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Bad World

The Negativity Bias in International Politics

Dominic D.P. Johnson
and
Dominic Tierney

In the lead-up to the U.S. invasion of Iraq in 2003, the George W. Bush administration fixated on the perceived threat from Iraqi weapons of mass destruction (WMD) and Saddam Hussein's links to international terrorism.¹ After the overthrow of the Baathist regime, when the U.S. military position deteriorated, President Bush was extremely reluctant to accept a loss and instead pursued an escalatory strategy known as the "surge" by committing tens of thousands of additional troops. Following the withdrawal of U.S. combat forces from Iraq in 2011, the intervention was widely remembered as a costly failure, and the desire to avoid a repeat experience became a major source of learning, leading to, for example, the Obama doctrine.² Strikingly, as the Iraq War evolved from prospective operation, to current endeavor, to past adventure, bad information always loomed large. Leaders inflated the threat posed by Iraq, escalated the intervention rather than accept a loss, and then resolved never to repeat the same mistake.

The example of Iraq reflects a wider puzzle in international relations in which negative phenomena have stronger effects on judgment and decision-making than do positive phenomena. Here, "negative phenomena" refers to information, events, or beliefs with the potential to cause undesirable or bad outcomes (e.g., encountering threats, losing resources, suffering military de-

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1. David A. Lake, "Two Cheers for Bargaining Theory: Assessing Rationalist Explanations of the Iraq War," *International Security*, Vol. 35, No. 3 (Winter 2010/11), pp. 7–52, at p. 9, doi.org/10.1162/ISEC_a_00029. See also Chaim Kaufmann, "Threat Inflation and the Failure of the Marketplace of Ideas: The Selling of the Iraq War," *International Security*, Vol. 29, No. 1 (Summer 2004), pp. 5–48, doi.org/10.1162/0162288041762940.

2. Dominic Tierney, "The Obama Doctrine and the Lessons of Iraq," FPRI E-Note (Philadelphia: Foreign Policy Research Institute, May 27, 2012), <http://www.fpri.org/article/2012/05/the-obama-doctrine-and-the-lessons-of-iraq/>.

feats, or gaining enemies). “Positive phenomena” refers to factors with the potential to cause desirable or good outcomes (e.g., encountering opportunities, accumulating wealth, achieving military victories, or gaining allies). Put simply, bad news consistently exerts a more powerful influence on thinking and behavior than does good news. For example, states focus on threats more than on opportunities, dwell on losses more than on gains, and learn more from past failures than from successes.

Why would positive and negative events have an asymmetric influence on perception and behavior? After all, from a rationalist perspective, both good information and bad information are important in weighing the costs and benefits of different courses of action. A compelling explanation of their asymmetric influence lies in the “negativity bias.” Psychologists have discovered a fundamental principle of human cognition, in which negative factors have a greater impact than positive factors across a wide range of psychological phenomena, including motivation, emotion, information processing, decision-making, learning, and memory. Crucially, this is not a strategy that people choose to maximize utility. Instead, the negativity bias is a subconscious predisposition that humans exhibit whether or not they are aware of it.³

This argument is important for three reasons. First, the negativity bias helps explain many critical behaviors in international relations, including the security dilemma, threat inflation, the outbreak and persistence of war, loss aversion, the neglect of opportunities for cooperation, and the prominence of failure in institutional memory and learning.

Second, the negativity bias appears to challenge the role of other well-known positive biases that act in the opposite direction, such as overconfidence. This apparent contradiction can be explained by the fact that positive and negative dispositions apply in different contexts. People privilege negative information about the external environment and other actors, but positive information about themselves. The coexistence of these biases can raise the odds of conflict. Decisionmakers simultaneously exaggerate the severity of threats and exhibit overconfidence about their capacity to deal with those perils—a potential recipe for disaster.

Third, the psychology literature can appear to include examples of every conceivable bias, potentially steering people’s thoughts and behavior in dif-

3. For two landmark reviews of the negativity bias, see Roy F. Baumeister et al., “Bad Is Stronger Than Good,” *Review of General Psychology*, Vol. 5, No. 4 (December 2001), pp. 323–370, doi.org/10.1037/1089-2680.5.4.323; and Paul Rozin and Edward B. Royzman, “Negativity Bias, Negativity Dominance, and Contagion,” *Personality and Social Psychology Review*, Vol. 5, No. 4 (November 2001), pp. 296–320, doi.org/10.1207/S15327957PSPR0504_2.

ferent directions and compromising predictive power. The negativity bias, however, combines many disparate psychological phenomena into a single meta-bias—a fundamental disposition in the way humans think—allowing stronger predictions about how states are likely to behave in a given context.

Despite this importance, the negativity bias has received virtually no attention in international relations. Scholars have long studied the impact of loss aversion, but this is just one example of a much broader phenomenon where negative factors dominate.⁴

The negativity bias has significant implications for international relations theory. For example, the negativity bias supports several features of realist theory by helping explain why states fear each other even when information favoring accommodation is present. However, the causal mechanism—psychological bias—differs from the traditional realist focus on the anarchic international system. Meanwhile, constructivists suggest that anarchy is “what states make of it,” but the negativity bias implies that the construction of international relations is bounded rather than limitless. It would be difficult or impossible to construct a world where positive factors are consistently more salient than negative factors.⁵

There are also implications for policymakers. The negativity bias can encourage threat inflation, risky gambles in the face of loss, and skewed learning from history. Although scholars can counsel leaders to be aware of these pernicious effects, it is difficult for individuals to ward off subconscious psychological biases, especially meta-biases such as the negativity bias that are driven by numerous reinforcing components. Instead, policymakers must create decisionmaking structures and routines that block the dangerous effects of misperceptions.

The article is divided into seven sections. The first section introduces the psychological principle that “bad is stronger than good.” The second, third, and fourth sections assess key domains in international relations where negative phenomena predominate over positive phenomena, show how the negativity bias provides an explanation, and identify observable implications. The fifth section considers sources of variation—factors that strengthen or

4. Some work suggests that the negativity bias plays a role in political ideology and domestic politics, but the implications for international relations and global conflict remain largely unexplored. John R. Hibbing, Kevin B. Smith, and John R. Alford, “Differences in Negativity Bias Underlie Variations in Political Ideology,” *Behavioral and Brain Sciences*, Vol. 37, No. 3 (June 2014), pp. 297–307, doi.org/10.1017/S0140525X13001192.

5. Alexander Wendt, *Social Theory of International Politics* (Cambridge: Cambridge University Press, 1999).

weaken the negativity bias and generate predictions for when it is likely to occur. The sixth section provides a case study of Germany in World War I. The concluding section considers the implications of our analysis for policymakers and scholars of international relations.

Bad Is Stronger than Good: A Basic Psychological Principle

There is considerable scholarship in international relations on the role of positive bias (also known as “positive illusions,” “false optimism,” or, more colloquially, “overconfidence”).⁶ Psychologists have long shown that people tend to inflate their perceived abilities, overestimate their control over events, and exhibit overoptimism about their future prospects.⁷ Overconfidence can play a major role in the outbreak of conflict, because states are more likely to fight if they hold an exaggerated belief in the likely benefits of war and their odds of victory.⁸ Recent work has revealed that actors are prone to overconfidence at one particularly dangerous moment: when war appears imminent (either because the actors have committed to fight or because conflict is perceived as being forced on them).⁹

The positive bias of overconfidence has important effects, but it turns out to be an exception to a broader trend where bad is stronger than good. Psychologists have identified a powerful psychological principle known as the “negativity bias,” which describes people’s greater sensitivity to bad phenomena rather than good phenomena. Many years of diverse and independent research in experimental psychology, now comprising hundreds of studies, have converged around a common theme: the asymmetry of positive and neg-

6. Dominic D.P. Johnson, *Overconfidence and War: The Havoc and Glory of Positive Illusions* (Cambridge, Mass.: Harvard University Press, 2004); Geoffrey A. Blainey, *The Causes of War* (New York: Free Press, 1973), pp. 35–56; Stephen Van Evera, *Causes of War: Power and the Roots of Conflict* (Ithaca, N.Y.: Cornell University Press, 1999), pp. 14–34; and Robert Jervis, *Perception and Misperception in International Politics* (Princeton, N.J.: Princeton University Press, 1976), pp. 356–381.

7. Shelley E. Taylor, *Positive Illusions: Creative Self-Deception and the Healthy Mind* (New York: Basic Books, 1989); and Tali Sharot, *The Optimism Bias: A Tour of the Irrationally Positive Brain* (New York: Pantheon, 2011).

8. Daniel Altman, “The Strategist’s Curse: A Theory of False Optimism as a Cause of War,” *Security Studies*, Vol. 24, No. 2 (2015), pp. 284–315, doi.org/10.1080/09636412.2015.1038186; Blainey, *The Causes of War*, pp. 35–56; Van Evera, *Causes of War*, pp. 14–34; Johnson, *Overconfidence and War*; and Jack S. Levy and William R. Thompson, *Causes of War* (Oxford: Wiley-Blackwell, 2010), pp. 128–161.

9. Dominic D.P. Johnson and Dominic Tierney, “The Rubicon Theory of War: How the Path to Conflict Reaches the Point of No Return,” *International Security*, Vol. 36, No. 1 (Summer 2011), pp. 7–40, doi.org/10.1162/ISEC_a_00043.

ative phenomena, where negative phenomena are systematically more potent. In a landmark review of the literature, Roy Baumeister and colleagues described the negativity bias as “one of the most basic and far-reaching psychological principles.”¹⁰ A second major review, published in the same year, but conducted independently by psychologists Paul Rozin and Edward Royzman, also found the negativity bias to be a “general principle” that “holds across a wide range of domains.”¹¹ A large number of experimental studies have confirmed and replicated the phenomenon in carefully controlled laboratory conditions, where positive and negative stimuli can be manipulated to be identical in frequency and magnitude, and other factors ruled out. Furthermore, neuroscientists have observed the brain reacting more strongly to negative stimuli than to equivalent positive stimuli, again under experimentally controlled conditions.¹²

The negativity bias is evident across a wide range of contexts. At perhaps the most fundamental level, there are six basic emotions that are universally displayed by all humans across cultures—happiness, surprise, disgust, sadness, fear, and anger. Only one is positive, whereas four are negative (the remaining one, surprise, can be either).¹³ Other studies find that stress and a lack of social support can cause immune suppression, but positive alternatives (such as relaxation therapies and social support) do not provide equivalent benefits.¹⁴ Meanwhile, phobias can arise after a single negative learning experience, but there is no comparable effect for positive experiences.¹⁵ Furthermore, among journalists and scholars of communication, “it is considered common knowledge that bad events are more newsworthy and attract more reader attention.”¹⁶

10. Baumeister et al., “Bad Is Stronger Than Good,” p. 357.

11. Rozin and Royzman, “Negativity Bias, Negativity Dominance, and Contagion,” p. 297.

12. Tiffany A. Ito et al., “Negative Information Weighs More Heavily on the Brain: The Negativity Bias in Evaluative Categorizations,” *Journal of Personality and Social Psychology*, Vol. 75, No. 4 (October 1998), pp. 887–900, doi.org/10.1037/0022-3514.75.4.887; and N. Kyle Smith et al., “May I Have Your Attention, Please: Electrocortical Responses to Positive and Negative Stimuli,” *Neuropsychologia*, Vol. 41, No. 2 (2003), pp. 171–183, doi.org/10.1016/S0028-3932(02)00147-1.

13. Donald E. Brown, *Human Universals* (New York: McGraw-Hill, 1991). Rozin and Royzman compiled nine “major taxonomies of emotion” and found that eight out of nine of these sets of emotions have a preponderance of negative emotions. Rozin and Royzman, “Negativity Bias, Negativity Dominance, and Contagion,” pp. 311–312. See also James R. Averill, “On the Paucity of Positive Emotions,” in Kirk R. Blankstein, Patrica Pliner, and Janet Polivy, eds., *Advances in the Study of Communication and Affect: Assessment and Modification of Emotional Behavior*, Vol. 6 (New York: Plenum, 1980), pp. 7–45.

14. Baumeister et al., “Bad Is Stronger Than Good,” pp. 353–354.

15. Rozin and Royzman, “Negativity Bias, Negativity Dominance, and Contagion,” p. 303.

16. Baumeister et al., “Bad Is Stronger Than Good,” p. 343.

Rozin and Royzman identified four broad types of negativity bias: (1) “negative potency” (negative factors carry special weight); (2) steeper “negative gradients” (the magnitude of negative factors increases faster than positive ones as they approach in distance or time); (3) “negativity dominance” (when both positive and negative factors coexist, negative factors have undue influence on net assessments); and (4) “negative differentiation” (negative factors generate more diverse and complex impacts on, and responses in, people than do positive factors).¹⁷ “Over and over,” as psychologist Jonathan Haidt summarized this school of research, “the mind reacts to bad things more quickly, strongly and persistently than to equivalent good things.”¹⁸

Why do people have a negativity bias? Psychologists believe that the dominance of bad over good emerged as an adaptive trait to avoid lethal dangers in human evolutionary history.¹⁹ At first glance, a systematic misperception of the world seems to be counterproductive. However, fixating on bad things—in both perception and behavior—is likely to have helped survival and reproductive success in ancestral environments. All organisms experience a fundamental asymmetry in which opportunities (positive events) are welcome but rarely vital, whereas dangers (negative events) can be a matter of life and death.²⁰ Therefore, we would expect natural selection to favor dispositions that steer organisms away from peril.²¹ This is precisely what we observe. A hair-trigger sensitivity to threat and the “fight or flight” response are widely evident across all mammals as well as other taxonomic groups, and can arise in humans via the release of adrenaline even before people fully perceive the source of the stimulus.²² As Daniel Kahneman wrote, “By shaving a few hundredths of a

17. Rozin and Royzman, “Negativity Bias, Negativity Dominance, and Contagion,” p. 297.

18. Tony Schwartz, “Overcoming Your Negativity Bias,” *New York Times*, June 14, 2013, <https://dealbook.nytimes.com/2013/06/14/overcoming-your-negativity-bias>.

19. Baumeister et al., “Bad Is Stronger Than Good”; and Rozin and Royzman, “Negativity Bias, Negativity Dominance, and Contagion.”

20. Daniel Kahneman, *Thinking, Fast and Slow* (London: Allen Lane, 2011), p. 301.

21. Martie G. Haselton and Daniel Nettle, “The Paranoid Optimist: An Integrative Evolutionary Model of Cognitive Biases,” *Personality and Social Psychology Review*, Vol. 10, No. 1 (February 2006), pp. 47–66, doi.org/10.1207/s15327957pspr1001_3; and Dominic D.P. Johnson et al., “The Evolution of Error: Error Management, Cognitive Constraints, and Adaptive Decision-Making Biases,” *Trends in Ecology & Evolution*, Vol. 28, No. 8 (August 2013), pp. 474–481, doi.org/10.1016/j.tree.2013.05.014.

22. Rose McDermott, “The Feeling of Rationality: The Meaning of Neuroscientific Advances for Political Science,” *Perspectives on Politics*, Vol. 2, No. 4 (December 2004), pp. 691–706, at pp. 692–693, doi.org/10.1017/S1537592704040459. Rozin and Royzman identify four areas in which the negativity bias lends adaptive advantages: balancing risks and costs (maximizing reproductive success by prioritizing the avoidance of mortal threats), resolving informational complexity (helping to select appropriate responses), increasing the speed of decisionmaking (e.g., in the face of predators), and avoiding contagion (e.g., from disease, given that mere contact can be lethal).

second from the time needed to detect a predator, this circuit improves the animal's odds of living long enough to reproduce."²³

How might this new scientific literature shape scholars' understanding of international relations? The negativity bias can powerfully influence the perceptions of leaders and publics, with important consequences for state behavior.²⁴ Although psychologists may be right that the negativity bias is adaptive, there is no reason to assume that this bias remains calibrated at the "appropriate" level for human decisionmaking today, especially in the complex domain of international relations—a completely different world compared to the ancestral environment in which humans evolved. Instead, the negativity bias may serve to undermine state interests.

The negativity bias has far-reaching implications for many aspects of world politics. Here, we focus on international security and war. The negativity bias helps explain perceptions and behavior across three main chronological stages of conflict: (1) threat sensitivity (how states identify opportunities and dangers prior to conflict); (2) loss aversion (how states anticipate or experience positive and negative outcomes during conflict); and (3) failure salience (how states evaluate past success and failure after conflict). In the following sections, we identify puzzling behavior in each of these areas of international relations, show why rational choice approaches do not provide a strong explanation, and argue that the negativity bias offers a more convincing account.

Threat Sensitivity in International Relations

The first puzzling phenomenon in international relations is threat sensitivity, a heightened reaction to negative information indicating potential dangers compared to positive information suggesting opportunities. There is a considerable literature in international relations revealing a general tendency toward threat inflation, but there is virtually no literature contending that a general inclination to underestimate threats exists. For example, Stephen Van Evera de-

Rozin and Royzman, "Negativity Bias, Negativity Dominance, and Contagion," p. 314. Baumeister et al. also view the negativity bias as an adaptive trait. Baumeister et al., "Bad Is Stronger Than Good," pp. 325, 357–358.

23. Kahneman, *Thinking, Fast and Slow*, p. 301. He adds, "No comparably rapid mechanism for recognizing good news has been detected." Ibid.

24. Laboratory experiments not only demonstrate the dominance of negative perceptions; they also reveal the tendency toward negative *behavioral responses*, for example, by using reaction times as the method of measurement. See Rozin and Royzman, "Negativity Bias, Negativity Dominance, and Contagion," p. 302.

scribed threat inflation as “a pervasive feature of international politics.”²⁵ Scholars have identified many examples where external peril was exaggerated, from the British obsession with the possibility of a Russian invasion of India in the nineteenth century, to overly fearful beliefs about Soviet nuclear missile strength in the early 1960s, to overestimates of Iraq’s WMD capabilities before the 2003 U.S. invasion of Iraq.²⁶ Instances of threat inflation may sometimes represent “orchestrated panics” for political gain, but even this suggests that leaders are aware of the wider public’s sensitivity to danger.²⁷

In assessing potential threats in international relations, there appears to be an asymmetry: negative data capture people’s attention more strongly than positive data. For example, policymakers focus more on the possibility of a shift in the disposition of a rival leader from benign to malign rather than the other way around.²⁸ Deborah Larson argued that states fixate on signs of threat, whereas information suggesting that a rival is behaving favorably is often ignored: “A state widely regarded as unreliable, such as the former Soviet Union, will have to carry out *many* cooperative acts to convince the other side that it can be trusted to honor an agreement. Whereas trust takes a long time to create, it can be destroyed in an instant.”²⁹ According to Ole Holsti’s famous study, Secretary of State John Foster Dulles was deeply committed to his view of the Soviet Union as untrustworthy, and saw evidence that Moscow was being accommodating as an indication of Soviet weakness, justifying additional U.S. pressure.³⁰ Many observers in the West were also slow to trust the over-

25. Stephen Van Evera, “Foreword,” in A. Trevor Thrall and Jane K. Cramer, eds., *American Foreign Policy and the Politics of Fear: Threat Inflation since 9/11* (New York: Routledge, 2009), p. xi; and Levy and Thompson, *Causes of War*, p. 136.

26. Lawrence James, *Raj: The Making and Unmaking of British India* (London: St. Martin’s / Griffin, 2000), p. 81; Jonathan Renshon, “Assessing Capabilities in International Politics: Biased Overestimation and the Case of the Imaginary ‘Missile Gap,’” *Journal of Strategic Studies*, Vol. 32, No. 1 (February 2009), pp. 115–147, doi.org/10.1080/01402390802407475; Kaufmann, “Threat Inflation and the Failure of the Marketplace of Ideas”; and Christopher J. Fettweis, *The Pathologies of Power: Fear, Honor, Glory, and Hubris in U.S. Foreign Policy* (New York: Cambridge University Press, 2013), pp. 227–252.

27. Jane K. Cramer, *National Security Panics: Threat Inflation and U.S. Foreign Policy Shifts* (New York: Routledge, forthcoming); and Jeffrey M. Cavanaugh, “From the ‘Red Juggernaut’ to Iraqi WMD: Threat Inflation and How It Succeeds in the United States,” *Political Science Quarterly*, Vol. 122, No. 4 (Winter 2007), pp. 555–584, doi.org/10.1002/j.1538-165X.2007.tb00609.x.

28. Shiping Tang, “Fear in International Politics: Two Positions,” *International Studies Review*, Vol. 10, No. 3 (September 2008), pp. 451–471, doi.org/10.1111/j.1468-2486.2008.00800.x.

29. Deborah Welch Larson, *Anatomy of Mistrust: U.S.-Soviet Relations during the Cold War* (Ithaca, N.Y.: Cornell University Press, 1997), p. 33 (italics in the original).

30. Ole R. Holsti, “The Belief System and National Images: A Case Study,” *Journal of Conflict Resolution*, Vol. 6, No. 3 (September 1962), pp. 244–252, doi.org/10.1177/002200276200600306.

tures of Soviet leader Mikhail Gorbachev in the 1980s given the widespread belief that Moscow would soon revert to aggressive behavior.³¹ Even when leaders compare similar states within the same region and time frame—representing a kind of controlled experiment—negative information seems to have the advantage. During the 1970s, the United States paid more attention to negative data suggesting a potential loss of influence in Ethiopia than to positive data suggesting a gain of influence in Somalia.³²

When perils dissipate, other ongoing dangers tend to fill the fear vacuum, and threat perceptions remain remarkably constant. For example, the Soviet Union was the United States' longtime global nemesis. It built the largest military in the world (including tens of thousands of nuclear weapons), occupied half of Europe, and encouraged anti-American revolutions around the globe. The collapse of the Soviet Union in 1991, however, did not trigger an appropriate recalibration of U.S. threat perceptions. Instead, people often shifted the focus of their fears from the Soviet Union to terrorism and rogue states. One survey in 2009 found that more than two-thirds (69 percent) of the members of the Council on Foreign Relations thought that the United States faced a world that was as dangerous or more dangerous than during the Cold War.³³ In 2012, the chairman of the Joint Chiefs of Staff, Gen. Martin Dempsey, declared the current era to be "the most dangerous time in my lifetime."³⁴ Terrorism was a problem in the Cold War, but few people suggested it should be the fulcrum of U.S. foreign policy. Today, Americans worry about terrorism in large part because of the absence of greater dangers.³⁵

The public and the media also exhibit threat sensitivity. In an analysis of U.S. public opinion during the Cold War, Miroslav Nincic noted that "the penalties facing the leader found guilty of mistakenly underreacting to a Soviet threat are far more severe than those inflicted on one whose error consists of wrongly overreacting to that threat."³⁶ One study of the Israeli-Palestinian peace process from 1995 to 2003 discovered that the "media presentation of peace and security conditions as deteriorating has a significant negative influence on the public's expectations . . . [but] . . . a presentation of an improving situation has

31. Larson, *Anatomy of Mistrust*.

32. Robert Jervis, "Political Implications of Loss Aversion," *Political Psychology*, Vol. 13, No. 2 (June 1992), pp. 187–204, at p. 189, doi.org/10.2307/3791678.

33. Pew Research Center, "Section 2: Global Threats and Use of Military Force" (Washington, D.C.: Pew Research Center, December 3, 2009), <http://www.people-press.org/2009/12/03/section-2-global-threats-and-use-of-military-force/>.

34. John J. Mearsheimer, "America Unhinged," *National Interest*, January/February 2014, pp. 9–30, at p. 9.

35. Robert Jervis, "Pinker the Prophet," *National Interest*, November/December 2011, pp. 54–64.

36. Miroslav Nincic, "U.S. Soviet Policy and the Electoral Connection," *World Politics*, Vol. 42, No. 3 (April 1990), pp. 370–396, at p. 374, doi.org/10.2307/2010416.

an insignificant effect.”³⁷ The media emphasized negative events such as “conflict, threats and danger,” and thus acted as “peace spoilers.”³⁸

What about cases where leaders neglect threats? Perhaps the most famous example is British Prime Minister Neville Chamberlain downplaying the Nazi peril during the 1930s. Clear-cut instances of underperceiving threats are rare, however, compared to examples of overperceiving threats. Even the archetypal case of Chamberlain is disputed. Some scholars argue that Britain did see the true danger in the 1930s and appeased Adolf Hitler as a way of buying time for rearmament.³⁹ Furthermore, appeasement was partly driven by extreme sensitivity to the threat of German bombing. British officials feared that Germany would obliterate London in wartime and exaggerated the likely damage from German air raids by a factor of twenty-five.⁴⁰ Even if Chamberlain was overly sanguine about the possibility of avoiding war, this may have required a “perfect storm” of factors to trump threat sensitivity—for example, erroneous intelligence, Chamberlain’s undue focus on personal encounters with Hitler, and the prime minister’s desperate desire to avoid another world war.⁴¹ Furthermore, the incredible salience of the Chamberlain example and the “lesson” that leaders should never appease dictators is itself evidence of threat sensitivity.⁴² Being seen as underreacting to a danger is one of the surest paths to historical opprobrium.

EXPLAINING THREAT SENSITIVITY: RATIONAL CHOICE OR NEGATIVITY BIAS?

How can threat sensitivity be explained? One potential explanation for the primacy of bad over good is that states are behaving as rational actors, calculating the costs and benefits of available options, and their probabilities of success,

37. Tamir Sheaffer and Shira Dvir-Gvirsman, “The Spoiler Effect: Framing Attitudes and Expectations toward Peace,” *Journal of Peace Research*, Vol. 47, No. 2 (March 2010), pp. 205–215, at p. 211, doi.org/10.1177/0022343309353110.

38. *Ibid.*, p. 211.

39. A.J.P. Taylor described British policy during the Munich crisis as “a triumph.” Taylor, *The Origins of the Second World War* (London: Penguin, 1964), p. 9.

40. Robert Jervis, “Deterrence and Perception,” *International Security*, Vol. 7, No. 3 (Winter 1982/83), pp. 3–30, pp. 14–18, doi.org/10.2307/2538549; Gerald Geunwook Lee, “‘I See Dead People’: Air-Raid Phobia and Britain’s Behavior in the Munich Crisis,” *Security Studies*, Vol. 13, No. 2 (Winter 2003/04), pp. 230–272, doi.org/10.1080/09636410490521208; and Stephen Budiansky, *Air Power: The Men, Machines, and Ideas That Revolutionized War, from Kitty Hawk to Gulf War II* (New York: Viking, 2004).

41. Dominic D.P. Johnson, *Strategic Instincts: The Adaptive Advantages of Psychological Biases in International Relations* (Princeton, N.J.: Princeton University Press, forthcoming); and Keren Yarhi-Milo, *Knowing the Adversary: Leaders, Intelligence Organizations, and Assessments of Intentions in International Relations* (Princeton, N.J.: Princeton University Press, 2014).

42. Jeffrey Record, *The Specter of Munich: Reconsidering the Lessons of Appeasing Hitler* (Dulles, Va.: Potomac, 2007).

and then selecting the policy that is expected to produce the highest utility.⁴³ Threat sensitivity could be an optimum strategy to maximize security in a dangerous world. After all, in an anarchic self-help system, the cost of ignoring threats may exceed the cost of inflating threats. If so, it could be rational to err on the side of caution by deliberately overweighting negative information. In decisionmaking, this is known as “error management theory,” where actors follow a strategy that, over time, aims to minimize the chance of making the worst possible error (for example, setting a fire alarm to be “too sensitive,” so that it might sometimes go off when the toast is burned but never misses a genuine fire).⁴⁴

Larson and others, however, have argued that rational choice is not a good explanation of threat inflation because the sensitivity to danger is so strong that it tends to undermine state interests.⁴⁵ Exaggerated concerns about potential threats can lead to arms races, conflict spirals, and missed opportunities for reconciliation.⁴⁶ A rationalist explanation for threat sensitivity also has a high burden of evidence, because it requires that actors consciously decide to inflate perils as the optimum strategy in anarchy. In the archival record, therefore, we would expect to find that decisionmakers systematically choose to prioritize bad over good, but little or no such evidence has emerged.⁴⁷

If rational choice does not provide a convincing explanation for threat sensitivity, what does? One compelling answer is the negativity bias. Prioritizing peril over opportunity is precisely what we would predict given the fundamental psychological tendency to search for negative information, fixate on potential dangers, and overweight their magnitude. In one series of studies, for example, negative images elicited more attention and neural activity than (otherwise similar) positive images.⁴⁸ In another experimental paradigm, sub-

43. James D. Fearon, “Rationalist Explanations for War,” *International Organization*, Vol. 49, No. 3 (Summer 1995), pp. 379–414, doi.org/10.1017/S0020818300033324.

44. David M. Green and John A. Swets, *Signal Detection Theory and Psychophysics* (Oxford: John Wiley, 1966); and Johnson et al., “The Evolution of Error.”

45. Larson, *Anatomy of Mistrust*; Van Evera, “Foreword,” pp. xi–xvi; John Mueller, *Atomic Obsession: Nuclear Alarmism from Hiroshima to al-Qaeda* (New York: Oxford University Press, 2010); and John Mueller, *Overblown: How Politicians and the Terrorism Industry Inflate National Security Threats, and Why We Believe Them* (New York: Free Press, 2006).

46. Levy and Thompson, *Causes of War*, p. 136.

47. An alternative potential explanation is that threat sensitivity (and the wider negativity bias) is driven by domestic politics. See, for example, Cramer, *National Security Panics*. Certainly, specific instances of threat inflation may be caused by leaders trying to boost public or elite support for foreign policy initiatives. But the fact that leaders highlight threats to win domestic support only begs the question: Why is the public attentive to this argument? Domestic politics may therefore be a manifestation of the negativity bias rather than an alternative explanation.

48. Smith et al., “May I Have Your Attention, Please”; and Felicia Pratto and Oliver P. John, “Auto-

jects were able to locate a lone angry face in a grid of happy faces more quickly than they were able to locate a lone happy face in a grid of angry faces—a “pop-out” effect in which people were drawn to information that signaled potential danger.⁴⁹

Negative data also dominate positive data in the assessments of other actors. The study of impression formation in psychology has identified a “positive-negative asymmetry effect,” where bad information about people is weighted more heavily in evaluations than good information.⁵⁰ When subjects were asked how many lives a murderer would need to save—on separate occasions, always putting his own life at risk—to be forgiven for his crime, the median answer was twenty-five.⁵¹ Another study discovered that perceived character weaknesses were more important than perceived character strengths in shaping evaluations of political candidates.⁵² Accordingly, the key to successful relationships can be to decrease negative behaviors, rather than to increase positive behaviors.⁵³ Another consequence is that good reputations are hard to acquire but easy to lose, whereas bad reputations are easy to gain and hard to shed.⁵⁴

Evidence from neuroscience suggests that positive and negative information are processed in different parts of the brain, and the unconscious mind is especially sensitive to threats.⁵⁵ Both animals and humans have rapid vigilance systems or “preconscious danger detectors that size up their environment very

matic Vigilance: The Attention-Grabbing Power of Negative Social Information,” *Journal of Personality and Social Psychology*, Vol. 61, No. 3 (September 1991), pp. 380–391, doi.org/10.1037/0022-3514.61.3.380.

49. Christine H. Hansen and Randal D. Hansen, “Finding the Face in the Crowd: An Anger Superiority Effect,” *Journal of Personality and Social Psychology*, Vol. 54, No. 6 (June 1988), pp. 917–924, doi.org/10.1037/0022-3514.54.6.917.

50. Ito et al., “Negative Information Weighs More Heavily on the Brain”; and Susan T. Fiske, “Attention and Weight in Person Perception: The Impact of Negative and Extreme Behavior,” *Journal of Personality and Social Psychology*, Vol. 38, No. 6 (June 1980), pp. 889–906, doi.org/10.1037/0022-3514.38.6.889.

51. Dwight R. Risky and Michael H. Birnbaum, “Compensatory Effects in Moral Judgment: Two Rights Don’t Make Up for a Wrong,” *Journal of Experimental Psychology*, Vol. 103, No. 1 (July 1974), pp. 171–173, doi.org/10.1037/h0036892; and Rozin and Royzman, “Negativity Bias, Negativity Dominance, and Contagion,” pp. 309–310.

52. Jill G. Klein, “Negativity Effects in Impression Formation: A Test in the Political Arena,” *Personality and Social Psychology Bulletin*, Vol. 17, No. 4 (August 1991), pp. 412–418, doi.org/10.1177/0146167291174009.

53. John M. Gottman, *Why Marriages Succeed or Fail: And How You Can Make Yours Last* (New York: Simon & Schuster, 1994).

54. Myron Rothbart and Bernadette Park, “On the Confirmability and Disconfirmability of Trait Concepts,” *Journal of Personality and Social Psychology*, Vol. 50, No. 1 (January 1986), pp. 131–142, doi.org/10.1037/0022-3514.50.1.131.

55. Timothy D. Wilson, *Strangers to Ourselves: Discovering the Adaptive Unconscious* (Cambridge, Mass.: Belknap, 2004), pp. 63–64.

quickly.”⁵⁶ Negative information is received by the sensory thalamus and sent directly to the amygdala (the brain’s “threat center”), which can trigger a fear response even before the information enters conscious awareness. For example, experiments reveal intense responses in the amygdala to threatening images, even when they are shown so fast (hundredths of a second) that they are not even recognized by the observer.⁵⁷ The effects can also be long-lasting. Exposure to threats releases adrenaline and noradrenaline in the brain, and over subsequent months, “any stimulus similar to those experienced in the original trauma—even harmless ones—can trigger an exaggerated stress response in the amygdala.”⁵⁸ Psychologist Timothy Wilson suggests that what he calls people’s “adaptive unconscious” may have evolved precisely “to be a sentry for negative events in our environment.”⁵⁹ Heightened responses to threatening information are to some extent beyond people’s control or even recognition.

IMPLICATIONS OF THREAT SENSITIVITY FOR INTERNATIONAL RELATIONS

If the negativity bias underlies threat sensitivity, what are the implications for international relations? Leaders fixate on negative behaviors, see their rivals (and often allies) in an overly harsh light, and miss opportunities for cooperation—potentially triggering crises, escalation, or war. Van Evera describes threat inflation as “an important cause of international conflict.”⁶⁰ Jack Levy and William Thompson find that “exaggeration of the hostility of the adversary’s intentions is a particularly common pattern in the processes leading to war.”⁶¹ Even if actors have access to information suggesting that the rival is open to an acceptable settlement, conflict may not be averted in favor of a deal, because all sides will overweight data indicating threat without necessarily being consciously aware of the bias.

Threat sensitivity contributes to the security dilemma, where defensive

56. *Ibid.*, p. 63.

57. Paul J. Whalen et al., “Human Amygdala Responsivity to Masked Fearful Eye Whites,” *Science*, Vol. 306, No. 5704 (December 2004), p. 2061, doi.org/10.1126/science.1103617.

58. Gaia Vince, “Memory-Altering Drugs May Rewrite Your Past,” *New Scientist*, December 3, 2005, p. 34. Vince continues, “After a while most people learn that these stimuli are not a threat, and their brains make new pathways that override the old one, though they don’t erase it. This process is called extinction. However, in some people—up to 30 percent of those who directly experience a bombing, for example—the extinction mechanism doesn’t work and the prefrontal cortex consistently fails to rein in the amygdala. The result is PTSD [post-traumatic stress disorder].” *Ibid.*

59. Wilson, *Strangers to Ourselves*, p. 64.

60. Van Evera, “Foreword,” p. xi.

61. Levy and Thompson, *Causes of War*, p. 136.

actions intended to enhance security, such as military spending, can inspire distrust, produce arms races, and provoke a spiral into war, even among states with compatible interests.⁶² The overweighting of negative information means that it is difficult to avoid the security dilemma through policies of restraint. For example, the Soviet Union reduced its conventional forces in the 1950s and 1960s, but this did not lead Washington to reappraise Moscow's motives more favorably.⁶³

Loss Aversion in International Relations

A second important domain in international relations where bad is stronger than good is loss aversion: people are more sensitive to losses than gains and are willing to gamble to avoid a forfeit. Loss aversion has been widely used by scholars to explain empirical phenomena in international relations.⁶⁴ What has not always been recognized, however, is that loss aversion is just one example of a much broader pattern in which negative information trumps positive information.

In a famous series of experiments, Daniel Kahneman and Amos Tversky examined decisionmaking when people faced alternatives that involve risk. Subjects choosing between positive payoffs (a "domain of gains") are generally cautious and risk averse. By contrast, subjects choosing between negative options (a "domain of losses") tend to be risk acceptant and willing to gamble rather than consent to even a small loss. These findings led to the creation of prospect theory as an alternative to rational choice theory.⁶⁵

62. Robert Jervis, "Cooperation under the Security Dilemma," *World Politics*, Vol. 30, No. 2 (January 1978), pp. 167–174, doi.org/10.2307/2009958; and Shiping Tang, "The Security Dilemma: A Conceptual Analysis," *Security Studies*, Vol. 18, No. 3 (2009), pp. 587–623, doi.org/10.1080/09636410903133050.

63. Evan Braden Montgomery, "Breaking Out of the Security Dilemma: Realism, Reassurance, and the Problem of Uncertainty," *International Security*, Vol. 31, No. 2 (Fall 2006), pp. 151–185, doi.org/10.1162/isec.2006.31.2.151.

64. Robert Jervis, "Political Implications of Loss Aversion," in Barbara Farnham, ed., *Avoiding Losses, Taking Risks, Prospect Theory and International Conflict* (Ann Arbor: University of Michigan Press, 1994); Jack S. Levy, "Applications of Prospect Theory to Political Science," *Synthese*, Vol. 135, No. 2 (May 2003), pp. 215–241; Jack S. Levy, "Loss Aversion, Framing Effects, and International Conflict," in Manus I. Midlarsky, ed., *Handbook of War Studies II* (Ann Arbor: University of Michigan Press, 2000), pp. 193–221; Rose McDermott, "Prospect Theory in Political Science: Gains and Losses from the First Decade," *Political Psychology*, Vol. 25, No. 2 (April 2004), pp. 289–312, doi.org/10.1111/j.1467-9221.2004.00372.x; and Jonathan Mercer, "Prospect Theory and Political Science," *Annual Review of Political Science*, Vol. 8 (June 2005), pp. 1–21, doi.org/10.1146/annurev.polisci.8.082103.104911.

65. Prospect theory involves several related elements, including reference dependence, framing, loss aversion, and variable risk orientation. Daniel Kahneman and Amos Tversky, "Prospect The-

One result of loss aversion is the “endowment effect,” where people demand more money to give up something they already own (a loss) than they will pay to receive an identical item (a gain).⁶⁶ Another consequence of loss aversion is the tendency to focus on sunk costs. Rather than basing decisions on the future outlays and benefits associated with alternative options, people seek to regain or make up for past expenditures through redoubled commitment, potentially entrapping them into further losses.⁶⁷ Furthermore, people go to great lengths to eliminate the risk of loss entirely. For example, people are willing to pay more to reduce the risk of loss from, say, 0.5 percent to 0 percent, than to reduce the risk of loss from 1 percent to 0.5 percent, even though the magnitude of reduction is the same.⁶⁸

In the realm of international relations, leaders are more willing to make “painful” choices, or difficult policy changes, to avert impending losses rather than to achieve equivalent gains.⁶⁹ Great powers are also averse to accepting even relatively minor losses in wartime, and instead gamble by persevering in costly conflicts.⁷⁰ For example, following President Lyndon Johnson’s decision to commit to a major military intervention in Vietnam in 1965, U.S. costs increased, and Washington entered the domain of losses. But rather than wind down the war effort, American officials gambled through escalation in a desperate bid to avoid the loss of South Vietnam.⁷¹ Scholars have also used loss

ory: An Analysis of Decisions under Risk,” *Econometrica*, Vol. 47, No. 2 (March 1979), pp. 263–291, doi.org/10.2307/1914185; Ted Hopf, *Peripheral Visions: Deterrence Theory and American Foreign Policy in the Third World, 1965–1990* (Ann Arbor: University of Michigan Press, 1994); and Levy, “Loss Aversion, Framing Effects, and International Conflict.”

66. Daniel Kahneman, Jack L. Knetsch, and Richard H. Thaler, “Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias,” *Journal of Economic Perspectives*, Vol. 5, No. 1 (Winter 1991), pp. 193–206, doi.org/10.1257/jep.5.1.193.

67. Allen I. Teger et al., *Too Much Invested to Quit* (Elmsford, N.Y.: Pergamon, 1980).

68. Jonathan Baron, Rajeev Gowda, and Howard Kunreuther, “Attitudes toward Managing Hazardous Waste: What Should Be Cleaned Up and Who Should Pay for It?” *Risk Analysis*, Vol. 13, No. 2 (1993), pp. 183–192, doi.org/10.1111/j.1539-6924.1993.tb01068.x.

69. David A. Welch, *Painful Choices: A Theory of Foreign Policy Change* (Princeton, N.J.: Princeton University Press, 2005), pp. 23–25.

70. Jeffrey W. Taliaferro, *Balancing Risks: Great Power Intervention in the Periphery* (Ithaca, N.Y.: Cornell University Press, 2004). See also Betty Glad and J. Philipp Rosenberg, “Bargaining Under Fire: Limit Setting and Maintenance during the Korean War,” in Glad, ed., *Psychological Dimensions of War* (Newbury Park, Calif.: Sage, 1990), pp. 181–200; and Paul R. Pillar, “Ending Limited War: The Psychological Dynamics of the Termination Process,” in Glad, *Psychological Dimensions of War*, pp. 252–263.

71. Taliaferro, *Balancing Risks*. See also Leslie H. Gelb and Richard K. Betts, *The Irony of Vietnam: The System Worked* (Washington, D.C.: Brookings Institution Press, 1979); David Kaiser, *American Tragedy: Kennedy, Johnson, and the Origins of the Vietnam* (Cambridge, Mass.: Harvard University Press, 2000); Jervis, “Political Implications of Loss Aversion,” p. 26; and Thomas W. Milburn and Daniel J. Christie, “Effort Justification as a Motive for Continuing War: The Vietnam Case,” in Glad, *Psychological Dimensions of War*, pp. 236–251, at p. 248.

aversion to explain the Japanese decision to attack the United States in 1941, U.S. and Soviet behavior during the Cuban missile crisis in 1962, and U.S. actions in the Iranian hostage crisis of 1979–81.⁷² The phenomenon appears to be widely evident in society as well. Nincic found that U.S. public and congressional support for the use of force tends to be higher when the operation is designed to prevent a loss rather than to produce a gain.⁷³

EXPLAINING LOSS AVERSION: RATIONAL CHOICE OR NEGATIVITY BIAS?

It is difficult to provide a rationalist explanation for loss aversion in international relations. If states are maximizing utility, why gamble in the face of loss but not in the face of equivalent gains? Indeed, the behavioral economics literature has explicitly demonstrated that loss aversion violates the expectations of rational choice theory and produces suboptimal decisions both in controlled laboratory conditions and in the field.⁷⁴ So why does it arise?

The negativity bias can provide an explanation. Losses feel worse than foregone gains, because negative information and events loom larger. The effect appears to be a fundamental cognitive feature across species.⁷⁵ For example, both animals and humans fight harder over territory they already possess than over territory they desire.⁷⁶ Far from perception and behavior approximating the rational actor model, studies have found that it takes damage to the brain to eradicate people's natural loss aversion.⁷⁷ Although scholars have long studied loss aversion in behavioral economics and international relations, it is

72. Ariel S. Levi and Glen Whyte, "A Cross-Cultural Exploration of the Reference Dependence of Crucial Group Decisions under Risk: Japan's 1941 Decision for War," *Journal of Conflict Resolution*, Vol. 41, No. 6 (December 1997), pp. 792–813, doi.org/10.1177/0022002797041006004; Mark L. Haas, "Prospect Theory and the Cuban Missile Crisis," *International Studies Quarterly*, Vol. 45, No. 2 (June 2001), pp. 241–270, doi.org/10.1111/0020-8833.00190; and Rose McDermott, *Risk-Taking in International Politics: Prospect Theory in American Foreign Policy* (Ann Arbor: University of Michigan Press, 1998).

73. Miroslav Nincic, "Loss Aversion and the Domestic Context of Military Intervention," *Political Research Quarterly*, Vol. 50, No. 1 (March 1997), pp. 97–120, doi.org/10.1177/106591299705000105.

74. Kahneman, Knetsch, and Thaler, "Anomalies"; and Levy, "Loss Aversion, Framing Effects, and International Conflict."

75. Kahneman and Tversky, "Prospect Theory"; and Rose McDermott, James H. Fowler, and Oleg Smirnov, "On the Evolutionary Origin of Prospect Theory Preferences," *Journal of Politics*, Vol. 70, No. 2 (April 2008), pp. 335–350, doi.org/10.1017/S0022381608080341.

76. Dominic D.P. Johnson and Monica Duffy Toft, "Grounds for War: The Evolution of Territorial Conflict," *International Security*, Vol. 38, No. 3 (Winter 2013/14), pp. 7–38, doi.org/10.1162/ISEC_a_00149.

77. Benedetto De Martino, Colin F. Camerer, and Ralph Adolphs, "Amygdala Damage Eliminates Monetary Loss Aversion," *Proceedings of the National Academy of Sciences*, Vol. 107, No. 8 (February 2010), pp. 3788–3792, doi.org/10.1073/pnas.0910230107.

actually just one manifestation of the larger, and neglected, phenomenon of the negativity bias. Indeed, Rozin and Royzman identified loss aversion as a classic instance of the negativity bias: bad information has greater potency than equivalent good information.⁷⁸

IMPLICATIONS OF LOSS AVERSION FOR INTERNATIONAL RELATIONS

A psychological bias toward loss aversion can be harmful in international relations by making it more difficult to resolve conflicts or exit from deteriorating wars. Once actors find themselves in the domain of losses, they become risk acceptant, encouraging reckless decisionmaking and the escalation of costly military campaigns.⁷⁹ Valuing what one gives up more than similar concessions by the opponent can also undermine negotiations to end a war.⁸⁰ Jeffrey Taliaferro found that great powers persevered in failing conflicts to the detriment of their interests and far longer than a rational cost-benefit analysis would predict.⁸¹ "The commonest error in politics," noted the British statesman Lord Salisbury, "is sticking to the carcasses of dead policies."⁸²

Failure Salience in International Relations

A third puzzling phenomenon in international relations is the tendency to remember and learn more from perceived negative outcomes than from perceived positive outcomes, which we term "failure salience."⁸³ Learning refers to "a change of beliefs, the degree of confidence in one's beliefs, or skills as a result of the observation and interpretation of experience."⁸⁴ Levy found that bad outcomes are a more profound source of learning than are good outcomes. Failures that were unexpected at the time and thus came as a shock are espe-

78. Rozin and Royzman, "Negativity Bias, Negativity Dominance, and Contagion," pp. 306–307. Baumeister et al.'s review also discussed loss aversion as one example of negativity bias among many others. Baumeister et al., "Bad Is Stronger Than Good," p. 335.

79. Taliaferro, *Balancing Risks*; and Levy, "Loss Aversion, Framing Effects, and International Conflict."

80. Mercer, "Prospect Theory and Political Science." The domain of losses can also, in certain situations, encourage actors to take risks that facilitate cooperation. See *ibid.*, p. 12.

81. Taliaferro, *Balancing Risks*.

82. David E. Steele, *Lord Salisbury: A Political Biography* (New York: Routledge, 1999), p. 121.

83. Judgments of success and failure are both inherently subjective and powerful influences on politics. Dominic D.P. Johnson and Dominic Tierney, *Failing to Win: Perceptions of Victory and Defeat in International Politics* (Cambridge, Mass.: Harvard University Press, 2006).

84. Jack S. Levy, "Learning and Foreign Policy: Sweeping a Conceptual Minefield," *International Organization*, Vol. 48, No. 2 (Spring 1994), p. 311, doi.org/10.1017/S0020818300028198.

cially powerful, but “predictable failures are still more likely to lead to learning than are successes.”⁸⁵

For example, one of the major ways that leaders learn from the past is by drawing historical analogies, or “an inference that if two or more events separated in time agree in one respect, then they may also agree in another.”⁸⁶ Analogies provide guidance for policymaking by clarifying the strategic and moral stakes in a crisis and the likely success of different options. Strikingly, decisionmakers are far more likely to draw analogies to past debacles than they are to triumphs. Ernest May published a classic work on analogical thinking, but did not distinguish between positive and negative analogies. By our tally, the book includes 105 instances of decisionmakers drawing historical parallels. In 87 cases (or 83 percent), decisionmakers referred to past failures as warnings to avoid, whereas in just 18 cases (or 17 percent), they referred to past successes as models to emulate.⁸⁷

Major policy failures can define a historical period. Michael Roskin divided recent U.S. history into a series of eras, where foreign policy was shaped by the memory of a particular historical event: the isolationist “Versailles paradigm” of the 1920s and 1930; the interventionist “Pearl Harbor paradigm” of the early Cold War; and the noninterventionist “Vietnam paradigm” of the 1970s. All of these paradigms are based on avoiding a repetition of past failure. The non-interventionists of the interwar period and the 1970s, for example, did not celebrate other eras of U.S. restraint. Instead, they criticized the perceived debacles of World War I and Vietnam.⁸⁸

85. *Ibid.*, p. 305; and Sim B. Sitkin, “Learning through Failure: The Strategy of Small Losses,” *Research in Organizational Behavior*, Vol. 14 (January 1992), pp. 231–266. Scholars may also pay more attention to past disasters. As Robert Jervis wrote, “There is an almost inescapable tendency to look at cases of conflict, surprise, and error. When things go wrong, they not only attract the actors’ attention, they also attract ours.” Jervis, *How Statesmen Think: The Psychology of International Politics* (Princeton, N.J.: Princeton University Press, 2017), p. 6.

86. Yuen Foong Khong, *Analogies at War: Korea, Munich, Dien Bien Phu, and the Vietnam Decisions of 1965* (Princeton, N.J.: Princeton University Press, 1992), pp. 6–7.

87. Ernest R. May, *Lessons of the Past: The Use and Misuse of History in American Foreign Policy* (Oxford: Oxford University Press, 1973). States are more likely to change alliance status if they perceive previous alliance decisions to have been bad rather than good. Dan Reiter, *Crucible of Beliefs: Learning, Alliances, and World Wars* (Ithaca, N.Y.: Cornell University Press, 1996). When leaders draw moral analogies, or parallels with the ethics of a past decision, they usually refer to previous negative actions. Again, there is an asymmetry at work: we can all agree that negative behavior in international relations is wrong, but there is little consensus about positive moral behavior. Dominic Tierney, “‘Pearl Harbor in Reverse’: Moral Analogies in the Cuban Missile Crisis,” *Journal of Cold War Studies*, Vol. 9, No. 2 (Summer 2007), pp. 49–77, doi.org/10.1162/jcws.2007.9.3.49.

88. Michael Roskin, “From Pearl Harbor to Vietnam: Shifting Generational Paradigms and Foreign Policy,” *Political Science Quarterly*, Vol. 89, No. 3 (Fall 1974), pp. 563–588, doi.org/10.2307/2148454.

Failure is more likely than success to induce significant policy change. Organizations are often resistant to reform except after major loss.⁸⁹ One study found that U.S. security policy since 1945 underwent substantial change only after disasters in intelligence, deterrence, or war.⁹⁰ Similarly, according to Michael Horowitz, states that win wars tend to be relatively conservative in subsequent strategic thinking, whereas states that lose tend to adopt major military innovations.⁹¹

EXPLAINING FAILURE SALIENCE: RATIONAL CHOICE OR NEGATIVITY BIAS?

There is no obvious rationalist explanation for why people should learn more from bad outcomes than from good outcomes or draw analogies with past disasters rather than triumphs. Rationally, leaders ought to take both prior successes and failures into account in their future policy choices.⁹² Failure salience can be explained, however, by the negativity bias. Baumeister and colleagues noted that “bad things will produce larger, more consistent, more multifaceted, or more lasting effects than good things.”⁹³ Experts have long observed that memories of failure are processed in more thorough and complex ways than are memories of success. In 1757, David Hume observed: “Prosperity is easily received as our due, and few questions are asked concerning its cause or author . . . On the other hand, every disastrous accident alarms us, and sets us on enquiries concerning the principles whence it arose.”⁹⁴ Studies show that negative events are recalled more easily than positive

89. Graham Allison and Philip Zelikow, *Essence of Decision: Explaining the Cuban Missile Crisis* (New York: Longman, 1999); and Amos Kovacs, “The Nonuse of Intelligence,” *International Journal of Intelligence and Counterintelligence*, Vol. 10, No. 4 (Winter 1997), pp. 383–417, doi.org/10.1080/08850609708435357.

90. Dominic D.P. Johnson and Elizabeth M.P. Madin, “Paradigm Shifts in Security Strategy: Why Does It Take Disasters to Trigger Change?” in Rafe D. Sagarin and Terence Taylor, eds., *Natural Security: A Darwinian Approach to a Dangerous World* (Berkeley: University of California Press, 2008), pp. 209–239.

91. Michael C. Horowitz, *The Diffusion of Military Power: Causes and Consequences for International Politics* (Princeton, N.J.: Princeton University Press, 2010); and Jeffrey W. Legro, *Rethinking the World: Great Power Strategies and International Order* (Ithaca, N.Y.: Cornell University Press, 2005). Ronald R. Krebs argues that the conventional wisdom that “failure is the lifeblood of change” is accurate when wars are short and decisive, but, under certain conditions, states can also learn from success because triumphs allow for change in the dominant narrative. Krebs, *Narrative and the Making of U.S. National Security* (Cambridge: Cambridge University Press, 2015).

92. Robert Powell, “Uncertainty, Shifting Power, and Appeasement,” *American Political Science Review*, Vol. 90, No. 4 (December 1996), pp. 749–764, doi.org/10.2307/2945840.

93. Baumeister et al., “Bad Is Stronger Than Good,” p. 325.

94. David Hume, *Dialogues Concerning Natural Religion and Other Writings*, Dorothy Coleman, ed. (New York: Cambridge University Press, 2007), p. 129.

events, are processed more intensely, lead to more extensive causal reasoning, and become the basis for learning and reflection. After betting on sporting events, for example, subjects spent more time analyzing their failed bets than they did analyzing their successful bets.⁹⁵ Negative events are also more likely than positive events to make people search for a responsible agent, rather than attributing the outcome to luck or the environment.⁹⁶ In experimental games where people either cooperated or cheated, subjects recalled cheaters' faces more accurately.⁹⁷ Negative events such as accidents also tend to have a more enduring impact than do positive occurrences such as winning the lottery.⁹⁸ Psychologists have described so-called flashbulb memories, in which particularly dramatic (and often traumatic) events are burned into memory and more easily recalled thereafter.⁹⁹

Neuroscience helps to explain why this happens. As noted above, negative and positive events are dealt with differently at the neurological level. Psychologist Jeffrey Alan Gray described how the brain's "behavioral approach system" (motivating engagement) deals with positive stimuli, whereas the "behavioral inhibition system" (motivating avoidance) deals with negative stimuli, including threat and, crucially, learning. Indeed, all mammals (including humans) learn more rapidly and effectively from negative experiences than from positive ones.¹⁰⁰ Rats that eat poisoned food once will never touch that food source again ("traumatic avoidance learning").¹⁰¹ In humans too, neuronal connections and neuron firing patterns are permanently altered

95. Thomas Gilovich, "Biased Evaluation and Persistence in Gambling," *Journal of Personality and Social Psychology*, Vol. 44, No. 6 (June 1983), pp. 1110–1126, doi.org/10.1037/0022-3514.44.6.1110.

96. Carey K. Morewedge, "Negativity Bias in Attribution of External Agency," *Journal of Experimental Psychology*, Vol. 138, No. 4 (November 2009), pp. 535–545, doi.org/10.1037/a0016796.

97. Dan Chiappe, Adam Brown, and Brian Dow, "Cheaters Are Looked at Longer and Remembered Better Than Cooperators in Social Exchange Situations," *Evolutionary Psychology*, Vol. 2 (2004), pp. 108–120, doi.org/10.1177/147470490400200117.

98. Philip Brickman, Dan Coates, and Ronnie Janoff-Bulman, "Lottery Winners and Accident Victims: Is Happiness Relative?" *Journal of Personality and Social Psychology*, Vol. 36, No. 8 (August 1978), pp. 917–927, doi.org/10.1037/0022-3514.36.8.917. Indeed, this study found that following positive occurrences—for instance, winning the lottery—the lasting effects may be negative, such as not enjoying ordinary pleasures as much as before.

99. Roger Brown and James Kulik, "Flashbulb Memories," *Cognition*, Vol. 5, No. 1 (1977), pp. 73–99, doi.org/10.1016/0010-0277(77)90018-X; and Daniel L. Schacter, *Searching for Memory: The Brain, the Mind, and the Past* (New York: Basic Books, 1996), see especially pp. 192–217.

100. Jeffrey A. Gray, *The Psychology of Fear and Stress* (Cambridge: Cambridge University Press, 1987); and McDermott, "The Feeling of Rationality," p. 695.

101. John Garcia, Walter G. Hankins, and Kenneth W. Rusiniak, "Behavioral Regulation of the Milieu Interne in Man and Rat," *Science*, Vol. 185, No. 4154 (September 1974), pp. 824–831, doi.org/10.1126/science.185.4154.824; and Richard L. Solomon and Lyman C. Wynne, "Traumatic Avoidance Learning: The Principles of Anxiety Conservation and Partial Irreversibility," *Psychological Review*, Vol. 61, No. 6 (November 1954), pp. 353–385, doi.org/10.1037/h0054540.

when a negative stimulus is encountered, such that “fear-inducing events leave indelible memory traces in the brain.”¹⁰²

IMPLICATIONS OF FAILURE SALIENCE FOR INTERNATIONAL RELATIONS

If the negativity bias underpins failure salience, what does this imply for international relations? The dominance of past negative experiences could potentially be useful in countering other kinds of policy biases and facilitating necessary reform. Governments and militaries are often slow to respond to changing environments, because people tend to view information in ways that fit existing predispositions, and organizations may have vested interests in maintaining the status quo. Failure salience can help actors break through these barriers and encourage experimentation and adaptation.¹⁰³

The problem is that failure salience can also produce skewed learning and policy errors. May argued that leaders typically employ historical analogies badly, failing to “analyze the case, test its fitness, or even ask in what ways it might be misleading.”¹⁰⁴ Failure salience may be a contributing factor. Leaders do not consider the full range of relevant historical examples, but instead prioritize negative experiences. Decisionmakers neglect how policies that were mistaken overall might still have succeeded in certain aspects (which are worth replicating), or, alternatively, how past successes offer teachable moments, by providing an overarching model to copy or warnings about specific dimensions of the approach that failed. In assessing policies of appeasement, for example, actors tend to fixate on a single instance of failure from the 1930s—the Munich crisis.¹⁰⁵ As a result, states may overlearn from bad events. Memories of the ill-fated U.S. mission in Somalia in 1992–94, for example, were a primary reason why the United States was reluctant to intervene to stop the Rwandan genocide in 1994.¹⁰⁶

102. Baumeister et al., “Bad Is Stronger Than Good,” p. 336.

103. Sitkin, “Learning through Failure,” p. 232; Johnson and Madin, *Paradigm Shifts in Security Strategy*; Stephen Van Evera, “Why States Believe Foolish Ideas: Nonself-Evaluation by States and Societies,” in Andrew K. Hanami, ed., *Perspectives on Structural Realism* (New York: Palgrave Macmillan, 2003), pp. 163–198; and Allison and Zelikow, *Essence of Decision*.

104. May, *Lessons of the Past*, p. xi. See also Khong, *Analogies at War*.

105. Record, *The Specter of Munich*.

106. Taylor B. Seybolt, *Humanitarian Military Intervention: The Conditions for Success and Failure* (Oxford: Oxford University Press, 2007), p. 21; Robert C. DiPrizio, *Armed Humanitarians: U.S. Interventions from Northern Iraq to Kosovo* (Baltimore, Md.: Johns Hopkins University Press, 2002), pp. 71, 148–149; Samantha Power, *“A Problem from Hell”: America and the Age of Genocide* (New York: Perennial, 2003), p. 366; and Johnson and Tierney, *Failing to Win*.

Table 1. Observable Implications of Positive Bias (Overconfidence) and the Negativity Bias (Threat Sensitivity, Loss Aversion, and Failure Salience) for Public and Leaders' Perceptions and State Behavior

Domain	Observable Implications For:	
	Perceptions (of leaders and publics)	Behavior (of states)
Overconfidence	Actors maintain positive illusions about their capabilities, control of the environment, and future prospects.	States are more likely to initiate war.
Threat sensitivity	Actors search for and overweight negative information about other actors; when threats dissipate, other dangers fill the fear vacuum.	States overreact to threats, triggering the security dilemma, arms races, crises, and war.
Loss aversion	Actors are overly sensitive to losses and give undue attention to sunk costs.	When facing losses, states are risk acceptant and more likely to challenge an opponent, choose to fight, or escalate a failing military campaign.
Failure salience	Actors dwell more intensely on memories of failure than on success and learn more from past disasters than from triumphs.	Failure is more likely than success to produce a change in policy or military doctrine.

Summary: Observable Implications of the Negativity Bias

The salience of bad over good is evident in at least three important areas in international relations: threat sensitivity, loss aversion, and failure salience. None of these three phenomena is consistent with the predictions of rational choice, because the powerful and systemic overweighting of negative information tends to diminish utility. And even if these biases were somehow advantageous, there is little evidence that leaders consciously choose to prioritize bad over good as a strategy. Instead, hundreds of studies suggest that the salience of negative information results from a subconscious psychological bias (and the neurological mechanisms underlying it), with important implications for international relations (see table 1).

Sources of Variation: When Does the Negativity Bias Arise?

Baumeister and colleagues identify the negativity bias as a fundamental principle of psychology that affects most people most of the time. Despite the au-

thors' efforts to find contrary instances where good is stronger than bad, there were "hardly any exceptions," and psychologists "may have overlooked the extent of [the rule's] generality."¹⁰⁷ Nevertheless, the extent to which the negativity bias is expressed can vary among individuals and contexts.¹⁰⁸ For example, one study found that although 83 percent of subjects were loss averse, a minority showed no bias, and a handful actually displayed the reverse tendency and placed a higher value on gains and disregarded the risk of loss.¹⁰⁹

What determines the strength of the negativity bias in a given actor or context? Here, we emphasize three important sources of variation (see figure 1): (1) the target of assessment (which alters whether the bias is positive or negative); (2) the tide of information (which alters whether any bias is present); and (3) timing, ideology, and agency (which alter the specific magnitude of threat sensitivity, loss aversion, and failure salience). These sources of variation help explain why behaviors in international relations arising from the negativity bias occur under certain conditions and not others.

TARGET OF ASSESSMENT

First and most obviously, how do we reconcile the negativity bias with the well-established positive bias of overconfidence? It may seem contradictory that people can simultaneously prioritize bad over good, and good over bad. Given the prominence of threat sensitivity, loss aversion, and failure salience, we might expect people to be racked by a lack of confidence. But people nevertheless exhibit positive illusions about their own attributes, degree of control over events, and probable future success.

This paradox can be resolved because of a key source of variation: negative and positive biases operate in different domains (the third column in figure 1, "target"). When people survey the world around them and other actors, negative information and events loom large (a bias in other-perception). But when people assess themselves and their own capabilities, they are prone to overconfidence (a bias in self-perception).¹¹⁰ For example, in the case of failure sa-

107. Baumeister et al., "Bad Is Stronger Than Good," pp. 323–324.

108. Tiffany A. Ito and John T. Cacioppo, "Variations on a Human Universal: Individual Differences in Positivity Offset and Negativity Bias," *Cognition and Emotion*, Vol. 19, No. 1 (2005), pp. 1–26, doi.org/10.1080/02699930441000120; and Catherine J. Norris et al., "Better (or Worse) for Some Than Others: Individual Differences in the Positivity Offset and Negativity Bias," *Journal of Research in Personality*, Vol. 45, No. 1 (February 2011), pp. 100–111, doi.org/10.1016/j.jrp.2010.12.001.

109. John M. Atthowe, "Types of Conflict and Their Resolution: A Reinterpretation," *Journal of Experimental Psychology*, Vol. 59, No. 1 (January 1960), pp. 1–9, doi.org/10.1037/h0046912.

110. Baumeister et al. contrast the negativity bias in "forming impressions" of others (pp. 344–348)

lience, memories tend to be negatively biased. However, memories of the self's role in events tend to be positively biased, as people highlight their own personal contribution to successes and downplay their role in failures, leading to egoistic or hagiographic autobiographies.¹¹¹ Each bias is potentially adaptive: the negativity bias makes people alert to potential threats in their environment, whereas positive bias helps people strive harder to overcome dangers when they arise.

Interestingly, the cognitive mechanisms engaged to achieve positive biases specifically target the extraordinary salience of negative factors. The reason people are able to maintain positive biases is because human brains have powerful ways of deflecting negative information.¹¹² People preserve their optimism by underestimating their chances of experiencing bad events more than by overestimating their chances of experiencing good events.¹¹³ Therefore, the specific processes by which positive biases operate are, counterintuitively, evidence of the wider dominance of negative phenomena.

TIDE OF INFORMATION

If negative bias dominates in other-perception, and positive bias dominates in self-perception, why are actors sometimes able to assess things accurately? After all, states sometimes overcome their suspicions and make peace, and leaders sometimes conclude that a war would end badly and decline to fight.

with the optimism bias regarding the "self" (pp. 348–351). Baumeister et al., "Bad Is Stronger Than Good." See also Shelley E. Taylor, "Asymmetrical Effects of Positive and Negative Events: The Mobilization-Minimization Hypothesis," *Psychological Bulletin*, Vol. 110, No. 1 (July 1991), pp. 67–85, doi.org/10.1037/0033-2909.110.1.67.

111. Anthony G. Greenwald, "The Totalitarian Ego: Fabrication and Revision of Personal History," *American Psychologist*, Vol. 35, No. 7 (July 1980), pp. 603–618, doi.org/10.1037/0003-066X.35.7.603. The dominance of positive biases in self-perception and negative biases in other-perception mirrors the asymmetry found within the fundamental attribution error; people tend to give "situational" explanations of their own failures ("I had no time and lacked the tools to do the job properly") and "dispositional" explanations of their own successes ("I am skilled and hard-working"). By contrast, people explain other people's successes as the result of favorable circumstances, and their failures as the result of deficiencies of character. Daniel T. Gilbert and Patrick S. Malone, "The Correspondence Bias," *Psychological Bulletin*, Vol. 117, No. 1 (January 1995), pp. 21–38, doi.org/10.1037/0033-2909.117.1.21.

112. Taylor, "Asymmetrical Effects of Positive and Negative Events"; Shelley E. Taylor et al., "Maintaining Positive Illusions in the Face of Negative Information: Getting the Facts without Letting Them Get to You," *Journal of Social and Clinical Psychology*, Vol. 8, No. 2 (Summer 1989), pp. 114–129, doi.org/10.1521/jscp.1989.8.2.114; and Tali Sharot, Christoph W. Korn, and Raymond J. Dolan, "How Unrealistic Optimism Is Maintained in the Face of Reality," *Nature Neuroscience*, Vol. 14, No. 11 (2011), pp. 1475–1479, doi.org/10.1038/nn.2949.

113. Vera Hoorens, "Self-Favoring Biases for Positive and Negative Characteristics: Independent Phenomena?" *Journal of Social and Clinical Psychology*, Vol. 15, No. 1 (April 1996), pp. 53–67, doi.org/10.1521/jscp.1996.15.1.53.

One simple but important answer is that negative and positive biases can be trumped by a tide of countervailing information (the second column in figure 1, “information”). Given sufficient evidence, for example, even a distrustful decisionmaker may see a rival as cooperative. The problem is that the salience of negative factors is of such high magnitude—negative information is four or five times stronger than positive information in some studies—that the incoming positive data may need to be vast in scale to compensate and produce accuracy. As Baumeister and colleagues put it, “Good can only match or overcome bad by strength of numbers.”¹¹⁴

When are leaders likely to receive sufficient accurate information to outweigh these biases? Regime type is one important variable. In democracies, the existence of a free press, greater policy debate, institutional checks and balances, and more actors involved in decisionmaking raises the chances that an array of information can counteract positive and negative biases.¹¹⁵ By contrast, in autocratic regimes, where leaders are surrounded by “yes men” and do not have effective (or any) opposition parties or parliaments to challenge them, there is less opportunity for biases to be corrected than there is in democracies.¹¹⁶ Dictators are therefore more likely than their democratic counterparts to be overly fearful, loss averse, sensitive to historical failures, and overconfident. For example, in his 2001 book, Sumit Ganguly found that both India and Pakistan were overconfident about fighting each other. However, positive biases were accentuated by the authoritarian regime in Pakistan, and somewhat suppressed by the free-wheeling democratic debate in India.¹¹⁷ A similar logic applies to negative biases, where democratic states allow for greater information flows that challenge flawed assumptions.

TIMING, IDEOLOGY, AND AGENCY

The above sources of variation affect the presence, direction, and magnitude of the negativity bias in general. Additional sources of variation explain the

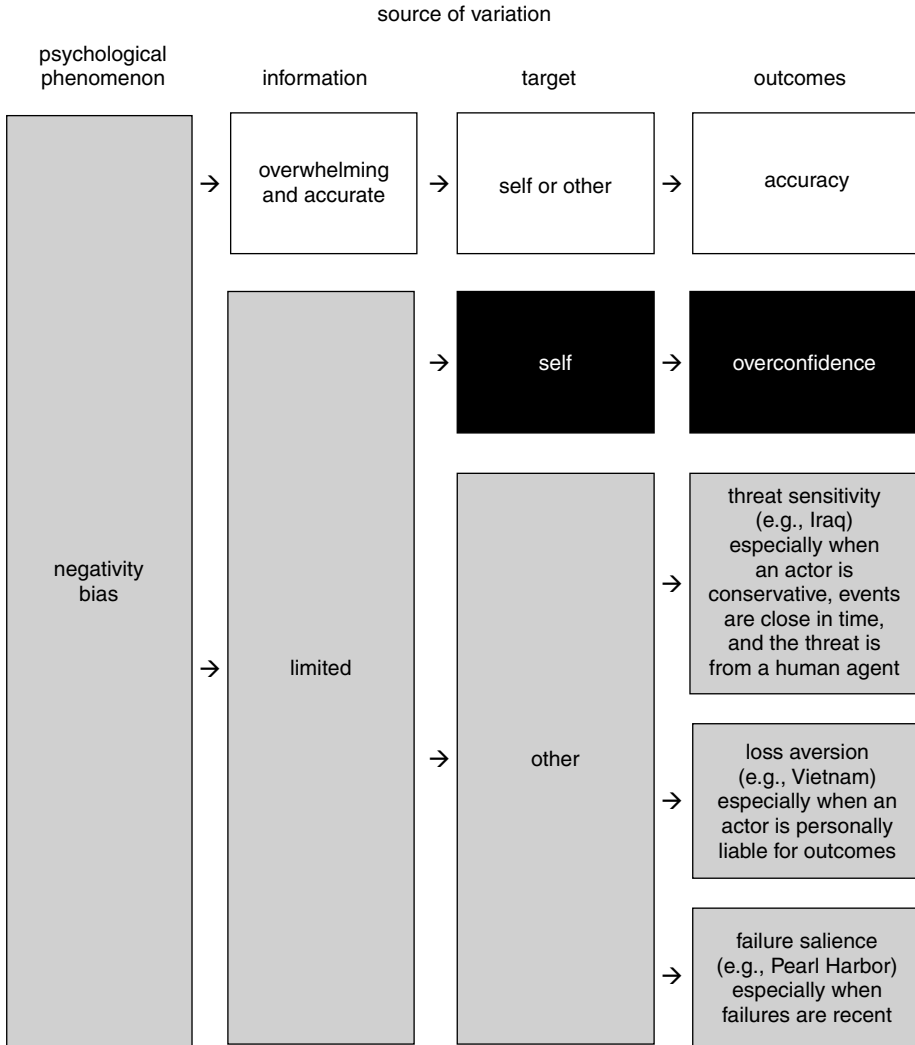
114. Baumeister et al., “Bad Is Stronger Than Good,” p. 356.

115. The notion that a “marketplace of ideas” in democracies enables accurate information to emerge stretches back to John Milton in the seventeenth century and has influenced U.S. Supreme Court decisions on free-speech laws. The marketplace may not always operate effectively, however. Kaufmann, “Threat Inflation and the Failure of the Marketplace of Ideas”; and Alexander B. Downes, “How Smart and Tough Are Democracies? Reassessing Theories of Democratic Victory in War,” *International Security*, Vol. 33, No. 4 (Spring 2009), pp. 9–51, doi.org/10.1162/isec.2009.33.4.9.

116. Kevin Woods, James Lacey, and Williamson Murray, “Saddam’s Delusions: The View from the Inside,” *Foreign Affairs*, Vol. 85, No. 3 (May/June 2006), pp. 2–26, doi.org/10.2307/20031964.

117. Sumit Ganguly, *Conflict Unending: India-Pakistan Tensions since 1947* (New Delhi: Oxford University Press, 2001).

Figure 1. Model of How Negativity Bias Varies in Strength.



NOTE: The negativity bias is pervasive but varies with (1) the tide of information; (2) the target of assessment; and (3) the timing, ideology, and agency associated with specific manifestations of the negativity bias. When there is overwhelming accurate information, we expect no bias (white boxes). When assessments are of the self, we expect positive bias (black boxes), and when assessments are of others or of the environment, we expect the negativity bias (gray areas) as expressed in threat sensitivity, loss aversion, and failure salience.

strength of the negativity bias in specific domains: threat sensitivity, loss aversion, and failure salience (the fourth column in figure 1, “outcomes”).

VARIATION IN THREAT SENSITIVITY. A key variable shaping the strength of threat sensitivity is temporal proximity. Rozin and Royzman found that negative events gain disproportionate salience as they approach in distance or time (compared to positive events). For example, in one experiment, people evaluated an event with both positive and negative aspects that was to occur tomorrow and in a month’s time. Although the material characteristics were identical, the imminent event was rated as more negative.¹¹⁸ This finding suggests that the sensitivity to threats in international relations will become even stronger at a particularly dangerous moment: when war looms. Interestingly, the perception that conflict is imminent also boosts overconfidence.¹¹⁹ As a result, at a critical time, when peace hangs in the balance, perceptions of the other become more fearful and perceptions of the self become more optimistic, a toxic mix that is likely to heighten the odds of war.

Threat sensitivity is also increased among people with a conservative ideology, as opposed to those with a liberal ideology.¹²⁰ For example, conservatives show greater attention to threatening stimuli than do liberals.¹²¹ When viewing ambiguous facial expressions, conservatives are also more likely to see a threat or anger, whereas liberals are more likely to see other traits such as surprise.¹²² In the United States, Republicans are more likely than Democrats to view other countries as enemies.¹²³

118. Rozin and Royzman, “Negativity Bias, Negativity Dominance, and Contagion,” pp. 304–305.

119. Johnson and Tierney, “The Rubicon Theory of War.”

120. Hibbing, Smith, and Alford, “Differences in Negativity Bias Underlie Variations in Political Ideology.”

121. Luciana Carraro, Luigi Castelli, and Claudia Macchiella, “The Automatic Conservative: Ideology-Based Attentional Asymmetries in the Processing of Valenced Information,” *PLoS ONE*, Vol. 6, No. 11, e26456 (November 2011), pp. 1–6, doi.org/10.1371/journal.pone.0026456. In this study, “conservative” and “liberal” political ideologies were assessed via a survey instrument in which subjects had to express their level of agreement (from 1 = “not at all” to 7 = “very much”) with various political positions such as a reduction of immigration. See *ibid.*, p. 2. See also John T. Jost et al., “Political Conservatism as Motivated Social Cognition,” *Psychological Bulletin*, Vol. 129, No. 3 (2003), pp. 339–375, doi.org/10.1037/0033-2909.129.3.339; and John R. Hibbing, Kevin B. Smith, and John R. Alford, *Predisposed: Liberals, Conservatives, and the Biology of Political Differences* (New York: Routledge, 2013).

122. Jacob M. Vigil, “Political Leanings Vary with Facial Expression Processing and Psychosocial Functioning,” *Group Processes and Intergroup Relations*, Vol. 13, No. 5 (September 2010), pp. 547–558, doi.org/10.1177/1368430209356930.

123. YouGov, “America’s Friends and Enemies” (London: YouGov, February 2, 2017), <https://today.yougov.com/topics/politics/articles-reports/2017/02/02/americas-friends-and-enemies>; and Josh Katz and Kevin Quealy, “Which Country Is America’s Strongest Ally? For Republicans, It’s Australia,” *New York Times*, February 3, 2017, <https://www.nytimes.com/interactive/2017/02/03/upshot/which-country-do-americans-like-most-for-republicans-its-australia.html>.

A third variable that heightens threat sensitivity is human agency. People pay particular attention to dangers that are deliberate and can be attributed to a specific protagonist, such as a state or a terrorist group, rather than to faceless threats, such as global warming. People are also more likely to attribute negative events, rather than positive events, to a human agent.¹²⁴ Psychologists suggest that the human brain evolved to prioritize purposeful threats because they were more likely to reoccur. As Daniel Gilbert explained, “It is bad to be harmed, but it is worse to be victimized.”¹²⁵ In one experiment, for example, subjects claimed that electric shocks were more painful if they were deliberately administered by a human agent.¹²⁶

VARIATION IN LOSS AVERSION. Actors exhibit heightened loss aversion when they are perceived to be personally at fault for a failure—for example, because they launched a war that ultimately proved costly, or they were in office when a negative event occurred (e.g., being the victim of a surprise attack). Barry Staw showed in his classic article, “Knee-Deep in the Big Muddy,” that people who are individually responsible for negative outcomes are more likely to commit additional resources to a course of action that proves costly (e.g., President Johnson in Vietnam).¹²⁷ Elites are particularly resistant to compromising and making peace if they personally decided to initiate a military campaign, which explains why a leadership change is often necessary to end a war. Loss aversion may be especially strong in personalist dictatorships, where a single individual is clearly responsible for the decision to wage war. In democracies and “machine” non-democracies (with a collective civilian leadership such as that in China after Mao Zedong), responsibility may be diffused, and therefore loss aversion may be less pronounced.¹²⁸

VARIATION IN FAILURE SALIENCE. Failure salience is heightened when negative events are recent.¹²⁹ This is partly a consequence of the “availability heu-

124. Morewedge, “Negativity Bias in Attribution of External Agency.”

125. Daniel Gilbert, “Buried by Bad Decisions,” *Nature*, Vol. 474, No. 7351 (June 2011), pp. 275–277, at p. 276, doi.org/1038/474275a.

126. Kurt Gray and Daniel M. Wegner, “The Sting of Intentional Pain,” *Psychological Science*, Vol. 19, No. 12 (December 2008), pp. 1260–1262, doi.org/10.1111/j.1467-9280.2008.02208.x.

127. Barry M. Staw, “Knee-Deep in the Big Muddy: A Study of Escalating Commitment to a Chosen Course of Action,” *Organizational Behavior and Human Performance*, Vol. 16, No. 1 (June 1976), pp. 27–44, doi.org/10.1016/0030-5073(76)90005-2.

128. Elizabeth A. Stanley, *Paths to Peace: Domestic Coalition Shifts, War Termination and the Korean War* (Palo Alto, Calif.: Stanford University Press, 2009); Dominic Tierney, *The Right Way to Lose a War: America in an Age of Unwinnable Conflicts* (New York: Little, Brown & Company, 2015); and Sarah E. Croco, *Peace at What Price? Leader Culpability and the Domestic Politics of War Termination* (Cambridge: Cambridge University Press, 2015).

129. Khong, *Analogies at War*; and Johnson and Madin, *Paradigm Shifts in Security Strategy*.

ristic,” in which people’s judgment and decisionmaking are unduly influenced by recent salient experiences (rather than all experiences).¹³⁰ Therefore, the last big failure tends to dominate memory and learning and “block out the sun.” For example, during the interwar period, the United States’ involvement in World War I was widely perceived by elites and the public as a debacle, powerfully shaping U.S. foreign policy in the 1920s and 1930s. But after 1945, a new failure emerged in historical memory: the error of isolationism and appeasement. As a result, the Great War was largely forgotten. Even when Vietnam triggered the reemergence of noninterventionist attitudes, and heightened the apparent relevance of World War I, the U.S. experience in 1917–18 was rarely discussed.¹³¹

Weltpolitische Angst: *The Negativity Bias and World War I*

In this section, we explore the utility of the negativity bias with a case study of Germany in World War I. The case is a plausibility probe designed to show that the argument is sufficiently grounded in the evidence to justify further research and additional testing.¹³² We aim to demonstrate that all three major manifestations of the negativity bias (threat sensitivity, loss aversion, and failure salience) operated as predicted in a single example: before, during, and after the fighting.

Why is Germany in World War I a good case to consider? First, Germany was arguably the most significant actor in the origins of World War I, and some scholars have recently renewed the argument that Berlin deliberately provoked the conflict.¹³³ Germany played an even more important role in the origins of World War II, in part because of the salience of its failure in the Great War. Second, the case offers considerable within-case variation, allowing us to

130. Amos Tversky and Daniel Kahneman, “Availability: A Heuristic for Judging Frequency and Probability,” *Cognitive Psychology*, Vol. 5, No. 2 (September 1973), pp. 207–232, doi.org/10.1016/0010-0285(73)90033-9.

131. On interwar isolationism and memories of World War I, see Manfred Jonas, *Isolationism in America, 1935–1941* (Chicago: Imprint, 1990); and Wayne S. Cole, *Roosevelt and the Isolationists, 1932–45* (London: University of Nebraska Press, 1983).

132. Harry Eckstein, “Case Study and Theory in Political Science,” in Fred I. Greenstein and Nelson W. Polsby, eds., *Handbook of Political Science*, Vol. 7: *Strategies of Enquiry* (Reading, Mass.: Addison-Wesley, 1975); and Alexander L. George and Andrew Bennett, *Case Studies and Theory Development in the Social Sciences* (Cambridge, Mass.: MIT Press, 2004), p. 75.

133. Keir A. Lieber, “The New History of World War I and What It Means for International Relations Theory,” *International Security*, Vol. 32, No. 2 (Fall 2007), pp. 155–191, doi.org/10.1162/isec.2007.32.2.155; Jack S. Levy and John A. Vasquez, eds., *The Outbreak of the First World War: Structure, Politics and Decision-Making* (Cambridge: Cambridge University Press, 2014); and Fritz Fischer, *Germany’s Aims in the First World War* (New York: W.W. Norton, 1967).

rule out explanations based on the propensities of a given party, leader, or strategy. Third, World War I is a paradigmatic example for the development of international relations theories, including the security dilemma and the spiral model of war, and therefore applying the negativity bias in this case may have particular value for existing frameworks.

Fourth, we can explain outstanding puzzles in German behavior. Many scholars have identified the role of false optimism in the great powers' decisions to fight in World War I, escalate, and resist a negotiated solution, but negative biases were actually more common in key domains.¹³⁴ In his best-selling history of the origins of the war, *The Sleepwalkers*, Christopher Clark wondered: "How did the sense of fearfulness and foreboding that one finds in so many of the sources connect with the arrogance and swaggering we encounter—often in the very same individuals?"¹³⁵ This is precisely the combination of behaviors predicted by the interplay of positive and negative biases. Furthermore, when scholars note the impact of negative biases during World War I, they usually highlight a single dynamic such as heightened sensitivity to peril or sunk costs.¹³⁶ By contrast, our goal is to show that the negativity bias pervaded perceptions of the entire war, from start to finish (and long after it ended).

There are a variety of challenges in examining the negativity bias. For a start, how do biases demonstrated in a laboratory setting translate to group decisionmaking at the political level? Here, there is little reason to believe that cognitive regularities found in study populations are absent in political elites.¹³⁷ If anything, biases are likely to be more pronounced during times of stress, emotion, and fast-moving and high-stakes decisionmaking, when people's intuitions come to the fore and there is less opportunity for cold calculation.¹³⁸ It is

134. Some historical perspectives have emphasized optimism. See Johnson, *Overconfidence and War*; Jack Snyder, *The Ideology of the Offensive: Military Decision Making and the Disasters of 1914* (Ithaca, N.Y.: Cornell University Press, 1984); and Van Evera, *Causes of War* (e.g., pp. 19–20). Other scholars have focused on fear. See Niall Ferguson, *The Pity of War* (New York: Basic Books, 1999); and Lieber, "The New History of World War I and What It Means for International Relations Theory." For discussion of the discrepancy, see Johnson and Tierney, "The Rubicon Theory of War."

135. Christopher Clark, *The Sleepwalkers: How Europe Went to War in 1914* (New York: HarperCollins, 2013), pp. xxx–xxxii.

136. See, for example, Stig Förster, "Dreams and Nightmares: German Military Leadership and the Images of Future Warfare, 1871–1914," in Manfred F. Boemeke, Roger Chickering, and Förster, eds., *Anticipating Total War: The German and American Experiences, 1871–1914* (Washington, D.C.: German Historical Institute, 1999), pp. 343–376; and Jervis, "Political Implications of Loss Aversion."

137. McDermott, "The Feeling of Rationality"; Rose McDermott, *Presidential Leadership, Illness, and Decision Making* (Cambridge: Cambridge University Press, 2007); and Ian H. Robertson, *The Winner Effect: How Power Affects Your Brain* (London: Bloomsbury, 2012).

138. Irving L. Janis, *Victims of Groupthink: Psychological Studies of Policy Decisions and Fiascoes*

also not easy to demonstrate in a historical case that bad was stronger than good in the assessment of information and events. In laboratory experiments, these factors can be made equivalent and other variables ruled out. In historical analyses, however, one has to judge how positive or negative decision-makers at the time “ought” to have been, given the available information. This is a challenge but not an insurmountable barrier to investigation. During World War I, a wealth of evidence shows that German leaders reacted to information asymmetrically, when both bad and good information were present.

In the case, we compare positive bias and negative bias to a rational actor model as our null hypothesis. As Levy and Thompson explained, “The rational model is both a normative model of how decisions ought to be made as well as a parsimonious explanatory model of how decisions actually are made, and for these reasons the rational model is generally taken as the standard against which other models are compared.”¹³⁹ If the rationalist explanation holds true, we would expect to see (1a) actors do not privilege negative over positive information, or (1b) if they do, it is a conscious strategy to maximize utility in the prevailing environment. If the negativity bias holds true, we would expect to see (2a) actors privilege negative over positive information, and (2b) they do so without any mindful choice or discussion, implying a bias at the subconscious level.

OVERCONFIDENCE IN WORLD WAR I

Many scholars have found significant positive bias, or overconfidence, on all sides prior to the outbreak of World War I.¹⁴⁰ Overconfidence also tended to increase as war approached.¹⁴¹ In early August 1914, the Bavarian envoy to Berlin reported: “One can say today that Germany and Austria will be opposed by the whole world in the impending war. Nonetheless, the mood in the military circle here is one of complete confidence.”¹⁴² Meanwhile, Chancellor Theobald von Bethmann Hollweg predicted “a war lasting three, or at the most, four months . . . a violent, but short storm.”¹⁴³ Exaggerated optimism in-

(Boston: Houghton Mifflin, 1972); and Michael Nicholson, *Rationality and the Analysis of International Conflict* (Cambridge: Cambridge University Press, 1992).

139. Levy and Thompson, *Causes of War*, p. 129.

140. Blainey, *The Causes of War*; Van Evera, *Causes of War*; and Snyder, *The Ideology of the Offensive*.

141. Johnson and Tierney, “The Rubicon Theory of War.”

142. Annika Mombauer, *Helmuth von Moltke and the Origins of the First World War* (Cambridge: Cambridge University Press, 2001), pp. 211–212. For more examples of overconfidence in the July crisis, see Van Evera, *Causes of War*; and Johnson, *Overconfidence and War*.

143. Fischer, *Germany's Aims in the First World War*, p. 92. See also Blainey, *The Causes of War*, pp. 36–37; Van Evera, *Causes of War*, p. 32; and L.L. Farrar Jr., “The Short War Illusion: The Syndrome of German Strategy, August–December, 1914,” *Militär-geschichtliche Mitteilungen*, Vol. 12, No. 2 (December 1972), pp. 39–52, at p. 40, doi.org/10.1524/mgzs.1972.12.2.39.

fluenced Berlin's military planning, and there was remarkably little preparation for a long campaign.¹⁴⁴ The positive bias of German overconfidence was, however, an exception to a wider pattern of negative bias, where actors highlighted potential threats, current or anticipated losses, and past failures.

THREAT SENSITIVITY IN WORLD WAR I

Threat sensitivity suggests the following observable implications: (1) actors search for negative information, downplay positive information, and overweight bad information about other actors in evaluations; (2) when threats dissipate, other dangers fill the fear vacuum; (3) domestic audiences overreact to threats and reward their emphasis by leaders; and (4) threat inflation increases the likelihood and intensity of conflict.

Many scholars have argued that before World War I, Germany displayed an extreme sensitivity to threat. Max Hastings concluded that "paranoia was a prominent feature of the German psyche at this period—a belief that the country's strategic position, far from progressively strengthening, was being weakened by the rise of socialism at home and the Entente's military capabilities abroad."¹⁴⁵ As Jonathan Steinberg put it, "The normal techniques of historical analysis must grind to a halt before this German *weltpolitische Angst*."¹⁴⁶

German perceptions of French and Russian rearmament illustrate how policymakers in Berlin systematically privileged negative information. During 1913–14, France and Russia initiated major rearmament bills. The French government increased the duration of mandatory military service from two to three years. In June 1914, Russia introduced the "Great Program," which was designed to enhance the size of its army by 40 percent by 1917.¹⁴⁷ German leaders saw these (and other) measures as a grave threat, and many key officials contended that the only solution was preventive war. In January 1914, Helmuth von Moltke, chief of the German General Staff, stated: "The war readiness of Russia has made tremendous progress since the Russo-Japanese War and has today reached a degree as never before."¹⁴⁸ In March, he urged an

144. Lieber, "The New History of World War I and What It Means for International Relations Theory," p. 182; and Förster, "Dreams and Nightmares," pp. 369–370.

145. Max Hastings, *Catastrophe, 1914: Europe Goes to War* (New York: Vintage, 2014), p. 46; and Margaret MacMillan, *The War That Ended Peace: How Europe Abandoned Peace for the First World War* (London: Profile, 2014), p. 527.

146. Jonathan Steinberg, "The Copenhagen Complex," in Walter Laqueur and George L. Mosse, eds., *1914: The Coming of the First World War* (New York: Harper & Row, 1966), p. 41.

147. William C. Fuller Jr., *Strategy and Power in Russia, 1600–1914* (New York: Free Press, 1992), p. 202.

148. Thomas G. Otte, "A 'Formidable Factor in European Politics': Views of Russia in 1914," in Jack S. Levy and John A. Vasquez, eds., *The Outbreak of the First World War: Structure, Politics and Decision-Making* (Cambridge: Cambridge University Press, 2014), pp. 87–114, at p. 103; and David

immediate war because, otherwise, within two or three years, “the military superiority of our enemies would be so great then that he did not know how we might cope with them.”¹⁴⁹

By 1913, the kaiser believed that Germany faced a racial showdown between Teuton and Slav: “The Slavic race is caught up in an expansionist fever.”¹⁵⁰ In June 1914, according to German banker Max Warburg, the kaiser was “oppressed by his worries” over Russian rearmament and openly contemplated a preventive war.¹⁵¹ The kaiser declared that France and Russia had aggressive intentions: “Whoever in Germany still does not believe that Russo-Gaul is working with urgency towards an imminent war against us, and that we must take countermeasures accordingly, deserves to be sent straightaway to the madhouse at Dalldorf!”¹⁵²

Were these threat perceptions rational? It is true that the Dual Alliance had only 61 percent of the gross national product of the Entente and that Russia had grown economically more quickly than Germany since 1890. Furthermore, the German Schlieffen Plan called for an initial assault against France followed by a campaign against the slower mobilizing Russians. St. Petersburg’s rearmament and the development of new railways in the western Russian provinces might enable a rapid Russian mobilization that would undermine the entire scheme.

German officials systematically overweighted negative information, however, suggesting an important role for psychological bias. Holger Herwig argued that German beliefs cannot be attributed to poor intelligence, but instead resulted from the lens through which this information was viewed.¹⁵³

First, Berlin highlighted negative data indicating that France and Russia had predatory, as opposed to security-seeking, intentions. German leaders assumed that France and Russia would unite against Germany in a future war even though these states had repeatedly failed to back each other in crises be-

Stevenson, “War by Timetable? The Railway Race before 1914,” *Past & Present*, Vol. 162, No. 1 (February 1999), pp. 186–187, doi.org/10.1093/past/162.1.163.

149. Förster, “Dreams and Nightmares,” p. 373; and Mombauer, *Helmuth von Moltke and the Origins of the First World War*, p. 108.

150. Isabel V. Hull, *The Entourage of Kaiser Wilhelm II, 1888–1918* (Cambridge: Cambridge University Press, 2004), p. 265.

151. Jack S. Levy, “The Sources of Preventive Logic in German Decision-Making in 1914,” in Levy and John A. Vasquez, eds., *The Outbreak of the First World War: Structure, Politics, and Decision-Making* (Cambridge: Cambridge University Press, 2014), pp. 139–166, at p. 156.

152. John C.G. Röhl, “The Curious Case of the Kaiser’s Disappearing War Guilt: Wilhelm II in July 1914,” in Holger Afferbach and David Stevenson, eds., *An Improbable War: The Outbreak of World War I and European Political Culture before 1914* (New York: Berghahn, 2007), p. 79.

153. Holger H. Herwig, “Germany,” in Richard F. Hamilton and Herwig, eds., *The Origins of World War I* (Cambridge: Cambridge University Press, 2004), pp. 150–187; see p. 172.

fore 1914—a record of coalitional friction that potentially threatened the future of the Entente.¹⁵⁴ Herwig noted that German statesmen “perceived their own alternatives always as restricted by necessity or ‘fate,’” whereas France and Russia were “embarrassed by a plethora of open choices.”¹⁵⁵ Berlin displayed little empathy for the strategic challenges faced by Paris and St. Petersburg and underestimated the degree to which France and Russia were reacting to German moves. Ironically, it was Berlin’s own aggressive military strategy that drove its opponents into each other’s arms.¹⁵⁶ French and Russian rearmament was a direct response to the German army bill of 1913, which contained the biggest military increase in German history and added 117,000 men to the peacetime army. One Social Democratic Party (SPD) deputy in the Reichstag recognized that “without our army bill France would not have dreamt of introducing the three-years’ service bill.”¹⁵⁷ On April 7, 1913, French President Raymond Poincaré wrote in his diary: “Bethmann Hollweg has been the best architect of the Three Year Law.”¹⁵⁸ German rearmament also spurred Russian defense spending.¹⁵⁹ It is notable, however, that rather than desperately preparing for a war of aggression, St. Petersburg rearmed with considerable delay and laxity, and the Russian Duma backed the Great Program only in June 1914, a year after Germany began bolstering its military.

Second, officials in Berlin exaggerated the capabilities of a future enemy coalition. German leaders were highly pessimistic about the outlook if war was delayed beyond 1914. It was assumed that Germany would be surrounded by hostile actors and Russia would be on a glide path to military primacy.¹⁶⁰ A fair assessment of Berlin’s security environment, however, would have con-

154. David G. Herrmann, *The Arming of Europe and the Making of the First World War* (Princeton, N.J.: Princeton University Press, 1996), p. 217; and David Stevenson, *With Our Backs to the Wall: Victory and Defeat in 1918* (Cambridge, Mass.: Harvard University Press, 2011), p. 534.

155. Herwig, “Germany,” p. 93.

156. Jack Snyder, “Better Now Than Later: The Paradox of 1914 as Everyone’s Favored Year for War,” *International Security*, Vol. 39, No. 1 (Summer 2014), pp. 71–94, at p. 80, doi.org/10.1162/ISEC_a_00173.

157. Wallace Notestein and Elmer E. Stoll, *Conquest and Kultur: The Aims of the Germans in Their Own Words* (Washington, D.C.: Committee on Public Information, 1918), p. 125; William Mulligan, *The Origins of the First World War*, 2nd ed. (Cambridge: Cambridge University Press, 2017), pp. 133–134; William Mulligan, “The Army,” in Matthew Jefferies, ed., *The Ashgate Research Companion to Imperial Germany* (Farnham, U.K.: Ashgate, 2015), p. 392; and Patrick J. McDonald, *The Invisible Hand of Peace: Capitalism, the War Machine, and International Relations Theory* (Cambridge: Cambridge University Press, 2009).

158. Mulligan, *The Origins of the First World War*, pp. 133–134.

159. McDonald, *The Invisible Hand of Peace*, p. 212.

160. Mary Fulbrook, *A Concise History of Germany* (Cambridge: Cambridge University Press, 1995); and Richard F. Hamilton and Holger H. Herwig, eds., *Decisions for War, 1914–1917* (Cambridge: Cambridge University Press, 2003), pp. 70, 90–91.

cluded that there were—at minimum—significant opportunities as well as dangers. Germany had a dynamic and growing economy and was protected by the strongest army and the second most powerful navy in the world. By 1913, Germany's population (66.9 million) far surpassed that of France (39.7 million), and a greater percentage of Germany's population was urbanized (21 percent versus 14.8 percent in France). Admittedly, Russia had a higher population (175.1 million), but only 7 percent of Russians lived in urban areas. In 1913, Germany produced more steel (17.6 million tons) than Britain, France, and Russia combined (17.1 million tons).¹⁶¹ The assumption that high Russian growth rates would continue inexorably was questionable given domestic divisions inside Russia continue other development challenges.¹⁶² Indeed, A.J.P. Taylor concluded that "peace would have brought Germany the mastery of Europe within a few years."¹⁶³

Third, officials in Berlin did not consider whether security threats could be ameliorated by a shift in strategy. One option was a policy of *détente* to break up the opposing coalition. Berlin might have learned from the British experience following the 1899–1902 Boer War, when London overcame its diplomatic isolation by settling Anglo-American boundary disputes, forming a new alliance with Japan, and building the Entente with France. Another alternative was to abandon the Schlieffen Plan and switch to a defensive posture on the Western Front combined with restricted offensives on the Eastern Front, with the goal of avoiding British intervention and achieving a limited victory and a negotiated peace (as championed by Helmuth von Moltke the Elder in the 1880s).¹⁶⁴ Such options were rarely explored, however. Moltke the Younger responded to Russian and French rearmament by demanding more troops and matériel for the desired preventive war.¹⁶⁵

One apparent exception to German threat sensitivity is the belief among some officials in Berlin that Britain would not enter the war. For example, during the July crisis, Bethmann hoped that London would stay neutral.¹⁶⁶ This is not a clear example of a state underestimating external peril, however. Although some German officials were unsure about British intentions, French

161. Paul Kennedy, *Rise and Fall of the Great Powers: Economic Change and Military Conflict from 1500 to 2000* (New York: Alfred A. Knopf, 2010), pp. 249–354.

162. William C. Wohlforth, "The Perception of Power: Russia in the Pre-1914 Balance," *World Politics*, Vol. 39, No. 3 (April 1987), pp. 353–381, at p. 358, doi.org/10.2307/2010224.

163. A.J.P. Taylor, *The Struggle for Mastery of Europe, 1848–1918* (London: Oxford University Press, 1957), p. 528.

164. Mombauer, *Helmuth von Moltke and the Origins of the First World War*, pp. 6, 159, 285–286; Snyder, *The Ideology of the Offensive*, pp. 116–119; and Förster, "Dreams and Nightmares."

165. Mombauer, *Helmuth von Moltke and the Origins of the First World War*.

166. Hew Strachan, *The Outbreak of the First World War* (New York: Oxford University Press, 2004), p. 109.

officials were also uncertain about whether Britain would fight.¹⁶⁷ Both countries were right to be cautious, because British officials themselves doubted whether London would enter the fray. The Anglo-French Entente Cordiale of 1904 was not a binding alliance but instead an attempt to solve outstanding strategic issues. The British Liberal Party prime minister, Herbert Asquith, wrote on July 24, 1914, that “we are within measurable, or imaginable, distance of a real Armageddon.”¹⁶⁸ Britain could maintain its splendid isolation from the apocalypse, however: “Happily there seems to be no reason why we should be anything more than spectators.”¹⁶⁹ On August 2, the prime minister thought that three-quarters of his own party in Parliament favored neutrality.¹⁷⁰ London decided to fight very late in the crisis, between August 2 and August 4, partly because of the German invasion of Belgium, and also because of a wider calculation that British geopolitical interests required participating in a struggle that could reshape the map of Europe.¹⁷¹

In addition, many key decisionmakers in Berlin were highly sensitive to the British danger, including hardened Anglophobes such as Prussian Minister of War Erich von Falkenhayn; head of the German navy, Adm. Alfred von Tirpitz; as well as the kaiser, who believed that London and Paris conspired to prevent Germany from attaining its rightful place in the sun.¹⁷² For a decade before 1914, the German General Staff assumed that if war broke out in the West, Britain would fight alongside France.¹⁷³ On July 27, Kurt Riezler, Bethmann’s chief adviser, noted in his diary that Britain would back Russia to avoid a rift in the Entente: “The reports all point to war . . . England’s language has changed.”¹⁷⁴

LOSS AVERSION IN WORLD WAR I

The negativity bias suggests that leaders will be sensitive to loss, with the following observable implications: (1) actors in the domain of gains are risk

167. David Stevenson, *Cataclysm: The First World War as Political Tragedy* (New York: Basic Books, 2004), p. 25.

168. Zara S. Steiner and Keith Neilson, *Britain and the Origins of the First World War: The Making of the 20th Century* (New York: Palgrave Macmillan, 2003), pp. 236–237.

169. *Ibid.*; and James Joll, *The Origins of the First World War* (New York: Longman, 1984).

170. Steiner and Neilson, *Britain and the Origins of the First World War*, pp. 238, 248–256; and J. Paul Harris, “Great Britain,” in Hamilton and Herwig, *Decisions for War, 1914–1917*, pp. 288–289.

171. Gordon Martel, *The Month That Changed the World: July 1914* (New York: Oxford University Press, 2014); and Paul M. Kennedy, *The Rise of the Anglo-German Antagonism, 1860–1914* (Amherst, N.Y.: Humanity, 1980).

172. Matthew Stibbe, *German Anglophobia and the Great War, 1914–1918* (New York: Cambridge University Press, 2001); and Strachan, *The Outbreak of the First World War*, p. 109.

173. Strachan, *The Outbreak of the First World War*, p. 109.

174. Dale C. Copeland, *The Origins of Major War* (Ithaca, N.Y.: Cornell University Press, 2000), p. 92.

averse; and (2) actors in the domain of losses are risk acceptant and liable to gamble rather than accept even a modest forfeit—for example, by escalating military campaigns despite the danger to national interests.

Once the Great War was under way, Berlin exhibited significant loss aversion and an acute awareness of sunk costs. Given the military stalemate and the catastrophic costs in lives and resources, as well as the unraveling of the social fabric at home, the great powers' interests arguably favored a negotiated peace as early as 1915. Why, therefore, was the war so difficult to resolve? Germany (and indeed all the great powers) were averse to any peace that did not deliver a clear gain. Leaders in Berlin often focused on the fact of loss rather than on the magnitude of loss. Any negative outcome was intolerable. In February 1918, German general Erich Ludendorff stated: "If Germany makes peace without profit, then Germany has lost the war."¹⁷⁵ Hein Goemans and Mark Fey described how German leaders feared that even a peace based on a return to the *status quo ante bellum* would lead to domestic revolution: "An outcome which failed to reward the people for their sacrifices would threaten not only their power and privileges but their very lives."¹⁷⁶ Here, a cynic might suggest that escalation was rational behavior from the perspective of individual political survival; but even if that is the case, it suggests that wider German society was loss averse.

The greater the sacrifice in blood and treasure, the greater the required war dividend. In 1916, German leaders realized the situation was worsening but responded by increasing rather than diminishing their war aims, seeking huge war indemnities, a vast empire of annexed territory and puppet states stretching from Antwerp to Ukraine, as well as a sweeping new colony in central Africa.

By this stage of the war, Berlin believed that the current path would likely lead to defeat. Having entered the domain of losses, the regime was attracted to risky gambles that promised to win it all back, even with the potential for disaster. In 1917, the decision to launch unrestricted submarine warfare was exceptionally dangerous, because it was likely to provoke U.S. intervention (as in fact occurred). Bethmann called it a "leap in the dark."¹⁷⁷ Pursuing the existing path, however, was expected to end in defeat and Berlin placed its bet. Similarly, in 1918, Germany had the option of switching to a defensive strategy

175. Jervis, "Political Implications of Loss Aversion," p. 26.

176. Hein E. Goemans and Mark Fey, "Risky but Rational: War as an Institutionally Induced Gamble," *Journal of Politics*, Vol. 71, No. 1 (January 2009), pp. 35–54, at pp. 43–44, doi.org/10.1017/s0022381608090038.

177. David Fromkin, *Europe's Last Summer: Why the World Went to War in 1914* (London: William Heinemann, 2004), p. 181.

and seeking a negotiated peace, but this was not seriously considered. Instead, Berlin gambled everything on a huge all-or-nothing assault, the Spring Offensive. The strategy may not have been rational from the perspective of maximizing utility, because the costs were potentially catastrophic, but the “high risk, high reward” offensive was deemed to offer the best—and perhaps the only—chance of getting a better than even outcome. Ultimately, the offensive caused 700,000 German casualties and sped up Berlin’s defeat.¹⁷⁸

FAILURE SALIENCE IN WORLD WAR I

Failure salience implies two key observable implications: (1) actors will dwell on memories of failure more intensely than on memories of success and learn more from past disasters than from triumphs; and (2) failure is more likely than success to trigger policy change—for example, shifts in military doctrine.

During the 1920s, the British and the French had complex memories of the Great War, and many people wondered if it had been a Pyrrhic victory. Nevertheless, it was assumed that Britain and France were on the winning side and Germany was on the losing side.¹⁷⁹ In the victor countries, according to David Stevenson, “public interest centered not on the war’s termination but on its origins.”¹⁸⁰ Britain and France subsequently engaged in limited military reform, and adopted a defensive posture based on the expectation that a future European conflict would essentially be a repeat of the Great War. Even by 1939, Britain did not have a single armored division. France had plenty of tanks but lacked an effective doctrine of mobile warfare and relied on the ill-fated Maginot Line of fixed defenses.¹⁸¹

By contrast, as the losing party, Germany exhibited a striking degree of failure salience. Postwar German politics focused intensely on the military debacle: “In the defeated countries after 1918 the search for explanation became obsessive.”¹⁸² Germany displayed a far greater willingness than the victorious Allies to learn lessons about what went wrong and adapt its military. Immediately after World War I ended, several hundred officers in the Germany army engaged in a root-and-branch analysis of the lessons of the conflict. Rejecting

178. Isabel V. Hull, *Absolute Destruction: Military Culture and the Practices of War in Imperial Germany* (Ithaca, N.Y.: Cornell University Press, 2005).

179. Robert A. Doughty, *Pyrrhic Victory: French Strategy and Operations in the Great War* (Cambridge: Belknap, 2005); and Robert Tombs and Emile Chabal, eds., *Britain and France in Two World Wars: Truth, Myth, and Memory* (New York: Bloomsbury, 2013).

180. Stevenson, *With Our Backs to the Wall*, p. xvi.

181. Barry R. Posen, *The Sources of Military Doctrine: France, Britain, and Germany between the World Wars* (Ithaca, N.Y.: Cornell University Press, 1984), pp. 23–24.

182. Stevenson, *With Our Backs to the Wall*, p. xvi; and Mary R. Habeck, *Storm of Steel: The Development of Armor Doctrine in Germany and the Soviet Union, 1919–1939* (Ithaca, N.Y.: Cornell University Press, 2003), p. 19.

the simple “stab in the back” myth, which blamed the defeat on domestic forces, the German General Staff focused on the poor execution of the Schlieffen Plan and the failed battle of Verdun. A special Reichstag committee produced eight volumes of documents on the German collapse in 1918 that highlighted numerous strategic errors.

During the 1920s and 1930s, Germany sought to avoid a prolonged stalemate in future conflicts by creating a new military doctrine.¹⁸³ According to Barry Posen, the German army’s efforts to improve its capacity at offensive warfare are “best explained by the organization’s failure in World War I, and its desire to avoid a repetition of that failure.”¹⁸⁴ Berlin did not instantly eschew trench warfare and develop the blitzkrieg strategy. For one thing, the Treaty of Versailles limited the German army to 100,000 men and prohibited the operation of a single tank. Therefore, the initial priority was to work out how to defend the fatherland with a minuscule force. Furthermore, once offensive options became conceivable, Berlin sought a return to pre-World War I doctrines, which sought to destroy the enemy through encirclement and envelopment.¹⁸⁵ At times, there was also institutional resistance to innovation. Nevertheless, under Hitler, the German military eventually embraced a model of mechanized warfare that combined tanks, radios, and aircraft, based, above all, on avoiding “a repetition of the World War I, multi-front, attrition experience.”¹⁸⁶ The German battlefield victories of 1939–41 can be traced, at least in part, to the commitment to learning lessons from the Great War: “The interwar German military explored and disseminated these lessons diligently, flexibly, and with receptivity to new ideas.”¹⁸⁷

SOURCES OF VARIATION IN WORLD WAR I

In summary, Germany exhibited threat sensitivity, loss aversion, and failure salience. These phenomena can be explained more readily by the negativity bias than by rational calculation. In addition, variation in positive and negative biases broadly followed the expected pattern.

183. James S. Corum, *The Roots of Blitzkrieg: Hans von Seeckt and German Military Reform* (Lawrence: University Press of Kansas, 1992).

184. Posen, *The Sources of Military Doctrine*, p. 191.

185. *Ibid.*, p. 183; and Hull, *Absolute Destruction*.

186. Posen, *The Sources of Military Doctrine*, p. 202; Max Boot, *War Made New: Weapons, Warriors, and the Making of the Modern World* (New York: Gotham, 2012), pp. 220–224; and Eliot A. Cohen, “A Revolution in Warfare,” *Foreign Affairs*, Vol. 75, No. 2 (March/April 1996), pp. 37–54, at pp. 46–47, doi.org/10.2307/20047487.

187. Tim Ripley, *The Wehrmacht: The German Army in World War II, 1939–1945* (New York: Routledge, 2013), p. 33.

TARGET OF ASSESSMENT. As predicted, positive and negative biases were evident in different domains, reconciling the literature on overconfidence prior to World War I with the broader negativity bias. German officials highlighted negative information about the external environment and often saw the motivations of rival states in the worst light. But when German leaders assessed their own capabilities and the odds of victory in an imminent war, they tended to be overconfident, focusing on promising trends, such as France's budgetary problems and lack of manpower. Herwig captured this duality: "Ridden with anxiety, guilt, fear, and paranoia, yet at the same time dominated by a remarkable egoism, German statesmen and soldiers by the second decade of the twentieth century could see escape from their predicament only in a mad 'bolt.'"¹⁸⁸ For example, Moltke exhibited negative illusions about Germany's enemies, including his belief in an inevitable racial war with the Slavs, as well as positive illusions about Germany's capabilities and its military superiority in a near-term conflict. Annika Mombauer wrote that he "painted a picture that was at different times either so gloomy as to suggest that only a war now could save Germany from a fate that would inevitably lead to her defeat in the future, or so overconfident that it led the civilian statesmen to assume that they could undertake an aggressive foreign policy that was backed up by a seemingly invincible military force."¹⁸⁹

The coexistence of positive and negative biases created tensions and inconsistencies, which were often unexplored or unreconciled. As foreign threats were perceived to grow, one might expect that confidence in victory would drop proportionately. But oftentimes, the leaders who felt most threatened were also the most optimistic. German leaders who highlighted promising opportunities for war today rarely considered whether similar dynamics might operate in the future, diminishing the Franco-Russian threat. Similarly, officials who emphasized external peril did not abandon their hopes of military success in a near-term war. For example, Moltke was prone to see grave dangers in the geopolitics of Europe; but although he recognized that a war could be long and costly, he resisted the possibility of military defeat.¹⁹⁰ Foreign Minister Gottlieb von Jagow later claimed that Moltke's confidence had "inspired" him in the July crisis.¹⁹¹

188. Herwig, "Germany," p. 92.

189. Mombauer, *Helmuth von Moltke and the Origins of the First World War*, p. 289.

190. Mark Hewitson, *Germany and the Causes of the First World War* (Oxford: Berg, 2004), pp. 121, 217; and Herwig, *Germany*, p. 175.

191. Richard Ned Lebow, *Between Peace and War: The Nature of International Crisis* (Baltimore, Md.: Johns Hopkins University Press, 1981), p. 257.

TIDE OF INFORMATION. Germany's undemocratic regime exacerbated the presence of all biases, both positive and negative. Compared to decisionmaking in Britain and France, decisionmaking in Berlin during the Great War was characterized by less civilian control and open debate. The German General Staff ran the campaign, and civilian leaders largely deferred to military elites. According to Isabel Hull, "Both the British and French armies displayed a livelier sense of their limitations: they could conceive of losing a battle, they did not underestimate their enemy."¹⁹² Elected officials had limited sway in Germany, with "excessive influence for formidable technicians consumed by hubris, inadequately restrained by politicians whose judgements, if also deficient, were generally superior."¹⁹³ Moltke helped to develop a system that gave primacy to military authority, meaning that leaders in Berlin subscribed to "frightening images of an uncertain future" while also believing that "Germany was still superior to her enemies at present."¹⁹⁴

TIMING, IDEOLOGY, AND AGENCY. Specific domains of the negativity bias also varied in predictable ways, based on proximity in time, ideology, and agency. For example, there is suggestive evidence that German leaders became exceptionally threat sensitive as the danger drew closer in July 1914. As information emerged about the perceived French and Russian menace toward the end of the July crisis, the kaiser became paralyzed by dread. Greg Cashman and Leonard Robinson described the kaiser's mind-set on July 29: "His normal cognitive functions impaired, he appeared to have been overcome with a mood of despair and aggression and fatalism. His response to [Tsar] Nicholas's note verged on the paranoid: Drawing on his long-held perception of a Germany encircled by hostile powers and his ambivalent love-hate relationship with Britain, he concluded that there was a British, Russian and French conspiracy to keep Germany negotiating while the Entente powers mobilized for an attack on Germany."¹⁹⁵

There is also a correlation between conservative ideology and heightened threat sensitivity. The Reichstag of 1914 featured numerous parties including the left-wing SPD, the Catholic Center Party, and several conservative parties. The conservative parties were consistently more fearful of France and Russia and the threat of encirclement. During the July crisis, dozens of people were arrested in Berlin for singing socialist songs and opposing war. As

192. Hull, *Absolute Destruction*, p. 322.

193. Stevenson, *With Our Backs to the Wall*, p. 535.

194. Mombauer, *Helmuth von Moltke and the Origins of the First World War*, p. 287.

195. Greg Cashman and Leonard C. Robinson, *An Introduction to the Causes of War: Patterns of Interstate Conflict from World War I to Iraq* (Lanham, Md.: Rowman and Littlefield, 2007), pp. 78–79.

Hastings wrote, "The right-wing press had a field day the next morning, denouncing the demonstrators as 'a mob', and anti-war protesters as traitors."¹⁹⁶ Of course, this indicates relative threat sensitivity: many on the German left were worried about the danger posed by tsarist autocracy.¹⁹⁷ As one liberal journalist wrote on July 26, "We cannot allow Austria to go under, for then we should ourselves be threatened with becoming subject to the greater Russian colossus, with its barbarism."¹⁹⁸

Actions attributable to human agency tend to be seen as a greater threat than impersonal or environmental threats. In 1914, Germany's predicament was rarely considered to be an accident of its geopolitical location, or a tragic consequence of European arms races, or uneven economic development. Rather, the problem was the predatory intentions of Russia, France, and Britain. Richard Ned Lebow wrote that "[Kaiser] Wilhelm chose instead to escape from his own aggressiveness and its consequences by portraying Germany and himself as helpless victims of the aggressive designs of other powers."¹⁹⁹

In terms of loss aversion, German leaders who were personally responsible for military failure were exceptionally opposed to accepting loss and particularly attracted to the alternative of gambling. At the start of the war, the German military command did not have specific territorial aims, but by 1917 it had embraced highly ambitious goals.²⁰⁰ During the Spring Offensive in 1918, General Ludendorff constantly pushed for riskier attacks in the search for a decisive encirclement. Meanwhile, he refused to accept evidence of loss. One close observer described Ludendorff's "terrible inner battle in which one saw the catastrophe, on the one hand, but on the other could not and did not want to understand it."²⁰¹

By contrast, Bethmann did not make the key decisions during the war, and as we would predict, he was more skeptical about escalatory strategies such as unrestricted submarine warfare, and he was more willing to contemplate a compromise peace.²⁰² Similarly, the SPD, Center Party, and liberal parties in the Reichstag were largely ignored on military policy, and in 1917, these groups endorsed a "Peace Resolution" that called for no annexations or indemnities. Younger members of the military command and recent appointees

196. Hastings, *Catastrophe 1914*, p. 71.

197. Hewitson, *Germany and the Causes of the First World War*.

198. Hastings, *Catastrophe 1914*, p. 67.

199. Richard Ned Lebow, *Coercion, Cooperation, and Ethics in International Relations* (London: Taylor and Francis, 2007), p. 102.

200. Hull, *Absolute Destruction*, pp. 200–201.

201. *Ibid.*, p. 309.

202. Stevenson, *With Our Backs to the Wall*, p. 14.

were also less responsible for prior failures and more willing to argue for a defensive strategy and a negotiated peace. Hull wrote that “critical realism could sprout where military culture was weakest.”²⁰³ In 1918, the military high command sought a final battle, or *Endkampf*, and “had to be stopped by external intervention, from the cabinet, the Reichstag, and popular revolt.”²⁰⁴

Failure salience also followed the expected pattern. The Great War, as the most recent debacle, completely dominated historical learning in Germany during the 1920s and 1930s. Older historical events, whether positive or negative, were largely ignored, as Berlin became fixated on avoiding a repeat of the defeat in 1918.

Conclusion

The negativity bias is a core feature of international relations that helps explain many puzzling behaviors, including the sensitivity to threatening information, the tendency to gamble in the face of loss, and the inclination to learn from failures more than successes. Some of these perceptions and associated behaviors are individually familiar to political scientists. But rather than being independent dynamics, each is part of a broader phenomenon in which bad is stronger than good. The story of global politics is therefore one of negative bias more than positive bias, and overconfidence is an exception to a wider pattern. At the same time, there are several important sources of variation—most notably, that self-perception (e.g., assessing one’s own capabilities) fosters positive bias, whereas other-perception (e.g., assessing foreign states) fosters negative bias.

The rational actor model is unable to provide a convincing explanation for threat sensitivity, loss aversion, and failure salience. All of these perceptions and associated behaviors tend to run counter to state interests. In addition, we find little evidence that leaders adopt a biased assessment as a deliberate strategy. Instead, extensive psychological studies suggest that these phenomena are predictable manifestations of biases in judgment and decisionmaking. It may sometimes be beneficial for states to fixate on negative information—for example, in a highly dangerous environment. There is no reason to believe, however, that human behavioral dispositions are correctly “calibrated” to the modern political environment, which is almost unrecognizable from the small-scale kin groups in which people evolved. In the very different world of today’s international relations, the negativity bias can be catastrophic.

203. Hull, *Absolute Destruction*, p. 304.

204. *Ibid.*, p. 319.

World War I originated, was prosecuted, and was recalled, under a pall of negativity. German decisionmakers sometimes exhibited overconfidence when they assessed their capabilities and the odds of success. But when officials looked outward at the external environment, negative biases predominated. Threat sensitivity motivated Berlin to fight; loss aversion encouraged Germany to escalate; failure salience meant that defeat in the Great War became a fundamental source of learning.

One avenue for further research is to explore potential interactions between the three domains of negative bias (threat sensitivity, loss aversion, and failure salience), and the positive bias of overconfidence. The relationship between threat sensitivity and overconfidence may be especially important in causing war. The coexistence of negative images of others and positive images of oneself means that actors perceive a dangerous world and yet overestimate their ability to navigate it, heightening the odds of conflict. According to Thomas Ricks, before the U.S. invasion of Iraq in 2003, the George W. Bush administration was guilty of “simultaneously ‘worst-casing’ the threat presented by Iraq while ‘best-casing’ the subsequent cost and difficulty of occupying the country.”²⁰⁵ The power of this interaction is reinforced when war draws near, because leaders become even more threat sensitive and overconfident.

What are the implications of the negativity bias for international relations theory? The bias provides some support for realism. For example, the tendency to highlight negative data helps explain why states balance against threats by forming alliances and building up military capabilities, and why uncertainty about other states’ intentions and the security dilemma are endemic features of the international system.²⁰⁶ The negativity bias deviates from neorealism, however, because it explains these dynamics in terms of human psychology rather than the anarchic international system.²⁰⁷ Meanwhile, the negativity bias provides a challenge for constructivism, because it implies that perceptions are not simply a cultural creation. Instead, leaders and publics are systematically inclined to prioritize bad over good.²⁰⁸

What are the policy implications? First, decisionmakers must be aware of the dangers of the negativity bias, especially exaggerating threats, gambling in the domain of losses, and learning from an overly narrow sample of analo-

205. Thomas E. Ricks, *Fiasco: The American Military Adventure in Iraq* (New York: Penguin, 2006), p. 4.

206. Stephen M. Walt, *The Origins of Alliances* (Ithaca, N.Y.: Cornell University Press, 1987).

207. Classical realists, such as Hans Morgenthau, may be right that realist behavior is partly rooted in human nature, even if they are wrong about the specific psychological mechanisms at work. Hans J. Morgenthau, *Politics among Nations: The Struggle for Power and Peace* (New York: McGraw-Hill, 1993).

208. Wendt, *Social Theory of International Politics*.

gies, which can lead to poor strategy and avoidable conflict. For example, the United States is likely to overstate the threat of a rising China and overestimate its ability to resolve this threat. It is difficult for leaders to resist subconscious psychological biases, particularly a profound meta-bias such as the negativity bias. Therefore, officials may need to create new decisionmaking structures to ward off dangerous errors—for example, by appointing a formal “devil’s advocate” to challenge the prevailing wisdom (or perhaps, more accurately, an “angel’s advocate” who reminds people that perceived threats are often exaggerated, losses can be absorbed, and successes are a useful source of learning).

Second, leaders should recognize that opponents will exhibit these traits, whether or not they themselves avoid them. If leaders assume that opponents are rational actors, who weigh positive and negative information evenhandedly, strategic analysis will be flawed.

Third, diplomacy is like marriage: many positive interactions are needed to balance out a perceived sleight and create an enduring special relationship. Negative interactions should be avoided even if the cost of forbearance is substantial.

Fourth, leaders can take advantage of the negativity bias. For example, dramatic shifts in policy may be easier to achieve when the public perceives a threat, when it is in a domain of loss and subsequently becomes risk acceptant, or when it recalls past failure. This is true of escalatory strategies and rallying support for war, but it could also apply to tough but necessary dovish policies, such as giving up land for peace. A bad world can lead to a better world.