

CHAPTER 10

FOREIGN POLICY DECISION-MAKING

The Psychological Dimension

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THE last two decades have witnessed a noticeable increase in scholarly attention to psychological approaches to the study of foreign policy and international relations. This research is still dominated by security studies, with new work on the psychology of signaling, resolve, and reputation, and with greater interest in the role of emotions. We see new work, however, in other substantive areas, including the psychological dimensions of public opinion on trade policy, human rights, international organization, morality, and other issues. Methodologically, there has been a sharp increase in the use of experimental methods. IR scholars have also explored genetic, biological, and evolutionary approaches, and made some attempts to build on recent work in neuroscience. The growing influence of political psychology in the IR field is reflected in the 2017 special issue of *International Organization* devoted to “The Behavioral Revolution and International Relations” (Hafner-Burton et al. 2017).¹

This chapter combines a brief introduction to the study of political psychology in international relations with a more focused survey of research on foreign policy decision-making.² After examining the place of political psychology in the IR field and its evolution over time, we turn to the study of decision-makers’ belief systems and information processing. We then look at models of decision-making, including prospect theory, time horizons and intertemporal choice, groupthink and related models, and crisis decision-making. I leave IR research on threat perception, signaling and resolve, public opinion, terrorism, and emotions to Stein, Casler and Yarhi-Milo, Kertzer, and Snider et al. in the next four chapters and to Cohen-Chen and Halperin in Chapter 30.³

1. THE PLACE OF POLITICAL PSYCHOLOGY IN THE INTERNATIONAL RELATIONS FIELD

The growing scholarly interest in the psychology of foreign policy and international relations is a welcome development, given the more modest attention given to this topic for

many years. One recent study suggests that less than thirteen percent of scholarly journal articles in IR from 1980 to 2015 focused on Waltz's (1959) "first-image," or individual-level variables, as opposed to nation-state or international system-level variables (TRIP, 2019).⁴ In the second edition of the *Handbook* I describe political psychology as occupying an "uncertain space" in the IR field. Stein (2017, S249) notes the "minority" position of psychological explanations in the IR field and the "obstacles to diffusion" of this work. Few basic graduate IR theory field seminars devote even a full week to psychological approaches. Hudson and Day (2020, 7) conclude that "virtually none of our mainstream IR theories over the decades of the Cold War placed human beings in the theoretical mix."

How do we explain the growth of psychologically oriented IR scholarship? Real-world events undoubtedly contributed (Kertzer & Tingly, 2018, 3). Some argue that the Trump presidency has led to a "First Image Renaissance" in IR theory, the study of which had "languished for three decades" (Parajon, Jordan, & Holmes, 2019). Perhaps, but this was certainly not the first time that individual leaders, their belief systems, and their personalities have had a leading causal impact on state foreign policies. Few would think of explaining World War II or the Holocaust without Hitler, Soviet policy in the 1930s and 1940s without Stalin, Chinese foreign policy without Mao, Iraqi foreign policy without Saddam, or contemporary Russian foreign policy without Putin. This pattern is not confined to autocracies. The literature on American diplomatic history is littered with books entitled "Jefferson's War," "Mr. Madison's War," "Mr. Polk's War," "Kennedy's Wars," "Bush's Wars," and "Obama's Wars." Many argue that George W. Bush was a necessary condition for the Iraq War (but see Harvey, 2012). That event, coming soon after calls for a stronger focus on political leaders (Hermann et al, 2001; Byman and Pollack, 2001), did little to significantly increase attention to psychology in IR scholarship.

Perhaps that will change with "Putin's War" in Ukraine, but there is a pattern here. IR scholars often emphasize psychology in explaining discrete historical episodes but not in constructing generalizable theories of international relations. There is a tension between the tasks of constructing parsimonious theoretical explanations, which has been prioritized in the IR field, and of developing nuanced and descriptively accurate explanations of individual historical episodes. Many IR scholars believe that the inclusion of psychological variables is advantageous in the latter but that it complicates the former task. They might accept the argument that Stalin and Putin have disproportionately shaped Soviet and Russian foreign policy, but not the more general theoretical statement that individual leaders are the dominant determinants of state foreign policies, as reflected in the "great man" theory of history (Carlyle, [1840]1888).

The growing interest in psychological models of foreign policy and strategic interaction owes more to the changing nature of the IR field. The field has long been dominated by a sequence of debates between paradigms: between realism and idealism; realism, liberalism, and Marxism; and realism, liberalism, and constructivism (Lake, 2013; Schmidt, 2013). These paradigms (the "isms") are schools of thought or research traditions, each based on a set of shared assumptions and very general propositions. But they generate few testable hypotheses and give little attention to the theory's underlying microfoundations.

These paradigmatic debates have left little space for psychological variables. Classical realism emphasizes psychology in the form of a fixed human nature, but was essentially supplanted by structural realism (Waltz, 1979). Neoclassical realism (Ripsman, Taliaferro, & Lobell, 2016) allows for the exogenous impact of leaders' psychology on perceptions

of power without exploring the underlying psychological mechanisms. Liberal international theory traces foreign policy primarily to the nature of a regime, its political and economic institutions, the interests of key groups within society, and, to a certain extent, “ideas” (Goldstein & Keohane, 1993). Only the last is directly conducive to incorporating psychology, but liberal theorists treat ideas as exogenous and focus on their impact without considering their psychological sources.

Constructivism—particularly with its emphasis on identities, socialization, and meanings (Krebs, 2015)—in principle meshes nicely with political psychology (Jervis, [1976]2017, xxvi–xxx), but scholars have been slow to develop these connections. Alexander Wendt’s (1999) influential constructivist theory explicitly adopted a state-as-unitary-actor framework that neglected domestic and individual-level influences. That has gradually changed in the last decade, after a call for constructivist attention to emotions (Ross, 2006) and after critiques of constructivism’s neglect of psychology (Hymans, 2010; Shannon & Kowert, 2012).

A recognition that psychological models do not by themselves provide complete explanations of international behavior reinforced this pattern. In the first major collection of social psychological scholarship on war and peace, Herbert Kelman (1965, 5–7) argued that too much of this work was “removed from the interaction between nations,” and that

... it makes little sense to speak of a psychological theory of war or of international relations. There cannot be a psychological theory that is complete and self-contained. . . . There can only be a general theory of international relations in which psychological factors play a part, once the points in the process at which they are applicable have been properly identified. Within such a framework, however, psychological—and, particularly, social-psychological—analyses can potentially make a considerable contribution . . . ⁵

The most obvious way for psychological factors to make a contribution would be through their integration into models of foreign policy decision-making. But foreign policy analysis as a subfield was slow to develop (Hudson & Day, 2020, chap. 1), and was itself sidelined from the paradigm debates, at least between realism and liberalism. Prior to the mid-1950s the analysis of foreign policy was more idiographic, country-specific, descriptive, and interpretive than theoretical or comparative, more interested in foreign policy outcomes than the processes through which political leaders made and implemented policy. As Allison (1971) later pointed out, the dominant approach implicitly assumed a rational and unitary state actor model.

The first serious attempt to development a comprehensive framework for the analysis of the foreign policy process was the “decision-making” approach of Snyder, Bruck, and Sapin (1962). This work focused on political elites, their conceptions of the national interest and “definition of the situation,” the domestic political contexts in which they operated, and the nature of information and communication. Although this framework was in principle open to the incorporation of psychological variables, in practice it included little explicit theorizing about their influence. It generally treated decision-makers’ world views as exogenous and made little attempt to explain the social, intellectual, and psychological processes that generated them.

The “second wave” of decision-making studies (Art, 1973), which emerged with Allison’s (1971) elaboration of an organizational process model based on standard operating procedures and a governmental (bureaucratic) politics model based on bargaining between the heads of different agencies, devoted even less attention to psychological variables.⁶ For

all of these reasons, middle-range psychological models were marginalized from paradigmatic debates between realism, liberalism, and constructivism.

Over the last decade, however, the conception of the IR field as a series of debates between grand theories has receded (Lake, 2013), as has the commitment to highly parsimonious theory as the preferred path to understanding a complex world. The result is an increasing interest in middle-range theory and problem-driven research, and a willingness to utilize a more eclectic set of theories and methods to analyze them. Included in this shift is a greater interest in the potential utility of incorporating psychological variables into explanations of foreign policy and international relations.

One notable feature of this new research is that it goes beyond the traditional focus on threat perception and decision-making on security issues to encompass a wider range of topics. There has been an explosion of work on public opinion (Kertzer, Chapter 13, this volume), driven both by theoretical interest in the distinctive foreign policies of democracies and by the decreased cost of online survey experiments. IR scholars have also begun to give more attention to the psychology of international political economy (Elms, 2008), where debates have traditionally focused on system-, state-, and society-centered approaches while neglecting the individual level (Ikenberry, Lake, & Mastanduno, 1988). Examples of recent work include studies of financial decision-making (Stein, 2013) and of public opinion on trade policy, the latter often involving the question of why trade preferences do not align with economic self-interest (Rho & Tomz, 2017). IR scholars have also explored public attitudes toward fairness in international relations (Powers et al., 2022), the psychology of shaming in human rights policies (Snyder, 2020), and other issues.

The field has also witnessed new approaches to the study of political leaders by scholars employing formal and large-N observational studies. One line of this new “leader-centric” research focuses on the political (and personal) survival of leaders, how it is affected by victory and defeat in war, and whether that varies across democratic and non-democratic regimes and the political institutions within them (Buono de Mesquita et al., 1999; Chiozza & Goemans, 2011). This research is almost exclusively rationalist, as leaders are “interchangeable” (Carter & Chiozza, 2018, 9), with institutional differences explaining variations in behavior (McGillivray & Smith, 2008). More psychological is the “personal attribute” approach, with variations in leaders’ experiences and attributes explaining variation in state behavior (Hermann, 1980; Horowitz, Stam, & Ellis, 2015; Horowitz & Fuhrmann, 2018). I say more about this in the next section.

This “leader-level” approach has made important contributions to the political psychology of international relations, but some go too far in emphasizing its novelty. In their excellent book on the relationship between leader attributes and international conflict behavior, Horowitz, Stam, and Ellis (2015, 20) write that “the past sixty years of political science scholarship has mostly” been “ignoring states’ leaders.” This is highly misleading. Psychological studies of international relations by political scientists for most of the last sixty years have focused primarily on political leaders and their beliefs, cognitions, emotions, personalities, and decision-making.⁷

This long line of work on political leaders includes George’s research programs on presidential personality, decision-making, management styles, and operational codes (George, 1969, 1974, 1980; George & George, 1956, 1998); Hermann’s (1980) analyses of personality traits of leadership; Holsti’s (1967) analysis of enemy images; North’s (1967), C. Hermann’s (1972), Holsti’s (1972), and Brecher & Geist’s (1980) work on crisis decision-making and the

impact of stress; Steinbrunner's (1974) "cybernetic" and cognitive models of foreign policy decision-making; Jervis's ([1976]2017) analysis of perception and misperception; work on the psychology of deterrence by Jervis, Lebow, and Stein (1985; Lebow 1981; Jervis, 1982/83); Cottam's (1977) work on foreign policy motivations; Stein and Tanter's (1980) detailed case study of limits of rational decision-making; and Larson's (1985) psychological explanation of the origins of the US containment doctrine.

The application of psychological models to the study of leaders is a longstanding tradition in the IR field. What is distinctive about the recent "behavioral revolution in IR," which we might call the "second wave" after the first wave in the late 1960s, is the widespread use of quantitative and especially experimental methods. Large-N observational studies have been facilitated by the development of new data sets on leader attributes (described later), so that "leaders are no longer relegated to the error term of quantitative international relations" (Wolford 2021, 245). Although experimental studies in IR have focused primarily on public opinion, we are beginning to see studies of elites based on elite samples (discussed later).

Another characteristic of the second wave of the behavioral revolution in IR is greater attention to the institutional and political context of decision-making. This reflects an implicit appreciation of the point highlighted by Kelman (1965) a half century ago—that the impact of psychological factors on foreign policy is felt through their interaction effects with other variables in the foreign policy process. Research on leaders' psychology needs to be integrated into a broader theory of the foreign policy process, one that specifies the role that various psychological variables play in the complex causal processes leading to the formulation and implementation of foreign policy.

This point relates to a renewed recognition that although the evidence driving the new behavioral revolution is based on individual behavior that deviates from standard economic models of rational behavior, the key actors in international relations are collective decision-making bodies like states, foreign and defense ministries, advisory groups, domestic interest groups, and so on. We need to understand how individual judgments and preferences get transformed into collective decisions at the group level, which some have described as the "aggregation problem" (Levy, 1997, 102). Scholars associated with the behavioral revolution in IR agree on the need for greater attention to this issue and to the political, institutional, socio-economic context of decision-making (Hafner-Burton et al., 2017; Powell, 2017; Stein, 2017; Saunders, 2017). If we want to go beyond state actions to explain their mutual interactions in the international system, as we ultimately do, we need to engage the "strategic interaction problem" (Levy, 1997, 104–105). This is comparable to the move from behavioral decision theory to behavioral game theory (Camerer, 2003).

2. BELIEF SYSTEMS AND INFORMATION PROCESSING

2.1. Beliefs, Images, and Operational Codes

Leaders' beliefs play a central role in shaping their policy preferences and strategies, and help explain variations across decision-makers and across state policies over time. An

individual's prior beliefs are particularly important because those beliefs have a significant impact on how that individual perceives and interprets new information. I focus primarily on descriptive beliefs about the state of the world and causal beliefs about how the world works, and give less attention to normative beliefs that influence preferences. Actors have beliefs about the international system and interactions among states, about the workings of political and economic systems (their own and others'), and about themselves and others.

Despite their importance, beliefs tend to be undertheorized (Jervis, 2006, 641). Scholars have proposed different categorizations of the variety of individual beliefs about international relations. One early classification of beliefs was Boulding's (1959) theory of national images, with images of adversary and of self. The key dimensions were the perceived hostility/friendliness and strength/weakness of other actors. This led to studies of enemy images (Gladstone, 1959; Holsti, 1967; Finlay, Holsti, & Fagan, 1967), and of self-images, which are often subconsciously designed to highlight the contrast with enemy images.⁸ White (1968) posited a diabolical enemy-image, virile self-image, and moral self-image, and applied these concepts to the two world wars and to the Vietnam War. Leaders often manipulate enemy images to advance their domestic political support, sometimes to the point of justifying a "diversionary war" based on conflict/cohesion theory (Coser, 1956, chap. 5; Levy, 1989).⁹ Lebow (1981, 202) added the important category of images of the adversary's images of one-self, which is particularly important for bargaining situations.

The interaction of images of self and adversary often involve "mirror images" (White, 1968), where views of adversary hostility/strength and the virtuous self are each exaggerated and feed off one another.¹⁰ If you believe that your adversary is fundamentally hostile but at the same time responsive to your own demonstrations of strength and coercive threats (a "paper tiger" image), you may perceive the adversary's aggressive actions as reflecting its innate hostility and its conciliatory actions as reflecting its response to your own resolute behavior. Holsti (1970) labeled this the "inherent bad faith model."¹¹ There is little evidence that might disconfirm such beliefs, which impedes opportunities for conflict resolution.

George (1969) constructed a broader framework for classifying leader beliefs by building on Nathan Leites' (1951) concept of "operational code." George (1969) eliminated the psychoanalytic components of Leites' operational code and grounded it in social-psychological theories of cognition, in an attempt to incorporate the concept into a more useful social-scientific framework. George (1969, 195) urged analysts to focus on those beliefs that "can be inferred or postulated by the investigator on the basis of the kinds of data, observational opportunities, and methods generally available to political scientists."

An individual's beliefs about the political world are interdependent, consistent, hierarchically organized around a small set of "master beliefs," and resistant to change. The operational code includes philosophical beliefs about the nature of politics and of conflict, and instrumental beliefs about the efficacy of alternative strategies for advancing one's interests. Philosophical beliefs include questions about the fundamental nature of politics and conflict, the extent to which political outcomes are predictable or subject to chance, and the ability of political leaders to influence the flow of events and images of the opponent. Instrumental beliefs include ideas about optimal strategies for achieving political ends, issues of timing, and conceptions of risk. The operational code soon developed into a major research program, with scholars applying the concept to a variety of American and non-American political leaders.¹²

A useful theoretical extension of operational code analysis for the study of international conflict is Rogers' (1991) "crisis bargaining code" model, which includes actor images of the adversary, of crisis dynamics, and of optimal bargaining strategies. Images of the adversary include beliefs about the adversary's objectives, its decision-making style, and its bargaining strategy in a crisis. Images of crisis dynamics include beliefs about the causal paths through which wars normally occur—deliberate aggression by states that prefer war to peace, or the inadvertent, unwanted, and unexpected consequence of an escalating spiral of perceived hostile actions. Beliefs about the ideal mix and sequencing of coercive and accommodative strategies are also important. A leader eager for a compromise outcome that minimizes risks of escalation may nevertheless begin with coercive threats to demonstrate that bullying tactics will not work.¹³

One important source of leaders' beliefs about international politics derives from leaders' traits, political socialization, and prior experiences. After important early work by Hermann (1980), scholars have more recently constructed two valuable datasets: "Archigos," on all heads of state in all countries from 1875 to 2004 (Goemans, Gleditsch, & Chiozza, 2009),¹⁴ and Leader Experience and Attribute Descriptions (LEAD) (Horowitz, Stam, & Ellis, 2015). The LEAD dataset includes information on the family, military, and educational backgrounds of over 2,400 heads of state. It also includes the institutional context, which enables the analysis of how the effects of leader background characteristics vary across regime type.¹⁵

With a primary aim of explaining international conflict, Horowitz, Stam, and Ellis (2015, 12) create a "Leader Risk Index," which they define as "the probability that a leader will engage in interstate military conflicts while in office" and which controls for relevant domestic and system-level causal variables.¹⁶ They find, in large-N studies supplemented by brief case studies, that a leader's past military service is among the most important factors predicting to the initiation and escalation of international conflict, but with an important qualification. Leaders with past military service but without combat experience are particularly likely to engage in international conflict, whereas combat experience tends to reduce tendencies toward involvement in conflict, at least among leaders in democratic states. Combat experience appears to be associated with more conflict-proneness in autocratic states. The authors hypothesize that the processes of selection into office in autocratic political systems favors more risk-acceptant individuals, including those who led military coups or rebel units (Horowitz, Stam, & Ellis 2015, 13; also Colgan, 2013).

A leader's age while in office also makes a difference, with older leaders being more likely to initiate military conflicts. This relationship holds for many autocratic regimes, but not extreme autocratic regimes. Horowitz, Stam, and Ellis (2015) find that leaders who experienced troubled childhoods (e.g., being raised in unstable households, or experiencing war as a child) are more likely to engage in foreign conflict as a leader. Leaders' educational backgrounds appear to have little impact on conflict propensity. Nor does gender, according to Horowitz, Stam, and Ellis (2015), who find that male and female leaders on average have similar risk profiles, though there is no female "outlier" comparable to Hitler or Stalin. As the authors concede, however, the small number of female heads of state makes it difficult to generalize. In addition, it is not clear that the authors' controls pick up conditions under which female leaders are selected into office.¹⁷

A related question is whether foreign leaders (and domestic publics) treat female leaders differently than they do male leaders with respect to their resolve to stand firm,

and whether the anticipation of such an effect influences the behavior of female leaders. Unlike their male counterparts, female leaders may face pressures to counteract traditional gender stereotypes by demonstrating their resolve through hardline policies (Schwartz and Blair, 2020), even to the point of being more likely to initiate war (Schramm & Stark, 2020).¹⁸ Turning to a different causal mechanism, most research shows that men are more risk-seeking than are women (Harris, Jenkins, & Glaser, 2006; Johnson et al., 2006; McDermott, 2015).¹⁹ At the domestic level, we know that women have less hawkish attitudes than men (Kertzer, Chapter 13, in this volume). Thus the relationship between gender and conflict incorporates multiple causal mechanisms that analysts need to distinguish and explore.

A leader's earlier political experiences are also important.²⁰ As Arthur Schlesinger argues, leaders "are prisoners of their own experience" (quoted in Hermann, 2014, 125). Experiences early in a president's term are particularly consequential. In her study of leaders' reputations for resolve in international politics, Daniel Lupton (2020) shows that what leaders say and do early in their tenure shape external adversaries' perceptions of their reputations and resolve, perceptions that change only slowly. Lupton demonstrates this with both a quantitative analysis and case studies, including a particularly instructive study of Kennedy in the 1961 Bay of Pigs crisis, subsequent Vienna summit meeting with Khrushchev, and the 1962 Cuban Missile Crisis.²¹ Experiences before a leader comes to office can also shape others' perceptions (Lupton, 2020, chap. 5).

Leaders with substantive expertise are more likely to rely on their knowledge drawn from experience and also to utilize historical analogies based on their experience (Dyson & Preston 2006), whereas leaders without expertise are more likely to rely on their personal predispositions or turn to those whom they trust (Hermann 2014, 127). In an influential study that develops some of these themes, Saunders' (2017) analyzes the interaction effects of the substantive foreign policy experiences of American presidents and their advisors. She argues that experience influences a leader's ability to monitor their advisors, the credibility of their delegation of authority to experienced advisors, and the diversity of advice they receive. Applying her theory to US decision-making in the 1991 and 2003 Iraq wars, Saunders (2017, S219) concludes that "a seasoned team cannot substitute for an experienced leader."

2.2. Information Processing and Belief Change

After important early work by Wohlstetter (1962) and DeRivera (1968), Jervis's ([1976]2017) seminal work on perception and misperception transformed the study of how political leaders process information and how that contributes to changes in their foreign policy beliefs. Jervis integrated a plethora of discrete findings in social psychology into a more unified framework and illustrated their relevance for foreign policy decision-making with references to the historical record. Influenced by the "cognitive revolution" in social psychology, Jervis emphasized cognitive processes.²² Following Janis and Mann (1977) in social psychology, however, IR scholars began to give more attention to affective considerations (Lebow, 1981; Jervis, Lebow, & Stein, 1985; Stein, 1988). The underlying theoretical concepts are covered in chapters 4 (Chong), 5 (Lau & Redlawsk), 11 (Stein), and 15 (Jerit & Kam), so I will be brief, and focus on applications to international relations.

2.2.1. *The Rational Model*

IR scholars have traditionally framed their psychological models of judgment and decision-making around deviations from an idealized rational model.²³ Some have been moving away from this conception of the psychology of information processing as a “theory of errors” (Mercer, 2005; Kertzer & Tingley, 2018, 321–322), but it remains sufficiently common among IR scholars that a brief description of the rationalist baseline would be useful, however difficult that is to define.

Rational decision-making is generally defined as value maximization under constraints.²⁴ This imposes requirements on both preferences and information processing. Preferences must be complete and transitive.²⁵ Actors must be able to make tradeoffs among their multiple and often conflicting goals, which requires that at a minimum they be able to rank order their goals and ideally do so on an interval scale. Because strategies sometimes bring short-term benefits and long-term costs, or vice-versa, actors often need to make intertemporal tradeoffs between the short term and long term. This requires actors to have some sense of their intertemporal time preferences or time horizons. How much long-term gain is necessary to compensate for short-term losses?

A rational decision-making process requires the specification and prioritizing of goals, an information search, and analysis to develop alternative strategies to advance those goals and to assess the consequences of each of those strategies, and the selection of the strategy (or combination of strategies) that maximizes goals. The assessment of consequences must acknowledge uncertainty and estimate the approximate probability associated with each possible outcome. Probability assessment, along with other beliefs about the world, must be independent of actors’ preferences and the desirability of particular outcomes.²⁶ Actors must also understand how outcomes are shaped by the actions and reactions of others, and incorporate strategic interaction into their assessments. A rational actor must behave reasonably consistently with the laws of probability (in terms of dealing with compound probabilities), and combine probabilities in a linear fashion, as required by expected utility theory. Finally, because information search is costly in time and resources (Downs, 1957), it must be informed by the importance of the issues at stake (Elster, 1990, 21).

One final requirement of rational decision-making, neglected in some treatments, is to recognize that most decisions of interest in politics are not single decisions but instead sequential decisions. The rational actor should observe the consequences of their own and others’ actions and incorporate feedback into their beliefs about other actors and the state of the world. This updating of beliefs involves the informational requirement that at all stages of information processing an actor should combine their prior probability assessments (priors) with newly observed information in an optimal way. There is not perfect agreement on what constitutes the normative ideal here, but the dominant view is that the integration of new information with prior information should follow “Bayesian updating.”²⁷

2.2.2. *Cognitive Biases*

Perfect rationality is impossible to satisfy and difficult to approximate. This led Simon (1957) to introduce the concept of “bounded rationality.” Individuals generally try to act rationally, but they lack the cognitive ability to deal with a complex informational environment

involving uncertainty and value conflicts.²⁸ They resort to simplified mental representations of reality, often based on pre-existing categories or schemas, as cognitive shortcuts that involve minimal cognitive effort. These strictly cognitive factors, or “cold cognitions,” reflect the way the brain is “hard-wired,” and operate independently of human motivations and emotions. We first consider cognitive, “unmotivated biases,” and then turn to motivated biases, or motivated reasoning.²⁹ Although these simplifying mental shortcuts are necessary to make sense of the external world, they often generate some important cognitive distortions or biases (Nisbett & Ross, 1980). Tversky and Kahneman (1974; Kahneman, Slovic, & Tversky, 1982) systemized a wide variety of cognitive biases from social psychology into the unifying concept of heuristics and biases.³⁰

Jervis ([1976]2017) and other IR scholars have argued that many of these cognitive heuristics contribute to misperceptions, policy failures, and international conflict. Most recently, Kahneman and Renshon (2009) argue that most of these biases promote “hawkish” beliefs, defined as tendencies toward suspicion, hostility, and aggression and away from cooperation and trust. It is important to note, however, that under some conditions cognitive biases and motivated reasoning can lead to the under-perception of threat as well as to the overestimation of threat, to erroneous beliefs that the adversary’s intentions are benign. This is a common source of intelligence failure (Betts, 1978; Jervis, 2010).³¹ If accurate threat perception could have led the state to take action to deter or otherwise avoid an attack, then the underestimation of threat would constitute a cause of war.³²

One of the most important cognitive biases involves the influence of an individual’s prior beliefs on how they perceive and interpret information. People have a strong tendency to see what they expect to see based on their prior beliefs. They tend to be more receptive to information that is consistent with their beliefs than to information that contradicts their beliefs. This “selective attention” to information generates a “confirmation bias” that tends to support one’s preexisting beliefs. This phenomenon is nicely captured by the “anchoring and adjustment” heuristic (Tversky & Kahneman, 1974). Prior beliefs serve as a cognitive anchor, impeding the proper adjustment to new information. As a result, information processing tends to be more theory driven than data driven (Jervis, [1976]2017).³³

One consequence of selective attention to information and the confirmation bias is a tendency toward “premature cognitive closure.” Instead of engaging in a complete search for information relevant to the problem at hand, people tend to end their search for information after their pre-existing views gain adequate support, rather than continue to search for additional information.³⁴ Reinforcing this pattern is a tendency, once a decision has been made, to retrospectively see arguments in favor of the chosen alternative as even better, and those alternatives as even worse, than initially thought. Difficult decisions look easier in retrospect, reducing the need for any reconsideration of those decisions or additional information search. These tendencies lead to the “perseverance of beliefs” beyond the point that the evidence warrants. The power of pre-existing beliefs is suggested by evidence that new information that contradicts pre-existing beliefs often actually strengthens those beliefs (Anderson, Lepper, & Ross, 1980; Tetlock, 2005). Core beliefs about the world are often so ingrained that belief change at the top of a political system often requires a change in political leadership or regime (Tetlock, 1991, 27–31; Levy, 1994, 286).

Still, beliefs can change. Belief change is most likely if discrepant information is particularly powerful and salient, if it arrives all at once, if there are relatively objective

indicators to provide a baseline for the evaluation of the accuracy of beliefs, and if decision-makers are self-critical in their styles of thinking, and, at the collective level, if they operate in “multiple advocacy” decision-making units (Jervis, [1976]2017; George, 1972).

Another cognitive bias with important implications for IR scholars is the “fundamental attribution error” (Nisbett & Ross, 1980). People tend to interpret others’ behavior, particularly undesirable behavior, as reflecting dispositional factors (flawed character or hostile intent) rather than situational pressures. They minimize the extent to which apparently hostile behavior by the adversary might reflect a defensive reaction to their own actions that the adversary perceives as threatening. This lessens state leaders’ sensitivities to the security dilemma—the tendency for actions designed to increase their security to result in decreasing their security through the actions the adversary takes in response.³⁵ This pattern is compounded by the actor-observer discrepancy (Nisbett & Ross, 1980), the tendency to explain (and hence justify) one’s own behavior in terms of situational pressures rather than dispositional factors. Moreover, since we believe that our own actions are defensively motivated, and since we assume that the adversary understands that, we interpret the adversary’s hostile behavior as further evidence of its hostile character and/or intentions. This leads to mutually reinforcing negative feedback and often to an escalating conflict spiral.

There is a related tendency to perceive the adversary’s regime as more centralized than it actually is, to underestimate the impact of domestic political and bureaucratic constraints on adversary leaders, and consequently to attribute too much intent to the adversary’s actions (Jervis, [1976]2017, chap. 8). A state may take an uncompromising position in order to pacify a domestic constituency, but its adversary often infers that the behavior reflects hostile intentions. Bureaucratic pressures may force a state to increase military spending, but the adversary tends to interpret the increased spending as part of a more coherent and hostile foreign policy on the adversary’s part.

2.2.3. *Motivated Reasoning*

It is common to distinguish cognitive biases from motivated reasoning, which leads people to discount information that runs contrary to their goals, preferences, and interests or to their psychological needs and emotional well-being (Kunda, 1990; Redlawsk, 2002; Lau & Redlawsk, Chapter 5, this volume). People have a difficult time facing up to information that makes it harder to achieve their goals or that would leave them feeling emotionally uncomfortable. Motivated reasoning underlies cognitive dissonance theory (Festinger, 1957), which posits that maintaining inconsistent beliefs leads to emotional discomfort and subconscious efforts to ensure cognitive consistency. Peoples’ beliefs about the world are often convenient rationalizations for their underlying political interests or unacknowledged emotional needs, and for the policies that serve those interests and needs. Motivated reasoning is generally most pronounced in decisions involving high stakes and tradeoffs between important values, or “value complexity” (George, 1980). The psychological difficulty of making tradeoffs between important values often leads decision-makers to deny the existence of value conflict. Instead, they tend to interpret incoming information so that their preferred strategies advance all of their ends, which contributes to overconfidence in their policy choices (Janis & Mann, 1977; Lebow, 1981).

Scholars in American politics generally link “directional” motivated reasoning to partisan motivations (Cohen, 2003; Lau & Redlawsk, Chapter 5, this volume), but a wide range of motivations can induce this tendency.³⁶ If political leaders believe that they are most likely to achieve their preferred policy outcomes if particular conditions hold, then they may be motivated to interpret incoming information in a way that satisfies those conditions, especially if the information environment is inherently uncertain, as it often is. The standard interpretation of British appeasement of Hitler in the late 1930s is that British Prime Minister Neville Chamberlain’s abhorrence of war led him to believe Hitler’s statement that this was his “last territorial demand” in Europe, and to convince himself that extensive concessions would avoid war.³⁷ One interpretation of George W. Bush’s 2002–2003 statement that Iraq had a nuclear weapons program is that he believed, based in part on public opinion surveys and focus groups, that the existence of such a program would be more likely than any other factor to generate public support for the war that he wanted for other reasons (Kaufman, 2004). In this view, motivated reasoning led Bush to interpret inherently ambiguous intelligence to confirm the existence of the Iraqi nuclear program.³⁸

This line of argument raises a potential analytic problem in interpreting potential cases of motivated reasoning once we move away from individual decision-making. Another possible explanation for Bush’s behavior is that he knew very well that incoming intelligence did not provide clear support for the existence of an Iraqi nuclear weapons program, and engaged in strategic deception to gain public support for the war that he wanted. He may also have put pressure on US intelligence agencies to produce the intelligence that would give him additional leverage with the public to advance his preferred policies (Rovner, 2011). This “politicization of intelligence” involves the strategic manipulation of information based on an accurate reading of the situation, not motivated reasoning.

2.2.4. “*Hawkish Biases*”

Let me return to Kahneman and Renshon’s (2009) argument that many common cognitive distortions generate hawkish biases in international behavior. In addition to the fundamental attribution error, discussed above, they describe a set of “positive illusions.” These take several forms, including unrealistically positive images of one’s own “abilities and character” (Kahneman and Renshon 2009, 81–82).³⁹ In international relations, exaggerated beliefs about one’s relative military capabilities can lead to misplaced confidence in one’s bargaining leverage and to failed negotiations, conflict escalation, and an increased risk of war (Jervis, [1976]2017; Levy, 1983; Johnson, 2004; Mitzen & Schweller, 2011; Ransom, 2018).⁴⁰ Exaggerated confidence in one’s bargaining skills can also contribute to bargaining failure and conflict escalation.⁴¹ Positive images of one’s own character are best treated in a separate category, with different causal effects. Such images can reinforce the “illusion of transparency” (Kahneman & Renshon, 2009, 84–85). People overestimate the extent to which their own good intentions are apparent to adversaries and other outside observers (Gilovich, Savitsky, & Medvec, 1998). This reinforces the fundamental attribution error in exacerbating the security dilemma.

Contributing to overconfidence in a competitive environment is “competition neglect,” or “reference group neglect,” a concept neglected by IR scholars. This is the tendency to focus myopically on one’s own capabilities while giving minimal attention to one’s competitor’s

capabilities. Camerer and Lovallo (1999) invoke the concept to explain overconfidence and excess entry into economic markets, as evidenced by the high rate of failure of new businesses. They argue that individuals and organizations making decisions about entering a market focus on their own skill level, gather insufficient information about the nature of their competitors, and ignore the self-selection of more skilled competitors into the market. Scholars in other fields have applied competition neglect to various research areas (Moore, Oesch, & Zietsma, 2007; Radzevick & Moore, 2008; Kahneman, 2011, 259–261). IR scholars need to incorporate the concept into their theories of overconfidence, conflict initiation, and strategic interaction.⁴²

Closely related to positive illusions about one's abilities is the "illusion of control," an exaggerated belief regarding the extent to which outcomes depend on one's own actions (Kahneman & Renshon, 2009, 81; Langer, 1975). The illusion of control can lead actors to take greater risks, on the assumption that they will be able to manage any risks their actions generate.⁴³ In this way the illusion of control contributes to the loss of control, a major theme in the literature on crisis stability and inadvertent war (Lebow, 1987, chap. 3; Jervis, 1989, chap. 5), a literature that incorporates organizational as well as psychological sources of loss of control (Sagan, 1993).

The illusion-of-control hypothesis raises a puzzle. It is at odds with the common argument, consistent with numerous historical cases, that state leaders often experience a sense of the loss of control at high levels of crisis escalation. They sometimes respond by shifting from a strategy of trying to manage a crisis to avoid war to a strategy of preparing for the war they believe to be inevitable, which can generate a self-fulfilling prophecy (Williams, 1976, chap. 6; Lebow, 1987, chap. 3; Jervis, 1989, 153–164). One task for future research is to understand the conditions under which people experience the illusion of control, feelings of the loss of control, and perhaps the shift from the former to the latter, and how the sense of control varies with personality type, context, and issue, including international crises.

These various kinds of positive illusions tend to persist in people over time. They are reinforced by tendencies toward selective attention and the confirmation bias, which screen out information contradicting these self-images. It is important to note that experts are as vulnerable as novices to positive illusions. In fact, the greater an individual's confidence in particular beliefs based on their expertise, the greater their tendencies to dismiss evidence that contradicts those beliefs (Tetlock, 2005).

The abovementioned biases each concern information processing. Kahneman and Renshon (2009, 85–90) also include "loss aversion" (over-weighting of losses) and "risk-seeking in losses" as hawkish biases. I discuss these in more detail later in the context of prospect theory, but each concerns decision-making once basic informational parameters of the choice problem are set. Consequently, they belong in a separate category of biases—if they are "biases" at all. Loss aversion is not inconsistent with rational utility theory because it reflects preferences, which are exogenous in utility theory. Being more pained by the loss of \$100 than pleased by the gain of \$100 does not reflect informational biases. It does, however, reflect a broader category of "negativity" that is not limited to greater sensitivity to information, events, or beliefs likely to lead to bad outcomes (Johnson & Tierney, 2018/2019). It also includes the overweighting, in decision-making calculations, of those bad outcomes themselves, relative to positive outcomes.

2.2.5. *Analogical Reasoning and Learning from History*

IR scholars have given considerable attention to another source of beliefs: historical analogies (Jervis, [1976]2017, chap. 6; Khong, 1992). Generals are always fighting the last war, and political leaders are always trying to avoid the mistakes of the past. The 1938 “Munich analogy,” associated with the presumed lesson that appeasement never works, had a profound effect on American decision-making in the Korean War, the Vietnam War, and the 1990–1991 Persian Gulf War. The “quagmire” lesson from the Vietnam War continues to influence American foreign policy, as no doubt will “lessons” inferred from American experiences in Iraq and Afghanistan.

Scholars often explain reliance on the lessons of history in terms of analogical reasoning based on the “availability” heuristic (Tversky & Kahneman, 1974). Judgments of probability are shaped by events that are familiar, salient, and come easily to mind, neglecting statistical base rates. The problem is that these events do not constitute a representative sample for the purpose of drawing inferences, and consequently judgments based on availability can be quite misleading.⁴⁴ The number of historical analogies from which decision-makers might learn is enormous, but people have a tendency to learn from events that have a major impact, affect them or their society directly, occur recently in time, and that are observed firsthand and at a formative period in a person’s life. People tend to ignore the role of contextual factors and draw universal lessons rather than conditional lessons. As Jervis ([1976]2017, 228) argues, “People pay more attention to *what* has happened than to *why* it has happened. Thus learning is superficial, overgeneralized. . . . Lessons learned will be applied to a wide variety of situations without a careful effort to determine whether the cases are similar on crucial dimensions.” Superficial learning is driven in part by the failure to think through the appropriate counterfactual. The Munich analogy is based on the counterfactual assumption that standing up to Hitler at Munich would have prevented war. Most historians reject this argument based on evidence that Hitler was bent on war (Steiner, 2011).⁴⁵

Hypotheses on learning from history provide potentially powerful explanations of political leaders’ beliefs and judgments, but demonstrating that leaders actually learn from history (accurately or otherwise) and that lessons learned have a causal impact on behavior is often a daunting task. Instead of lessons of history influencing policy, policy preferences may influence the selection and interpretation of historical analogies, with leaders strategically invoking those analogies that are most useful in gaining political support for their policies. Analysts need to construct research designs to distinguish genuine learning from history from the strategic or rhetorical use of history. They also need to integrate individual learning with politics. Learning has little impact if those who learn are not in a political position to implement their lessons (Jervis, [1976]2017, chap. 6; Levy, 1994, 300–302).

2.2.6. *A Behavioral Bargaining Model?*

The biases discussed in previous sections each affect negotiation and bargaining between adversaries. The “bargaining model of war” has been one of the most influential research programs in the IR field over the last quarter-century. This strictly rationalist theory begins with the uncontroversial assumption that war and other forms of violent conflict are costly and consequently inefficient ways to resolve conflicts between adversaries because they destroy resources that might be shared. In principle, there is some negotiated settlement short

of war that unitary rational actors mutually prefer to fighting. The puzzle is why rational actors sometimes engage in violent conflict.

Fearon (1995) raises and answers this puzzle by theoretically demonstrating that there are only three paths through which unitary rational actors might end up in war with each other: private information and incentives to misrepresent that information, “commitment problems,” and indivisible issues.⁴⁶ Here we focus on the first, which encompasses “information problems.”⁴⁷ The argument is that if adversaries have similar expectations about the likely outcome of war,⁴⁸ they should be able to reach a negotiated settlement based on those shared expectations, based on a division of goods proportionate to the two adversaries’ relative power.⁴⁹ However, if states have “private information” about their capabilities and resolve, along with incentives not to disclose that information, the two states may disagree about their relative power, and one might conclude that it could gain more through war than through a settlement. Fearon (1995) and others define “private information” in strictly rationalist terms, without distorting biases.

This powerful theoretical model has propelled an enormously successful research program, but one that has involved relatively few empirical or experimental tests (but see Tingley, 2011; Quek, 2017). Lake (2010/11) accepts the basic framework of the bargaining model but questions its fit with the outbreak of the 2003 Iraq War. He argues that the bargaining failures that led to the war were not the ones predicted by the theory. Instead, self-delusions, biased decision-making, and the failure to update prior probabilities led to disagreements about relative power.⁵⁰ Lake (2010/11, 52) calls for a “behavioral theory of war” that integrates decision-making biases into a theory of strategic interaction.⁵¹

Streich and Levy (2016) make a similar argument in their study of the 1904–1905 Russo-Japanese war. They argue that analysts should not confound the rationalist concept of private information (and incentives to misrepresent that information) with disagreements about relative power, which can have psychological and cultural sources. They demonstrate that the primary source of disagreements about relative power that led to a bargaining breakdown between Russia and Japan was Russian racial and cultural stereotypes of Asians as militarily weak and consequentially unwilling to fight. They also emphasize domestic competition between rival Russian factions that distorted information flows and created an incoherent decision-making process that sent confusing signals to Japan. The Lake (2010/2011) and Streich and Levy (2016) studies suggest that the incorporation of cognitive and motivated biases into influential bargaining models, along with more detailed empirical studies, are important tasks for future IR research.

Another highly influential rationalist theory that could benefit from incorporating psychological factors is audience costs theory (Fearon, 1994). Audience costs refer to the domestic punishment of leaders who publicly make a foreign threat and fail to follow through if the adversary does not comply with the threat. Among the theory’s predictions are that leaders are more likely to follow through on public threats than private threats, more domestically accountable leaders can generate greater audience costs and consequently have greater bargaining leverage, leaders rarely bluff, and that by increasing costs of backing down audience costs can contribute to crisis escalation. Whether opposing leaders actually understand these dynamics and respond in predicted ways can be quite subjective, opening many paths for the study of the political psychology of audience costs, and of the impact of internal politics (Schlesinger and Levy, 2021, 344). For example, the predicted tendencies

for leaders not to bluff and to follow up on threats might also be influenced by their risk propensities, time horizons, or other dispositional characteristics.

3. DECISION-MAKING

Our earlier discussion of rationality suggested that decision-makers need to make a value-maximizing choice based on an expected utility decision rule. In this section we consider several theories that question that assumption, including prospect theory and theories of intertemporal choice, groupthink, and crisis decision-making.

3.1. Prospect Theory

Prospect theory (Kahneman and Tversky, 1979) is the leading alternative to expected utility as a theory of choice under conditions of risk.⁵² Countering the long-standing argument that non-rational behavior is too unpredictable to model, prospect theory and its supporting evidence demonstrates that deviations from rationality are systematic and predictable, that “choices are orderly” (Tversky & Kahneman, 1992, 317). As Wakker (2010, 2) argues, prospect theory is “the first rational theory of irrational behavior.” In political science, prospect theory has been particularly influential in the IR field, where individual leaders have a greater impact than in domestic policy. Here I summarize the theory, briefly mention some of its implications for foreign policy and international relations, and note some limitations.⁵³

In contrast to expected-utility theory’s conception of value as net assets, prospect theory defines value in terms of changes in assets. People “frame” choice problems around a reference point (“reference dependence”), give more weight to losses than to comparable gains (“loss aversion”), and make risk-averse choices when possible outcomes are positive and risk-acceptant choices where possible outcomes are negative (the domain of gains and losses, respectively).⁵⁴ A strong aversion to losses, particularly to “dead” (certain) losses, lead people to take significant risks in the hope of avoiding a certain loss, even though the result may be a greater loss and even though the expected value of the gamble may be considerably lower than the value of the dead loss. In addition, people value things they possess more than comparable things they do not possess (the “endowment effect”), so actual losses hurt more than do foregone gains. A change in reference point can lead to a change in preference (“preference reversal”) even if the values and probabilities associated with possible outcomes remain unchanged.⁵⁵

Despite the centrality of the reference point in prospect theory, we do not fully understand how people select reference points. Prospect theory remains a “reference-dependent theory without a theory of the reference point” (Levy, 1997, 100). But we do have a limited number of plausible hypotheses (Frisch, 1993). In static situations, people often frame choice problems around the status quo. But not always, as reference points are sometimes influenced by expectation levels (Kőszegi & Rabin, 2007), aspiration levels (Levi & Whyte, 1997; Niv-Soloman, 2016), emotions (Druckman & McDermott, 2008), historical analogies (McDermott, 1998), operational codes (Feng & He, 2018), and social comparisons. In

more dynamic situations, people have a strong tendency to “renormalize” their reference points more quickly after making gains than they do after incurring losses (Ledgerwood & Boydstun, 2014). The “stickiness” of losses helps to explain why people go to such lengths to recover “sunk costs,” and why basketball players are more likely to commit a foul soon after they lose the ball than at other times.

Peoples’ reference points can also be influenced by conscious actions by other strategic actors. In bargaining with an adversary, I want to influence the adversary to treat their concessions as foregone gains rather than as losses (because the former are less painful), and to believe that I regard my own concessions as losses (because people overweight losses).⁵⁶ In collective decision-making, I might try to increase support for my policy preferences by influencing how others frame their reference points.⁵⁷ In approaching a necessary war, you want to convince the public that the likely costs are low enough to be tolerable but not so low that higher-than-expected costs create a problem later. Political leaders may have an intuitive grasp of these ideas, but IR scholars have done little systematic research on “strategic framing” (Levy, 1997).⁵⁸

Another central component of prospect theory builds on substantial evidence that people respond to given probabilities in a non-linear fashion, contrary to expected utility theory’s assumption of a linear weighting of utilities and probabilities. First, people overweight outcomes that are certain relative to that are merely probable (the “certainty effect”). Second, they overweight small probabilities and underweight (by a more significant margin) moderate and high probabilities, as reflected in the “probability weighting function.”⁵⁹ Consequently, for all but small probabilities people overweight utilities relative to probabilities. Third, behavior for extreme probabilities, at the tails of the distribution, is highly unpredictable (Kahneman & Tversky 1979; Tversky & Kahneman, 1992, 303; Camerer, 1995, 620–622; Taleb, 2007). Note that probability weights are not erroneous beliefs, but are weights applied to known probabilities (Kahneman & Tversky, 1979; Barberis, 2013, 177).⁶⁰

Probability weighting is important because it generates a fourfold pattern of risk attitudes, one that depends on both the value function and the probability weighting function.⁶¹ This allows for risk acceptance for low probability gains (gambling on low probability, high payoff bets, because the low probability is over-weighted), and risk aversion for low probability losses (accepting the certain loss of an insurance premium to the gamble of a substantial but highly unlikely loss, for example) (Tversky & Kahneman, 1992, 306–308). Whereas economists generally give more attention to probability weighting, political scientists generally neglect probability weighting and focus exclusively on reference point framing, loss aversion, and the value function.

Applications of these basic principles to foreign policy and international relations have led to a variety of interesting and intuitively plausible propositions.⁶² Beginning with foreign policy decisions of states, (1) because decision-makers usually take the status quo as their reference point, and because the costs of moving away from the status quo are treated as losses and over-weighted relative to the benefits of doing so, states and other actors have a greater-than-expected tendency to remain at the status quo.⁶³ This “status quo bias” (Samuelson & Zechhauser, 1988) helps explain policy inertia. (2) State leaders take more risks to maintain their international positions, territory, and reputations against potential losses than they do to enhance their positions.⁶⁴ This pattern is reinforced by (3) a tendency of domestic publics and legislatures to punish political leaders more for incurring losses than to reward them for making gains (Nincic, 1997).

In dynamic situations, (4) If a state makes gains in territory or resources or prestige, follows the common pattern of renormalizing its reference point around its gains, and then retreats from those gains and returns to the status quo ex ante, it will see itself in a worse position than it was before because it over-weights the loss from its new reference point.⁶⁵ (5) The failure to renormalize reference points after losses contributes to entrapment in escalating conflicts (Brockner & Rubin, 1985), as illustrated by the protracted wars of the United States in Vietnam, Iraq, and Afghanistan, and of the Soviet Union in Afghanistan (Taliaferro, 2004). (6) Leaders of declining states tend to frame their reference point around their current position, define inaction and continued decline as a loss, and take excessively risky actions in attempt to avoid losses and maintain its current position. This reinforces incentives for preventive war strategies (Levy, 2008a).

With respect to strategic interaction between states, (7) reaching a negotiated settlement is more difficult than a standard cost-benefit analysis predicts because people overweight what they concede in bargaining relative to what they get in return. This “concession aversion” (Neale & Bazerman, 1985) is comparable to the status quo bias in individual decision-making.⁶⁶ (8) If one state makes gains at another’s expense, the winner renormalizes its reference point around its gains and takes excessive risks to defend its new position against subsequent losses, while the loser fails to renormalize and takes excessive risks to recover its losses and return to the status quo ex ante. The result is an increase in the probability of further conflict. (9) Detering an adversary from making gains is easier than compelling it to accept losses or deterring it from recovering losses.⁶⁷ (11) The overweighting of small probabilities and the underweighting of larger probabilities makes smaller probabilities of larger punishments more effective deterrents than modest probabilities of less costly deterrence threats, even if expected values of the two outcomes are the same.⁶⁸ (12) It is easier for states to cooperate in the distribution of gains than in the distribution of losses, because political leaders will take more risks and bargain harder to minimize their share of the costs than to maximize their share of the gains. This explains why distributive issues are easier to resolve than redistributive issues.

Many of these hypotheses resonate well with common understandings of international politics, but validating them empirically raises difficult conceptual and methodological problems (Levy, 1997; O’Neill, 2001; Vis & Kuijpers, 2018). Generalizing experimental results on reference dependence, loss aversion, preference reversals, and probability weighting to the empirical world of international relations raises a host of new issues. The key variables of interest in international relations—relative power, reputation, status, domestic security of political elites, and other concepts, as well as the probabilities of various outcomes, are extraordinarily difficult to measure. This plagues the testing of IR theories based on expected utility theory as well as those based on prospect theory, but the latter has the additional problems of identifying the reference point and the shape of the probability weighting function. This makes it difficult to demonstrate convincingly that choice is determined by framing, loss aversion, and risk orientation instead of by the maximization of expected value.

These problems are exacerbated by the fact that in situations involving relatively small probabilities, risk orientation is shaped by probability weighting as well as by the loss/gain domain. Complicating things further, in international relations, decision-makers make choices in a world in which probabilities are unknown, leaving us in the realm of uncertainty rather than risk, where probabilities are known and numerically measurable.⁶⁹

Experimental evidence suggests that uncertainty generates more risk aversion than does risk (Ellsberg, 1961). As Camerer (1995, 646) explains, “subjects would rather bet on known probabilities p than on known probability distributions of probability (compound lotteries) with a mean of p .” That is, people are more risk averse in response to “unknown unknowns” than they are to “known unknowns.”⁷⁰

Another complication is that unlike experimental studies or consumer behavior, where alternative sources of risk attitudes are eliminated by randomization or controls, the same is not true for decision-making in international relations. Other possible sources of risk attitudes include individual personality, socialization, and experience; gender; salient historical analogies; culture and ideology; and regime-specific leadership selection (Sitkin & Pablo, 1992; Kowert & Hermann, 1997; Vertzberger, 1998; Harris, Jenkins, & Glaser, 2006; Kertzer, 2016). Validation of a prospect theory explanation requires in principle ruling out these alternative sources of risk attitudes.

3.2. Time Horizons and Intertemporal Choice

Standard theories of decision-making involve one-time choice problems. Most choices facing political leaders, however, involve a dynamic component with future payoffs as well as current payoffs. As Machiavelli advised, “You have to keep an eye, not only on present troubles, but on those of the future. . . .” (cited in Edelstein, 2017, 3). Political leaders constantly make choices involving tradeoffs between short-term and long-term costs, benefits, and risks, both for the country and for their own political fortunes. How they make these tradeoffs varies with their time horizons and estimates of whether time is on their side. It is often said that political leaders, and especially democratic political leaders, have short time horizons. Decisions about whether to initiate a preventive war against a rising adversary are significantly influenced by the tradeoffs one is willing to make between the risks of war now and the risks of war (or forced concessions) under increasingly unfavorable circumstances later.

Although IR scholars have long recognized the importance of time horizons, they rarely incorporate them into their models. One exception is Axelrod’s (1984) influential model of cooperation in iterated Prisoner’s Dilemma games. In contrast to the single-play game, in which defection is a dominant strategy, mutual cooperation can emerge in an iterated Prisoner’s Dilemma game if actors’ “shadow of the future” (discount factor) are sufficiently high. Axelrod follows the standard practice in economics of using an exponential discounting model based on the assumption that the discount rate is constant from one period to the next.

IR scholars are beginning to incorporate time horizons into their models. The most common approach is to examine the effects of exogenously and usually dichotomously defined time horizons (short/long) on behavior rather than on the psychology of time horizons and their determinants. Examples include Barkin (2004) on cooperation and collective action problems, Toft (2006) on the bargaining model of war, Kreps (2011) on military coalitions and interventions, Kertzer (2016) on resolve, Edelstein (2017) on the interaction of established great powers with rising powers, and Haynes (2019) on the credibility of signaling. We need more studies like this on the effects of time horizons. We also need more research on the sources of actors’ time horizons in international relations—on both

universal patterns of human decision-making and on sources of variation across individuals (Kertzer, 2016). We focus on the first, which has attracted most scholarly attention.

A growing body of experimental and field research in behavioral economics and social psychology questions the standard economic assumption of a constant discount rate over time. It demonstrates that discount rates for most people tend to decline over time (Loewenstein & Elster, 1992; Loewenstein, Read, & Baumeister, 2003).⁷¹ People discount the immediate future more, but the distant future less, than the exponential discounting model suggests. The “discounted present value” of what you expect to happen tomorrow is less than standard exponential discounting models predict.⁷² A more descriptively accurate discount function is steeper for the near future and flatter for the more distant future. This pattern generates preference reversals. An actor may prefer to receive x now over $x + y$ tomorrow, but prefer $x + y$ at a point t periods in the future over x the period before.

This pattern of discounting behavior is better captured by a hyperbolic function than by an exponential function (Laibson, 1997). Unlike the exponential discounting function, the hyperbolic discounting model is not mathematically tractable. It fails to converge, does not permit analytic solutions to many economic models, and generates preference reversals. Consequentially, it is rarely used in economic modeling despite its greater descriptive accuracy. Some have proposed a “quasi-hyperbolic discount function” (Laibson, 1997), which incorporates a steep drop in the first period but constant-rate discounting after that. This function provides a closer fit to the data than does the exponential function while permitting analytic solutions. This raises some interesting possibilities for future research. Streich and Levy (2007) demonstrate that if actors behave as quasi-hyperbolic discounters rather than as exponential discounters, cooperation in iterated prisoner’s dilemma games is more difficult than Axelrod (1984) implies.

Research has uncovered additional patterns that run contrary to the assumption of constant discounting (Loewenstein, Read, & Baumeister, 2003; O’Donoghue & Rabin, 1999). Discount rates are lower for large payoffs than they are for small payoffs, so that that people give proportionately greater weight (in terms of discounted present value) to large future payoffs than to smaller future payoffs. People tend to discount future gains more than they do future losses, giving more weight to future losses than to future gains. This pattern of temporal loss aversion works against negotiated solutions because it leads people to overweight the future costs from current concessions relative to their future benefits. Finally, contrary to the standard economic assumption that people prefer larger positive payoffs sooner rather than later because latter payoffs are discounted, people often prefer improving sequences.⁷³ Theories of negotiation, bargaining, and conflict resolution would do well to incorporate some of these patterns.⁷⁴

The abovementioned studies of intertemporal choice focus on the relative weight people give to current and future outcomes. They assume that people think the same way (i.e., follow the same mental processes) about current and future outcomes. Temporal construal theory, or construal-level theory, questions this basic assumption (Liberian & Trope, 1998; Trope & Liberman, 2000). The theory, backed by substantial experimental evidence, posits that people think about near-term outcomes and strategies in relatively low-level, concrete, and context-dependent terms. In contrast, they think about more distant outcomes and strategies in more abstract and decontextualized terms, which leads to more optimistic expectations because they exclude “the devil in the details.” Lower-level representations of the immediate future include more details and facilitate calculations of the feasibility of

achieving short-term goals. The absence of these concrete details in distant outcomes make such causal and probabilistic assessments more difficult. Consequently, whereas people evaluate outcomes in the immediate future in terms of their feasibility or probability, they tend to evaluate more distant outcomes in terms of their desirability.

Construal-level theory has important implications for foreign policy and international relations. Krebs and Rapport (2012) apply temporal construal theory to a wide range of questions in international relations, including international cooperation, preventive war, and coercion. They argue that temporal construal makes international cooperation somewhat less difficult than standard cooperation theories suggest. Actors' focus on the desirability of distant outcomes rather than on their feasibility generates greater optimism about the future, less concern about the future enforcement of current bargains, and a greater willingness to reach a negotiated settlement. In a more detailed empirical study, Rapport (2015) uses the theory to explain the widely-recognized tendency for states to underestimate the long-term costs of military interventions and to fail to plan for the ending phases of a war or for a possible occupation. Examples include the Soviet Union and the United States in Afghanistan and the United States in Iraq. Rapport (2015) demonstrates that actors with long time horizons think about the future in abstract terms, emphasize the desirability of future goals, but neglect their feasibility and the details of implementation. Those who place less weight on the future tend to focus on operational details and the feasibility of various strategies.

Our discussion so far has focused primarily on the psychology of individual decision-making. We now turn to a brief discussion of the psychology of group decision-making, and then to the impact of international crises at both the individual and group levels.

3.3. Groupthink

"Groupthink," developed by Irving Janis (1972),⁷⁵ is a social-psychological model of small group decision-making that has had considerable influence in the IR field. Groupthink is a "concurrence-seeking tendency within cohesive groups." Group members try to conform to group norms and reach a policy consensus under conditions of high-stakes decisions and enormous stress, motivated by social pressure, not political pressure. Policy unanimity enhances the integrity of the group, reduces anxiety, heightens self-esteem, and provides psychological security in the context of politically and morally difficult decisions (Janis & Mann, 1977). Groupthink is most likely to arise in groups that are socially cohesive and relatively insulated from outside sources of intelligence, and in decisions involving moral dilemmas. Groupthink tendencies are reinforced if the group leader actively promotes their policy preferences, if there is no devil's advocate to make contrary arguments, if the group has recently suffered a significant failure, and if group members are psychologically insecure (Janis, 1972).⁷⁶

Janis (1972) argues that the "symptoms" or consequences of groupthink include illusions of invulnerability, unanimity, and moral superiority; discounting and rationalization of information that contradicts the collective beliefs of the group; and active efforts by self-appointed "mindguards" to shield the group against adverse information and to put social pressure on dissenters. Loyalty to the group becomes the highest priority goal. As a result, these groups are selective in their information search. They discount discrepant

information, make little effort to acquire additional information from experts, and consider a limited number of policy alternatives. They fail to reexamine the possible risks of policies preferred by a majority, to reconsider possible benefits of alternatives once they are rejected, or to develop contingency plans in the event of policy failure. Consequently, cohesive groups tend to take riskier courses of action, increasing the probability of conflict escalation and war (Janis, 1972; Janis & Mann, 1977, 130–131). Janis (1972) applies his theory to several cases of what he regards as American foreign policy failures, including the Bay of Pigs and the Vietnam War, and policy successes, including the Marshall Plan and the Cuban Missile Crisis. He finds that the symptoms of groupthink are much less evident in the policy successes than in the policy failures.

The groupthink model has attracted considerable interest, critiques, and tests, which have generated alternative descriptive and normative models of small-group decision-making (Longley & Pruitt, 1980; Tetlock et al., 1992; Esser, 1998; Turner & Pratkanis, 1998; Sunstein & Hastie, 2015). The theory has also been influential among IR scholars, who have added their own critiques and incorporated small group dynamics into alternative models of foreign policy decision-making (Minix, 1982; Maoz, 1990; Verbeek, 2003; 't Hart, 1990; 't Hart, Stern, & Sundelius, 1997; Schafer & Crichlow, 2010). The high-stakes condition for groupthink has led most applications of the theory to focus on decision-making on war and peace issues, but the theory might be profitably applied to decision-making during financial collapses or perhaps certain issues in international political economy.

One critique of particular interest to IR scholars concerns Janis's (1972) central hypothesis that groupthink leads small groups to adopt riskier courses of action than the same individuals acting on their own. Most evidence suggests instead a "group polarization hypothesis," in which small groups produce either significantly more risky or more cautious behaviors relative to predictions from a direct aggregation of members' individual policy preferences (Myers & Lamm, 1976; Minix, 1982; Vertzberger, 1998, chap. 3). More research is necessary to explore the conditions conducive to each of these tendencies in international contexts.

Another issue for IR scholars, and for political scientists in general, is that Janis's (1972) emphasis on social-psychological pressures for concurrence-seeking neglects political processes that could conceivably lead to several of the same decisional pathologies that he attributes to groupthink. Conformity with the group might be the product of political pressure or career incentives rather than social pressures and internalized group norms. Janis (1972) made little effort in his case studies to rule out these alternative explanations. These considerations led 't Hart (1990) and colleagues ('t Hart, Stern, & Sundelius, 1997) to construct a theory of small-group decision-making that incorporates both political and social-psychological factors.⁷⁷

Some question whether cohesive groups necessarily lead to concurrence-seeking and its predicted pathologies. A highly cohesive group with experience working together might feel comfortable questioning each other and challenging the majority opinion. Stern and Sundelius (1994) hypothesize that pressures for conformity and other decision-making pathologies normally associated with groupthink might be greatest in relatively newly formed, inexperienced, and weakly institutionalized groups, where members look to the group for emotional comfort. They call this the "newgroup syndrome." Stern (1997) argues that the newgroup syndrome provides a better explanation for flawed decision-making during the Bay of Pigs crisis than does Janis's (1972) groupthink model. More empirical

research is necessary, but the newgroup syndrome has potentially important implications for decision-making on high-stakes issues in international relations, particularly in democratic states, where frequent regime changes often produce new and relatively inexperienced high-level decision-making groups.

3.4. Crisis Decision-Making

Many of the processes of judgment and decision-making surveyed in earlier sections are affected by context, especially the presence of an acute international crisis.⁷⁸ Scholarly interest in crisis decision-making accelerated after the Cuban Missile Crisis. Most researchers conclude that crisis decision-making systematically differs from foreign policy decision-making in non-crisis contexts. These differences manifest themselves at several different levels of analysis, including individual, organizational, and small-group levels.⁷⁹ We focus here on the psychological dimensions of crisis decision-making.

For individuals, international crises lead to an information overload, an increased number of tasks, more limited time for making decisions, and the threat to important values and the real possibility of war, each of which increases stress. Although people often claim to function best under high stress, laboratory studies demonstrate that the relationship between performance and stress follows an inverted U-shaped curve (Holsti, 1989). Moving from low to moderate levels of stress, people increasingly recognize that they face an issue that requires attention and effort. After a point, however, stress increases cognitive rigidity, limits the capacity to make subtle distinctions, reduces creativity, increases the selective filtering of information, and reduces individuals' tolerance for ambiguity and their sensitivity to others' perspectives. Stress increases the reliance on predispositions, prior beliefs, and historical analogies. It reduces the number and variety of alternative options considered, and enhances preferences for alternatives that increase one's sense of control over events (Friedland et al., 1992, 93; Kahneman & Renshon, 2009, 81). Stress also increases tendencies toward scapegoating (Holsti & George, 1975; Janis & Mann, 1977; Holsti, 1989). Each of these effects detracts from rational processes of judgment and decision-making.

Some of these patterns also characterize crisis decision-making at the group and organizational levels, but with some differences and complications. Crisis decision-making groups tend to consider a reduced number of alternatives, increase their reliance on ideological preconceptions and organizational routines, engage in less creative problem solving, and discount the future while attending to short term diplomatic and political objectives (Wilensky, 1967; Holsti & George, 1975; Brecher & Geist, 1980; Holsti, 1989; Brecher & Wilkenfeld, 2000). More fundamentally, the nature of the decision-making unit in foreign policy decision-making differs under conditions of crisis. Decisions made by mid-level officials in many ministries shift to the top levels of the government, the size of the decision-making group decreases, and the dominant decision-maker is more likely to get involved at an earlier stage. They often rely less on standard organizational units than on ad hoc advisory groups—such as the ExComm that President Kennedy organized during the Cuban Missile Crisis.

Some argue that the short time for decision-making elevates the weight given to the national interest, and restricts the influence of parochial organizational interests, Congress or parliament, interest groups, and the public (Verba, 1969, 158–160). Many question this.

Allison (1971) essentially argues that the overwhelming threat to the national interest in the Cuban Missile Crisis makes it the equivalent of a “most-likely” case for a rational unitary actor model and a “least-likely” case for a bureaucratic/organizational model (he does not use those specific concepts). The demonstration that bureaucratic politics and organizational processes played an important role in the 1962 crisis provides inferential leverage for arguing that these processes should be influential in more routine, non-crisis decisions.⁸⁰

4. CONCLUSION

The study of the political psychology of foreign policy has progressed enormously over the last half-century. Before that time, most research in this area was conducted by psychologists who gave little attention to the political and strategic contexts in which foreign policy was made. By the mid-1970s, however, IR scholars began to develop a more systematic cognitive research program that built on new developments in social psychology and that recognized the importance of the political context of decision-making. Within a few years, scholars gradually began incorporating motivational and affective dimensions of judgment and decision-making. However, the IR field’s preoccupation with grand theory, the impact of Waltz’s (1979) neorealist theory, and a preference for parsimonious theory helped to sideline psychological models from many mainstream debates in the IR field.

Several things have changed in the last decade. They include the IR field’s growing disillusion with the contribution of paradigmatic debates to the cumulation of knowledge in the field, and an increased openness to middle-range theory. At the same time, IR scholars have demonstrated a growing interest in experimental methods, especially survey experiments of public opinion, driven by the success of the democratic peace research program and the increasingly central role of public opinion in many IR theories. This has enabled IR scholars to investigate new questions and provide better answers to some old questions, especially when combined with other methods, including quantitative content analyses, aggregate data analysis, and archival studies.

The increased use of experimentation has led to discussions regarding the utility of experimental methods for better understanding the behavior of political leaders. At issue is the question of the external validity of studies commonly based on convenience samples of the mass public and somewhat artificial situations (Findley, Kikuta, & Denly, 2021). This is an old question (Sears, 1986) but one that is particularly salient for foreign-policy decision-making, especially on national security issues that involve high stakes and stress that cannot easily be replicated in laboratory or survey settings.⁸¹ Regarding subjects, one issue is whether elites are different than typical experimental subjects, which has generated considerable debate (Hafner-Burton, Hughes, & Victor, 2013; Hyde, 2015, 406–408; Kertzer, 2022). A separate question concerns variations among elites, including the extent to which high-level foreign policy experience is important in foreign policy decision-making (Saunders, 2017). One encouraging development is that we are beginning to see experiments with elite samples (Mintz, Redd, & Vedlitz, 2006; Hyde, 2015, 408–409; Renshon, 2017, chap. 3; Yarhi-Milo, Kertzer, & Renshon, 2018; Tomz, Weeks, & Yarhi-Milo, 2020). This is a welcome development, but enough questions of external validity remain, especially regarding high-stakes

and high stress national security crises, that mixed-method approaches that combine experiments with detailed historical and archival studies would be a useful development.

Some of the most significant growth areas in applications of political psychology to international relations concern the role of emotions in threat perception, in signaling and resolve, in public opinion, and in terrorism. I leave it to the authors of the next four chapters to discuss some of the most promising directions for future research in those areas. One area in which applications of political psychology has been lagging but that could benefit enormously is elite decision-making in foreign economic policy and international political economy. This field has been dominated by structural approaches that focus primarily on systemic and societal sources of behavior but that ignore individual-level belief systems and information processing. Yet it is hard to look at governmental and non-governmental responses to financial crises, including those of 2008–2009 and 2020 (Tooze, 2018), without concluding that individual belief systems, judgments, and decision-making played a key role, and that other individuals in the same positions might have made different decisions with different consequences. We need more research on how decision-making on economic issues is shaped by actors' economic beliefs, the economic lessons they draw from history, their time horizons and the kinds of tradeoffs they are willing to make between current and future costs and benefits, and how these individual level factors interact in group deliberation and decision-making. With respect to analogical reasoning and learning from history, if generals often prepare for the last war, might economic policy makers responding to a recession or economic downturn be disproportionately influenced by the previous recession or economic crisis and the perceived effectiveness of policy responses to it?⁸²

As the study of the psychology of foreign policy and international relations moves move ahead, we need to acknowledge Kelman's (1965) concern that psychological factors cannot by themselves provide a satisfactory explanation of foreign policy behavior and international outcomes. We need to give more attention to interaction effects between psychological variables and the institutional, political, and strategic contexts of decision-making. In the process of identifying these interaction effects, we need to specify where in the causal chain psychological variables have an impact, and through what mechanisms. We also need more attention to the processes through which individual preferences and judgments are aggregated in collective decision-making groups. Psychology plays an critical role in foreign policy decision-making, but as Clemenceau said of war and the generals, the psychology of foreign policy is too important to leave to the psychologists.⁸³

NOTES

1. For reviews of recent developments in political psychology of international relations, see Jervis ([1976]2017, preface), Davis & McDermott (2021), and Kertzer & Tingley (2018), which includes a visual description of the distribution of substantive focus and methodologies of recent research. For reviews of earlier work see Larson (1985), Goldgeier (1997), Tetlock (1998), McDermott (2004), and Houghton (2014).
2. Foreign policy refers to the externally-directed behavior of states; international relations refers to the interaction of states and other actors in the world system.
3. Other recent research areas that I do not have space to review here include the psychology of trust (Wheeler, 2018), face-to-face diplomacy (Hall & Yarhi-Milo, 2012; Wong, 2015;

- Holmes & Yarhi-Milo, 2017; Holmes, 2018; Wheeler, 2018), status and humiliation (Paul, Larson, & Wohlforth, 2014; Renshon, 2017; Greve & Levy, 2018; Larson & Shevchenko, 2019; R. Stein, 2019; Barnhart, 2020), and illness and decision-making (McDermott, 2008). Applications of neuroscience to international relations are in their early stages (McDermott & Hatemi, 2014; Holmes, 2018; Davis & McDermott, 2021).
4. Waltz (1959) conceived of first-image explanations as based on a universal human nature. However, most contemporary treatments of individual-level explanations in IR focus on causal factors that vary across individuals, including belief systems, emotions, political socialization, personality, learning from history, leadership style, risk propensity, time horizons, and other factors.
 5. This point is reinforced by Jervis's ([1976]2017, 4) emphasis on the importance of considering alternative explanations, the neglect of which often leads to "over-psychologizing" behavior that can be better explained by structural and political variables. See also Jervis's (2013) discussion of the various ways in which leader characteristics interact with these other variables.
 6. On the rationalist essence of Allison's (1971) governmental (bureaucratic) politics model, see Bendor & Hammond (1992). However, one can imagine an alternative bureaucratic politics model in which psychology shapes both actor preferences and inter-agency bargaining.
 7. Early psychobiographies (George & George, 1956; Erikson, 1958) have declined in influence after considerable criticism (Greenstein, 1975, 73–86; Tetlock, Crosby, & Crosby, 1981). More modern personality studies in IR do not generally utilize the standard "Big Five" framework (Bakker, Chapter 2, this volume), but see Gallagher & Allen (2014).
 8. Constructivists have developed self-images or self-conceptions in the form of identity.
 9. Studies of diversionary theory could benefit from more attention to the literatures on national identity, nationalism, and patriotism (Huddy, Chapter 21, in this volume), along with work in comparative politics.
 10. For good reviews see Lebow (1981, 192–221) and Herrmann (2013).
 11. This parallels the fundamental attribution error, discussed later.
 12. These leaders include John Foster Dulles (Holsti, 1970), Henry Kissinger (Walker, 1977), Woodrow Wilson (Walker, 1995), Jimmy Carter (Walker, Schafer, & Young, 1998), Mao Zedong (Feng, 2005), Kim Il Sung (Malici and Malici, 2005), Tony Blair and Bill Clinton (Schafer & Walker, 2006), and others. See Walker (2003) for a review of the theories and methods of operational code analysis.
 13. Kennedy's behavior in the 1962 Cuban Missile Crisis is a good example (George, 1994).
 14. Archigos focuses primarily on when and how leaders entered and exited from office (through a democratic election or military coup), and includes information such as the age and gender of leaders and their personal fate a year after leaving office.
 15. On democratic leaders see Saunders (2011). On autocratic leaders see Levitsky & Way (2013), Weeks (2014), Talmadge (2015), and Moghaddam (2019). For more attention to the various causal mechanisms through which leader attributes and socialization experiences affect decision-making, along with problems of selection into office, see Krcmaric, Nelson, & Roberts (2020).
 16. The "risk score" differs from the microeconomic concept of risk propensity, which we discuss later.
 17. If countries facing a threatening external environment selected their leader with attributes best suited for dealing with external security threats, then causality would rest primarily

- in the external environment rather than with individual traits. But leadership selection might also be based on expected economic performance, and might be influenced by the types of people who aspire to leadership positions in particular political systems (Hermann, 2014).
18. Schwartz and Blair (2020) find that backing down after making threats generates greater domestic (audience) costs for female leaders than for male leaders, which enables female leaders to make more credible threats. But male leaders suffer substantial costs if they back down against a female leader.
 19. On gender differences in international relations and in general, see Reiter (2015) and Chapter 19 in this volume.
 20. It is useful to distinguish between substantive expertise and executive administrative experience, though these are sometimes confounded in the literature. This factor complicates experimental designs.
 21. Lupton (2020) neglects to mention that the importance of early actions is explained by the perseverance of beliefs and anchoring adjustment heuristic, which we discuss later. On the varying psychology underlying leaders' willingness to fight to maintain their reputations, see Yarhi-Milo (2018).
 22. On the impact of the cognitive revolution in psychology on political science see Larson (1985).
 23. Social psychologists distinguish between judgment and decision-making, between assessments about the nature of the world and making choices given those assessments. IR scholars are rarely explicit about this distinction.
 24. This discussion is informed by March (1978), Elster (1990), and Thaler (2015). See also Chong, Chapter 4, in this volume.
 25. Completeness requires that for any two outcomes an actor either prefers one outcome to the other or is indifferent between the two. Transitivity requires that an actor who prefers A to B, and B to C, must prefer A to C.
 26. That is, actors must not engage in motivated reasoning, discussed later.
 27. For an accessible discussion of Bayesian updating see Silver (2015, 240–261). For complications see Jervis ([1976]2017, xvii–lii), and Lau & Redlawsk, Chapter 5, in this volume.
 28. As Chong notes (Chapter 4, this volume), people can be rational “within the bounds of their limited knowledge, capacity, and motivation.”
 29. IR scholars often refer to “motivated bias” instead of motivated reasoning (Kunda 1990), which is more common in other fields.
 30. From an evolutionary perspective, these cognitive heuristics serve an adaptive function, enabling humans to deal effectively with their environments (Gigerenzer et al, 1999; Cosmides & Tooby, 2013; Santos & Rosati, 2015). For an argument that heuristics continue to have beneficial as well as detrimental effects on decision-making on security issues, see Johnson (2020). Instead of asking *whether* people are rational, it is probably more useful to think of the degree of rationality as a variable and to ask what kinds of actors are rational under what conditions. For a recent application to IR see Rathbun, Kertzer, & Paradis (2017).
 31. Most theoretical analyses of individual-level sources of intelligence failure focus on universal human biases. For an emphasis on the beliefs, personalities, and leadership styles of particular individuals, see Bar-Joseph & Levy (2009).
 32. On the various and complex paths from different types of misperception to war or peace, see Levy (1983, 82–93).

33. For an interesting argument that different mechanisms drive selective attention by political leaders and by intelligence organizations, see Yarhi-Milo (2014). One question here is which influences dominate when a political leader formerly headed an intelligence organization (e.g., Vladimir Putin or George H. W. Bush).
34. This pattern leads Jervis (2010) to recommend that intelligence analysts be conscious of what information might contradict their estimates and to maintain a constant and unbiased search for that information.
35. Booth & Wheeler (2008, 7; Wheeler, 2018) suggest the important concept of “security dilemma sensibility” to capture one’s ability to understand the extent to which fear—particularly fear induced by one’s own actions—might play in shaping an adversary’s beliefs and behavior.
36. One might be protecting one’s belief system, which can be an important part of one’s identity. This would imply a narrowing of the distinction between cognitive and motivated biases, between seeing what you expect to see based on your world views and seeing what you want to see based on your interests and emotions. For difficult conceptual issues relating to motivated reasoning, see Groenendyk & Krupnikov (2021).
37. For a summary of alternative interpretations and a different view, see Ripsman & Levy (2008).
38. On the inherent uncertainty of information about Iraq’s nuclear program at the time, and for an unmotivated bias interpretation, see Jervis (2010). On the role of public opinion and the press in the Iraq War, see Feldman, Huddy, & Marcus (2015).
39. In addition to generalized positive illusions (Svenson, 1981), most people believe that they are better than average decision-makers and negotiators (Bazerman, 1998, 69).
40. For an evolutionary perspective on overconfidence see Johnson and Fowler (2011). Men tend to be more overconfident than women (Barber & Odean, 2001; Johnson et al., 2006), though this is dependent on task domain (Lundeberg, Fox, & Puncchohar, 1994). Excessive male overconfidence can reinforce male tendencies toward risk-seeking. Overconfidence and strong risk-seeking propensities are analytically distinct but often confounded.
41. In a reversal of the causal arrow from overconfidence to conflict, the anticipation of militarized conflict can also contribute to overconfidence and other pathologies of judgment, as Johnson & Tierney (2011) argue in their “Rubicon model of war.”
42. In the only application I have seen, Pischedda (2022) uses competition neglect to explain British foreign policy toward Germany in 1937–1938. With respect to Britain’s failure to respond militarily to the rapid rise of German power in the 1933–1936 period, Ripsman and Levy (2012) emphasize the British military’s belief that they were not yet “ready for war,” which the British defined primarily in organizational and monadic terms, with insufficient attention to German capabilities and preparation. Even if this pattern is infrequent, it has significant implications for realist theory’s basic proposition that states always think in terms of *relative* military power.
43. On the distinction between the perceived magnitude and “controllability” of risks, see George & Smoke (1974, 489, 527–530).
44. Experimental evidence demonstrates that availability and other heuristics, including anchoring and representativeness (Kahneman, Slovic, & Tversky, 1982), lead people to flawed thinking about probability and statistics. In fact, people, including foreign policy officials, are averse to making probabilistic judgments and try to avoid them (Tetlock, 2005; Kahneman, Sibony, & Sunstein, 2021; Friedman, 2019; Stein, Chapter 11, this volume).

45. Scholars continue to debate the counterfactual of whether a war in 1938 would have been fought on more favorable terms for the Allies than the war they eventually fought. On methodological rules for evaluating the plausibility of counterfactual arguments, see Levy (2015).
46. Fearon (1995) recognizes that psychological, domestic, and governmental factors can cause war, but starts with the most simple case of two rational and unitary state actors.
47. Commitment problems (Powell, 2006) refer to the inability of state actors, in an anarchic international system, to provide a credible commitment to honor any agreement that it reaches. The clearest case of a commitment problem involves shifting power, the declining state's incentives for preventive war (Levy, 2008a), and the difficulty of reaching a settlement under those conditions.
48. Technically, this means the same subjective probability distribution of feasible outcomes.
49. If issues are indivisible, no proportionate division is possible. See Goddard (2010).
50. Lake (2010/11) also mentions the influence of domestic actors and multiple international actors, which deviate from the model's assumptions of dyadic bargaining between two unitary actors.
51. For an attempt to incorporate such variables into a formal model of bargaining, see Little and Zeitzoff (2017).
52. The behavioral finance scholar Barberis (2013, 173) says prospect theory is the "best available description of how people evaluate risk in experimental settings."
53. For theoretical developments, experimental tests, and interdisciplinary applications of prospect theory, see Kahneman & Tversky (2000).
54. Risk attitudes are also affected by the probability weighting function, discussed below.
55. People facing decisions over medical treatments, for example, respond differently to the likelihood of a 90% survival rate than to a 10% mortality rate, although the two are mathematically equivalent.
56. de Dreu, Emans, & de Vliert (1992) find that people are more likely to cooperate if they are in a gain frame and they perceive others to be in a loss frame.
57. For a recent experimental study about influencing public tolerance for risks in deterrence crises by reference point framing, see Berejikian and Zwald (2020).
58. American politics scholars have done more on framing strategies (Hanggli & Kriesi, 2010; Glazier & Boydston, 2012; Chong, Chapter 4, this volume). Much of that work focuses on broader conceptions of framing that induce changes in the perceived values of outcomes, rather than on reference point framing involving mathematically equivalent choice problems, labeled "equivalency framing" by Druckman (2001, 228). For experimental work on strategic framing in labor-management negotiations see Neale and Bazerman (1985).
59. Scholars have yet to empirically establish a well-defined "crossover point" from small to moderate. Neilson (2003, 180) mentions .25–.50, while Barberis (2013, 177) suggests .35.
60. For a review of probability weighting functions see Takemura & Murakami (2016). Some models specify that probability weighting is influenced by payoffs that are particularly "salient" or unusual (Bordalo, Gennaioli, & Shleifer, 2012) or that generate affective responses (Rottenstreich & Hsee, 2001). See Stein, Chapter 11, this volume.
61. Some argue that probability weighting has the greater impact. Barberis (2013, 191) argues that "within the risk-related areas of finance, insurance, and gambling, probability weighting plays a more central role than loss aversion and has attracted significantly more empirical support."

62. See the special issues of *Political Psychology* (June 1992, April and June 1994), McDermott (1998), Levy (2003), Berejikian (2004), Taliaferro (2004), and He (2016).
63. I define “greater than expected” tendencies or “excessively risky” actions relative to the predictions of expected utility theory for a risk neutral actor.
64. This is consistent with defensive realist theory (Taliaferro, 2004).
65. To quote from the 1987 movie “Wall Street,” “When you’ve had money and lost it, it’s much worse than never having had it at all.”
66. Kahneman & Renshon (2009, 80) argue that loss aversion and the endowment effect constitute a hawkish bias by impeding concessions necessary for cooperative agreements. True, but the same logic also works against initiating conflict to improve one’s position from a reference point.
67. This provides a prospect theory explanation for Schelling’s (1966) well-known argument that deterrence is easier than compellence. But it qualifies that argument by emphasizing that deterring an adversary from recovering losses is more difficult than deterring them from making gains.
68. This hypothesis applies to criminal justice as well as to international relations. Deterrence is enhanced more by large punishments than by a high probability of getting caught.
69. The fact that even the set of possible outcomes is often unknown compounds the ambiguity or vagueness of the situation.
70. In addition, the probability weighting function is more complex for uncertainty than for risk because people react differently to different types or domains of uncertainty (Tversky & Kahneman, 1992, 316–317).
71. The discount rate r is inversely related to the discount factor δ , so that $\delta = 1/(1+r)$.
72. Discounted present value refers to current valuations of future outcomes. Psychologists commonly interpret the sharp discounting of the immediate future as reflecting the lack of willpower, and often contrast it to rational decision-making. Thaler (2016, 1578) argues that standard economic theory (erroneously) assumes “infinite willpower” and that people “choose what is best, not what is momentarily tempting.”
73. This might be the result of an “anticipation effect,” in which the process of waiting and thinking about a positive future payoff creates positive utility (Loewenstein 1987). It might also result from reference dependence, in that after receiving larger payoffs early people treat lesser payoffs as losses.
74. IR scholars also need to develop a more nuanced conception of time horizons, which is a multidimensional concept. The discounted present value of future outcomes is shaped not only by the size of the discount rate but also by the functional form of the discount function. The distinction between short and long time horizons may be useful for some explanatory purposes but is too simplistic for others.
75. A 1982 edition included theoretical revisions and additional cases.
76. Some journalists and public intellectuals have coopted the groupthink concept and misapplied it, taking it out of the small-group context and using it to refer to conformity of thought at a broader governmental or societal level. An example is the attribution of the American 9/11 intelligence failure to organizational or societal-level groupthink.
77. Mintz & Wayne (2016) develop a “polythink” model and contrast it with groupthink. Polythink includes some psychological elements, but the primary mechanisms driving decision-making have more to do with power, politics, and institutional context than with psychology. More psychological is the “poliheuristic” model of political decision-making (Mintz, 2004).

78. An international security crisis is a sequence of interactions characterized by a severe threat to important values, a high probability of war, and a finite time for coping with the threat (Snyder & Diesing, 1977, chap. 1; Brecher & Geist, 1980, 1–6; Lebow, 1981, 7–12; Holsti, 1989, 12). I exclude the element of surprise, included by some (C. Hermann, 1972), because even anticipated actions can trigger crises in the presence of other defining characteristics.
79. For a good review of research at all three levels see Holsti & George, 1975; Holsti, 1989. On crisis management, see Lebow (1987) and George (1991).
80. Least-likely case logic follows what I call the “Sinatra inference”: if I can make it there, I can make it anywhere (Levy, 2008b, 12).
81. Evidence suggests that samples from Amazon’s Mechanical Turk (MTurk) are generally more representative of the American public than are typical in-person convenience samples but less representative than national probability samples (Berinsky, Huber, & Lenz, 2012).
82. For an application to the pandemic-induced economic crisis of 2020 see Irwin (2021).
83. Undoubtedly psychologists have a similar view about leaving the study of politics to political scientists.

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