that leave something to chance must function by a different mechanism than unpredictability because the target must believe that compliance would lead to benefit. In other words, the target must trust that the coercer is predictable enough to follow through on their commitment to cease hostilities if the target were to comply. That mechanism likely lies in the emotional domain of trust underappreciated by Schelling and ignored by most rational models of choice. Specifically, trust can secure what cannot be guaranteed, but it depends on a relationship that builds over time through iterated interactions of increasing value. This process takes time. Indeed, trust can take a long time to develop and can vanish in an instant.<sup>111</sup> The trope suggests that when there is trust, agreements are unnecessary, and yet agreements cannot exist without some trust. Negotiations to revive a 2015 nuclear agreement to limit the Iranian nuclear program centered on the question of whether the United States would withdraw again and reimpose sanctions. But here again the key to success lies in the inversion: it is not merely the opponent's trustworthiness that matters for success but one's own as well. And this is where self-deception, as outlined by Trivers, can undermine decision-making.

#### HOW EMOTION COMPLICATES SELF-CONTROL

Nixon's frequently quoted madman theory is explicitly emotional, suggesting that anger could trigger a vitriolic attack. Again, Haldeman says the message that Nixon wished to send was, "We can't restrain him [Nixon] when he's angry—and he has his hand on the nuclear button."<sup>112</sup> But this conception of the role of emotion in motivation and self-control conforms to the view that emotions are erratic, unpredictable, harmful, and detrimental. While this may sometimes be the case, more recent examinations of neuroscience based on brain lesion studies in particular demonstrate that emotions are necessary for any form of rational decision-making to take place.<sup>113</sup>

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they are completely rational; whether others see their limitations may depend, at least in part, on the skill of their advisers in recognizing and hiding the worst manifestations of illness. And it may not always be obvious to the target if they are confronting someone who is genuinely mentally ill, or simply a leader pretending to be beyond reason.

111. For empirical verification of trust asymmetry see Paul Slovic, "Perceived Risk, Trust, and Democracy," *Risk Analysis* 13, no. 6 (December 1993): 675–682, <https://doi.org/10.1111/j.1539-6924.1993.tb01329.x>.

112. Haldeman and DiMona, *The Ends of Power*, 83.

113. Antoine Bechara et al., "Deciding Advantageously before Knowing the Advantageous Strat-

Psychology offers two potential ways of squaring this circle between the role of emotion in arousal and the role of emotion in rationality. One way is along the lines posited by Daniel Kahneman's dual-process theory of cognition, in which he contrasts fast and slow forms of decision-making. In a crisis, because of time pressure, leaders are likely to disproportionately face decisions that require fast rather than slow thinking processes. Leaders do not have weeks or months to study and reflect on an issue before deciding on a response; instead, a leader under threat or attack must decide quickly, using intuition and instinct more than studied reflection. Fast processes rely disproportionately on emotion, although both types are prone to specific kinds of errors and biases.<sup>114</sup>

The second answer relies on Antonio Damasio's somatic marker hypothesis, which argues that through developmental and other experiences, people learn to attach experiences to feelings without necessitating the consequent physiological arousal that typically accompanies strong emotions. In this way, emotion can convey meaning without the stress inherent in physiological arousal.<sup>115</sup> Here, too, emotion guides decision-making, but it can lead individuals astray if the original association between experience and emotion rests on a dysfunctional experience. Consider the trauma of child abuse. Given how unfortunately common adverse childhood events are, the resulting and idiosyncratic biases are likely endemic. Abused children are much more likely to grow up to be in abusive relationships and abuse their own children; they have unfortunately come to associate certain forms of violence with love.

Thus, the effect of emotion on decision-making is nuanced and sometimes idiosyncratic. It does not operate in the way that a rational theory of brinkmanship would favor. Emotion is necessary to generate motivation;<sup>116</sup> without it, people tend not to possess the will to expend energy and act. People only spend precious resources on things that they care about, and emotions dictate what people should care about if they are to maximize their chances for survival. Those instincts may not align with what classical economics suggest is "rational," but they do rest on millennia of natural selection instilling instinctual tendencies that maximize the chances for survival over time. In this way,

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egy," *Science* 275, no. 5304 (1997): 1293–1295, <https://doi.org/10.1126/science.275.5304.1293>; Antonio Damasio, *Descartes' Error: Emotion, Reason, and the Human Brain* (New York: Penguin, 2006).

114. Kahneman, *Thinking, Fast and Slow*.

115. Damasio, *Descartes' Error*.

116. Leda Cosmides and John Tooby, "Evolutionary Psychology and the Emotions," in Michael Lewis and Jeannette M. Haviland-Jones, eds., *Handbook of Emotions*, 2nd ed. (New York: Guilford, 2000): 91–115.

emotions that look irrational from a modern standpoint, such as the drive for status over wealth, may serve humans well in terms of survival and reproduction but may not be rational from an economic standpoint. For example, the best way to protect oneself from an enemy may in fact be to annihilate the entire group; that assures that future trouble from that adversary will not be forthcoming. This strategy indeed appears to have been common even in the early modern era.<sup>117</sup> In the age of nuclear war, such a strategy becomes more dangerous, and threats that leave something to chance risk more widespread annihilation.

Finally, a satisfying theory of brinkmanship must account for the fact that different emotions trigger different perceptions of risk. For example, anger makes people more risk-seeking, and thus more likely to downplay the nature of the risks that they confront. It also makes them much more likely to believe that they will be victorious in a conflict, even if such a belief rests on pure overconfidence. Consider those who breached the U.S. Capitol during the insurrection of January 6, 2021. Many rioters became increasingly inflamed by the contagious anger apparent in the crowd, resulting in violent attacks against the Capitol Police, threats against members of Congress, and widespread destruction of property. One rioter, a former police officer himself who told authorities that he arrived at the Capitol with no intention of hurting his “brothers in blue,” nevertheless had “his angered state further inflamed by the crowds that day” and ended up committing some of the most violent attacks against the Capitol Police. His actions were so violent that he was one of the few arrested who were denied bond.<sup>118</sup> Conversely, fearful people have more pessimistic risk assessments and thus prove more risk averse in their choices and behaviors.<sup>119</sup> Gender differences emerge in these tendencies as well. For example, men are more prone to anger, which predicts more support for punitive political policies. In contrast, some studies find that women tend to be more fearful and are thus much more likely to support rehabilitative policies.<sup>120</sup>

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117. Importantly, just because a given strategy promoted survival at the margins across human history does not mean that it serves people well now. For instance, modern humans experience high rates of diabetes as a result of strong intrinsic preferences for sugar.

118. Michael Wilson, “How a Respected N.Y.P.D. Officer Became the Accused Capitol Riot #EyeGouger,” *New York Times*, July 27, 2021, <https://www.nytimes.com/2021/07/27/nyregion/capitol-riot-january-6.html>.

119. Jennifer S. Lerner and Dacher Keltner, “Fear, Anger, and Risk,” *Journal of Personality and Social Psychology* 81, no. 1 (2001): 146, <https://psycnet.apa.org/doi/10.1037/0022-3514.81.1.146>.

120. Barbara A. Gault and John Sabini, “The Roles of Empathy, Anger, and Gender in Predicting Attitudes toward Punitive, Reparative, and Preventative Public Policies,” *Cognition and Emotion* 14, no. 4 (2000): 495–520, <https://doi.org/10.1080/026999300402772>.

Of course, leaders do not necessarily constitute representative members of the public. But the processes by which leaders are selected and self-select make them more, rather than less, prone to the kinds of biases that might affect their decision-making in negative ways. Traits such as narcissism, for example, are more likely to emerge in this population than in other groups.<sup>121</sup> These individuals are much more likely to exaggerate their own skill and sense of control. Such effects vary by person and some leaders are more susceptible to certain kinds of biases than others.<sup>122</sup> Importantly, different kinds of leadership may call for different kinds of characteristics. For example, traits that might serve a military leader well might undermine the success of a political leader. General George S. Patton provides a good example of a successful military leader who could command loyalty from his personnel in ways that produced unprecedented feats of success, as when he marched the Third Army over 100 miles in the dead of winter to reinforce the Allies during the German assault on Bastogne. Yet Patton continually got into trouble with command because he failed to respect the political necessities of working in concert with the Soviets. Indeed, Dwight D. Eisenhower relieved Patton in part because of his aggressive statements about preventive war against the Soviet Union after the defeat of Germany.<sup>123</sup>

These emotional mechanisms serve clear functions that often help facilitate productive and even enjoyable day-to-day lives. But they may also put leaders at risk for overestimating their self-control, underestimating the probability that chance might go against them, misperceiving their own and others' abilities and intentions, and displaying overconfidence in their choices. Leaders may believe, like Nixon did with the North Vietnamese, that emotions can be used to generate leverage in bargaining. But such assessments are often wrong. This inability to recognize the effect of one's own behavior on another encourages leaders to underestimate the level of unpredictability that they create in generating chance and leverage. This misperception results precisely from their belief that they have more control than they do, and an overestimation of the effect of their behavior on others and their likelihood of victory in a contest of wills or armaments.

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121. Zoltán Fazekas and Peter K. Hatemi, "Narcissism in Political Participation," *Personality and Social Psychology Bulletin* 47, no. 3 (2021): 347–361, <https://psycnet.apa.org/doi/10.1177/0146167220919212>.

122. While there may be a distribution of such effects, the process by which leaders emerge tends to select for certain traits over others.

123. Carlo D'Este, *Patton: A Genius for War* (New York: HarperCollins, 1995), 736.

Emotions underpin motivation in useful ways. Yet, when leaders are narcissistic, lack emotional self-awareness or resilience, or fail to link their behavior to their best interests, certain emotions such as pride, shame, envy, anger, rejection, or hurt diminish the quality of decision-making. Deficits in emotional self-awareness and control result in the inability to make choices consistent with best interests. The consequence is not only numerous lost opportunities but increased risk of devastating outcomes.

### *Mechanism 3: Control of Others*

The third mechanism of brinkmanship is that of a decider losing control because others make the choice to escalate without the decider's input or knowledge. Here again there are two subcategories. First, Schelling identified mischief as a means of war onset. Someone else (perhaps irrational but he left that unsaid) makes the choice for war instead of the leader. When the authority or ability to escalate is shared among multiple actors, these risks increase. A leader may or may not be aware of having created these risks. For instance, nuclear command-and-control arrangements that pre-delegate to military commanders the authority to use nuclear weapons exacerbate these risks by introducing more vectors for others' individual choices. And those individuals are just as susceptible to the irrational decision-making described in the prior section.

Some might conceive of this risk as a principal-agent problem, whereby the principal loses control of an agent. In the military domain it has been more specifically theorized as a lack of civilian control over military forces.<sup>124</sup> An overzealous local commander with the ability to use nuclear weapons fits the bill—a *Dr. Strangelove* scenario. But short of nuclear war, military commanders have routinely stretched the purview of their offensive missions beyond the authorization of civilian leaders—the 1982 Israeli invasion of Lebanon, General MacArthur's Yalu River bombing campaign in the Korean War, or the German Navy's submarine campaign during World War I all exceeded to some extent their operational intent.<sup>125</sup> Indian commanders along the Line of

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124. Military organizations prefer offensive operations, sometimes without the approval of civilians. See Posen, *Inadvertent Escalation*; Stephen Van Evera, "The Cult of the Offensive and the Origins of the First World War," *International Security* 9, no. 1 (Summer 1984): 58–107, <https://doi.org/10.2307/2538636>; Jack Snyder, "Civil-Military Relations and the Cult of the Offensive, 1914 and 1984," *International Security* 9, no. 1 (Summer 1984): 108–146, <https://doi.org/10.2307/2538637>.

125. Posen, *Inadvertent Escalation*, 18–19. On the German U-boat campaign, see Fred Charles Iklé, *Every War Must End* (New York: Columbia University Press, 1971). Standard operating procedures

Control in Kashmir have provoked skirmishes with Pakistani forces without approval or instruction from New Delhi.<sup>126</sup> The extent of Prime Minister Nawaz Sharif's knowledge of military plans in advance of Pakistan's invasion of Kargil in 1999 is also debated.<sup>127</sup>

Even within military organizations, significant commands have been disobeyed or countermanded by individual leaders. Japanese General Tomoyuki Yamashita did not wish to commit troops to the defense of Manila in 1944, preferring instead to husband dwindling military resources for delaying actions in more favorable terrain. But local commander Rear Admiral Sanji Iwabach, whose sense of honor made him "determined to fight for Manila," disobeyed the order to abandon the city and demolish the bridges.<sup>128</sup> Superior Japanese officers had no choice but to support as best they could the doomed defense. Air Marshal Sir Charles Portal also gave clear instructions to Sir Arthur "Bomber" Harris in September 1944 to concentrate Royal Air Force bombers on oil and transportation targets in Nazi Germany. Harris refused and continued with his effort to turn German cities into rubble.<sup>129</sup>

The second subcategory is limited war as a generator of risk. Although it stretches our scope conditions,<sup>130</sup> we place this mechanism into the category of controlling others because deciders may be fully in control of their own forces, while the element of chance lies in the possibility that they could unknowingly cross one of the adversary's red lines; and deciders may not even give sufficient weight to the probability that their actions may do so. The choice to escalate further in response now rests with the enemy. Indeed, this last subcategory of limited war overlaps with all the others, since each mechanism dis-

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also famously exceeded civilian intent during the Cuban missile crisis. Allison, "Conceptual Models and the Cuban Missile Crisis."

126. Saikat Datta, "DNA Exclusive: Uri Commander's Forceful Retaliation Led to Beheadings?," *DNA*, November 21, 2013, <https://www.dnaindia.com/india/report-dna-exclusive-uri-commanders-forceful-retaliation-led-to-beheadings-1787448>; Happymon Jacob, *Line on Fire: Ceasefire Violations and India-Pakistan Escalation Dynamics* (New Delhi: Oxford University Press, 2018).

127. S. Paul Kapur, "Nuclear Proliferation, the Kargil Conflict, and South Asian Security," *Security Studies* 13, no. 1 (2003): 84n22, <https://doi.org/10.1080/09636410490493868>.

128. Ronald H. Spector, *Eagle against the Sun* (New York: Free Press, 1985), 523.

129. Only 6 percent of Sir Arthur "Bomber" Harris's bomb tonnage in the next month (October) was devoted to oil targets. Charles Webster and Noble Frankland, *The Strategic Air Offensive against Germany 1939–1945*, vol. 3, *Victory, Part 5* (London: Her Majesty's Stationary Office, 1961), 58, 67. We thank Williamson Murray for this example.

130. Our focus has been on one side's decision-making rather than strategic interaction. Yet, limited war was so core to how Schelling and others thought about brinkmanship that it is impossible to overlook. We find it within our scope to explain the decisions of either side to engage in limited war, rather than the consequences of their choices in combination.

cussed in this article might operate in the context of limited war and increase the chances of an irrational choice to escalate.

Schelling considered limited nuclear war as brinkmanship in this way.<sup>131</sup> Deliberately crossing the nuclear threshold demonstrates resolve, even if not enough resolve to jump off the cliff completely. The initial use of limited nuclear force is conceived of by the escalator as rational. In terms of the mountaineering analogy, one climber intentionally jumps down to a lower ledge (as opposed to falling by accident), dragging the other climber with them. But just because one climber jumped to a lower ledge and dragged the other down does not necessarily make inevitable the second jump into the abyss to doom them both. The first use of a nuclear weapon does not automatically lead to strategic nuclear exchange; it is merely an action that is deliberately risky.

Limited war can generate leverage by giving the adversary the “last clear chance” to avoid disaster. It surrenders choice to others.<sup>132</sup> President Kennedy conceived of limited war in this way during the 1961 Berlin crisis. In October, he penned instructions to Supreme Allied Commander Lauris Norstad in which he explained, “It seems evident to me that our nuclear deterrent will not be credible to the Soviets unless they are convinced of NATO’s readiness to become engaged on a lesser level of violence and are thereby made to realize the great risks of escalation to nuclear war.”<sup>133</sup> Actions could include conventional air operations to “show the Soviets visibly higher risks of nuclear war,” and “selective nuclear attacks for the primary purpose of demonstrating the will to use nuclear weapons.” In giving these instructions, Kennedy fully acknowledged that “the Allies only partially control the timing and scale of nuclear weapons use,” since brinkmanship might “prompt unrestrained pre-emptive attack.”<sup>134</sup>

Moreover, limited war as brinkmanship need not exclusively involve the use of nuclear weapons. Chinese brinkmanship strategies, for instance, have explicitly relied on nonnuclear assets—conventional missiles, space, and cyber

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131. Schelling, *Arms and Influence*, 108–109; Schelling, *The Strategy of Conflict*, 193. See also Robert Powell, “Nuclear Brinkmanship, Limited War, and Military Power,” *International Organization* 69, no. 3 (Summer 2015): 589–626, <https://www.jstor.org/stable/24758314>.

132. Schelling, *The Strategy of Conflict*, 37.

133. “Letter from President Kennedy to the Supreme Commander, Allied Powers Europe (Norstad),” Washington, DC, October 20, 1961, in Charles S. Sampson, ed., *Foreign Relations of the United States, 1961–1963*, vol. 14 (Washington, DC: U.S. Government Printing Office, 1993), 521. We thank Matthew Bunn for this source.

134. “Letter from President Kennedy to the Supreme Commander,” 523.

assets—to posture to fight limited wars and place the “last clear chance” to avoid nuclear escalation onto the adversary.<sup>135</sup> Inadvertent escalation also fits into this category, as conventional force can risk a nuclear response if it degrades the adversary’s nuclear forces.<sup>136</sup>

Within the mechanism of control over others, again, the role of emotion can calibrate motivation differently for those at the center versus those at the periphery of a fight, as indeed occurred with Nixon, the Soviet Union, and the North and South Vietnamese governments. Sometimes the enemy gets a vote that leaders did not plan for. The Battle of Navarino in 1827, for instance, began when an allied fleet comprised of British, French, and Russian vessels intended to conduct a naval demonstration in Navarino Bay, but “the enraged Turks” fired upon it.<sup>137</sup> Other times leaders lose control of their own militaries. In 1576, angry Spanish soldiers who had not been paid by their bankrupt king, Philip II, pillaged the city of Antwerp, a massacre that so enraged the Low Countries that they put aside their divisions to unite against the invaders, undermining a decade of Spanish strategy in the Eighty Years’ War.<sup>138</sup> And military commanders sometimes even find it useful to create such risks by stirring up emotions in combat and crisis, as Henry V does in Schelling’s favorite passage from Shakespeare’s play, rallying his soldiers to “conjure up the blood” and “disguise fair nature with hard-favour’d rage.”<sup>139</sup>

The British also suffered this lesson in the context of alliance politics at the 1757 surrender of Fort William Henry during the Seven Years’ War. Commanding British officers responsible for the 2,300-person garrison reached terms of surrender with French General Louis-Joseph de Montcalm and readied a retreat to nearby Fort Edward. Outside the walls, however, British columns were harassed by France’s multi-tribal indigenous allies, resulting in

135. Since 2014, China has reined in these risks and adopted a “calibrated escalation” posture. Fiona S. Cunningham, “Strategic Substitution: China’s Search for Coercive Leverage in the Information Age,” *International Security* 47, no. 1 (Summer 2022): 46–92, [https://doi.org/10.1162/isec\\_a\\_00438](https://doi.org/10.1162/isec_a_00438). In laying out the elements of a brinkmanship posture, distinguished from a calibrated escalation posture, Fiona Cunningham’s primary brinkmanship mechanism is that of limited war: the chance that the other side will respond with nuclear force.

136. Posen, *Inadvertent Escalation*; Caitlin Talmadge, “Would China Go Nuclear? Assessing the Risk of Chinese Nuclear Escalation in a Conventional War with the United States,” *International Security* 41, no. 4 (Spring 2017): 50–92, [https://doi.org/10.1162/ISEC\\_a\\_00274](https://doi.org/10.1162/ISEC_a_00274).

137. Jervis, *Logic of Images*, 237.

138. The Eighty Years’ War (c.1566–1648), also called the Dutch Revolt, was a conflict in which the Dutch Republic successfully fought for independence from Spain. Geoffrey Parker, *The Dutch Revolt* (New York: Penguin Books, 1985), 178.

139. William Shakespeare, *Henry V*, act 3, scene i, in Stephen Greenblatt, ed., *The Norton Shakespeare: Based on the Oxford Edition: Histories* (New York: W. W. Norton, 1997).



dozens of casualties. The “massacre,” thereafter embellished in British and then U.S. lore,<sup>140</sup> was later used to justify vicious retaliations against indigenous peoples. But rather than a coordinated deception, the bloody morning of August 10, 1757, was the result of a chaotic disagreement between the French and their allies over the legitimacy of British surrender. Indigenous warriors, who had canoed hundreds of miles to join the fight for no other compensation than the plunders of war, felt betrayed and robbed of their earned spoils.<sup>141</sup> “They could not fathom French behavior in wasting their victory and protecting their enemies from their allies,” writes historian Ian Steele. “They resented the European conspiracy, which had defrauded them of their agreed share of the loot in the fort.”<sup>142</sup> Coordination between French officers and tribal chiefs had always been fitful.<sup>143</sup> Indeed, Montcalm knew the risks and sought to use them to his advantage in bargaining over the fort’s surrender. “Once [the French] batteries were in place and the cannon fired, perhaps there would not be time, nor would it be in [my] power to restrain the cruelties of the mob of Indians of so many different nations,” wrote Montcalm to the British defenders of the fort.<sup>144</sup> Still, the British resisted for one more week. When they finally surrendered, they believed Montcalm’s assurances of safe passage. But Montcalm’s attempt to convey the terms of surrender to assembled chiefs and translators clearly failed. During the British retreat, a chaotic scuffle culminated in short-lived but brutal violence after someone let loose a “dreaded war whoop that was an intertribal signal to attack.”<sup>145</sup> The French lost control.

### Conclusion

By distinguishing between “chance” and “choice,” this article elevates the long-hidden psychological and emotional elements that remain central to a more comprehensive understanding of brinkmanship and the “threat that leaves something to chance” in nuclear crises. We have brought to the study of nuclear strategy what decades of psychological research have to say about

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140. James Fenimore Cooper, *The Last of the Mohicans: A Narrative of 1757* (London: John Miller, New Bridge Street, 1826).

141. Ian K. Steele, *Betrayals: Fort William Henry and the “Massacre”* (Oxford: Oxford University Press, 1990), 82, 113.

142. *Ibid.*, 113.

143. *Ibid.*, 104.

144. Fred Anderson, *Crucible of War: The Seven Years’ War and the Fate of Empire in British North America, 1754–1766* (New York: Vintage Books, 2000), 192.

145. Steele, *Betrayals*, 117.

how humans are likely to behave during a “war of nerves,” as Schelling explicitly called brinkmanship.<sup>146</sup>

We distilled three mechanisms for how chance becomes leverage in crisis: accidents, self-control, and control of others. Critically, these sources of chance do not have to wrest choice away from leaders in crises to generate leverage. Psychological and emotional variables are sources of risk and uncertainty, even when leaders retain the option to use nuclear weapons. The brink is not equally abhorrent to all leaders in all crises. Said another way, the point of decision does not have to be eliminated for risk of catastrophic destruction to remain. This is because leaders cannot always accurately assess the chances that they take, the extent to which they can control outcomes, or their ability to force concessions on the part of opponents. They are uncertain if the other side will actually do what it says, and they cannot know if they properly understand the signals that they receive. That both sides do not, and cannot, know if the other side is telling the truth raises uncertainty for everyone. Heightened emotions exacerbate this uncertainty. The structure of the situation imposes uncertainty and instability and inevitable human emotional responses to threat enhance and strengthen these effects. In short, crises are even more unstable than the traditional theory of brinkmanship posits.

A focus on psychological as opposed to economic models of decision-making offers an important rebalancing in the literature on nuclear strategy and deterrence. If scholars misidentify the mechanisms by which brinkmanship works, and therefore the risks of escalation, then any proposed solutions may be incomplete at best and inaccurate at worst. An economic approach might encourage leaders and scholars to focus on material solutions to crisis instability rather than decision-making solutions. For instance, arms control agreements that eliminate first-strike weapons systems or increase the flight times of missiles are worthy goals but should be paired with interventions that constrain decision-makers from having unilateral authority over nuclear weapon use. These might include, for example, expanding two-person rules to every point in the decision chain, implementing lengthier protocols to check and recheck orders, and maintaining hotlines for crisis communications between adversaries. Reducing haste is important but the augmented decision-making time must also be used to disrupt irrational processes. As research on crisis stability continues to assess the effects of new technology, new network effects, and new vulnerabilities of the information age,<sup>147</sup> scholars should

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146. Schelling, *The Strategy of Conflict*, 196.

not overlook how crisis events are interpreted, digested, and acted upon by humans.

By illuminating the mechanisms and relative roles of uncertainty and decision-making in threats that leave something to chance, we also open several avenues of further research. First, scholars might further stipulate the relationship between specific dispositional characteristics of leaders and brinkmanship. Certain kinds of leaders may possess different risk-tolerance thresholds and hold different beliefs about how much choice they have, how much choice is necessary, and how much can be left to chance. Some leaders may think that they can simply walk back from the brink at any point. Second and related, the renaissance of studies on nuclear command and control needs to confront decision-maker psychology more fully.<sup>148</sup> Specific types of leaders may embrace (or not) changes to nuclear doctrine to manipulate risk—deploying tactical nuclear weapons, preparing flexible response options, and pre-delegating launch authority.

A third avenue for future work might examine how the concept of brinkmanship extends to limited contexts outside the nuclear domain or at least beyond nuclear-armed dyads. South Korea, for instance, is embracing a revolution in military affairs that integrates intelligence, surveillance, and reconnaissance assets with long-range precision weapons to push the bounds of what was once thought possible with conventional counterforce.<sup>149</sup> How these capabilities might permit nonnuclear Seoul to manipulate the risk of disaster in a crisis with North Korea is well worth exploring.

Finally, some studies of brinkmanship conclude that threats that leave something to chance are empirically rare because leaders seek to maintain control in crisis. Fuhrmann and Sechser go so far as to call it “the brinkmanship myth.”<sup>150</sup> Our approach suggests that scholars are looking for evidence in the wrong place. Chance can be all around us, even when we try to exercise choice over its consequences.

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147. Cunningham, “Strategic Substitution.”

148. Feaver and Arceneaux, “The Fulcrum of Fragility”; Arceneaux, “Beyond the Rubicon.” On digitization risks, see Herbert Lin, *Cyber Threats and Nuclear Weapons* (Stanford, CA: Stanford University Press, 2021).

149. Ian Bowers and Henrik Stålhane Hiim, “Conventional Counterforce Dilemmas: South Korea’s Deterrence Strategy and Stability on the Korean Peninsula,” *International Security* 45, no. 3 (Winter 2020/21): 7–39, [https://doi.org/10.1162/isec\\_a\\_00399](https://doi.org/10.1162/isec_a_00399).

150. Sechser and Fuhrmann, “The Madman Myth.”