When Can Politicians Scare Citizens Into Supporting Bad Policies?

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Many people claim that politicians use fear to manipulate citizens. Using a model, we examine how select attributes of fear affect a politician's ability to scare citizens into supporting policies that they would otherwise reject. In the model, the politician can alert citizens to the presence of a threat. But his claim need not be true. How citizens respond to this claim differs from most game-theoretic models. Our representation of this response follows from research in psychology, has distinct conscious and subconscious components, and does not presume efficient processing (i.e., Bayesian updating). Our conclusions counter popular claims about when politicians will use fear to manipulate citizens. They also highlight issues (abstract, distant) and leaders (secretive) for which recent empirical findings about how fear affects politics will—and will not—generalize to other cases.

"The whole aim of practical politics is to keep the populace alarmed (and hence clamorous to be led to safety) by menacing it with an endless series of hobgoblins, all of them imaginary."

H. L. Mencken (*In Defense of Women*, 1920)

"Terrorism, after all, is the ultimate misuse of fear for political ends. Indeed, its specific goal is to distort the political reality of a nation by creating fear in the general population that is hugely disproportionate to the actual danger the terrorists are capable of posing."

Al Gore (February 5, 2004)

"[He] seeks to roll back the democratic progress of the past two decades by playing to fear, pitting neighbor against neighbor and blaming others for their own failures to provide for the people."

George W. Bush about Hugo Chavez (November 5, 2005)

Many people believe that politicians use fear to manipulate the public. Of particular concern are politicians who stoke unwarranted fear for political gain. Numerous critics accused the George W. Bush administration of using fear to scare citizens into supporting its desired policies. A broader search reveals that such claims are widespread and are directed at many political figures.

When can politicians use unwarranted fear signals to obtain support for policies that citizens would otherwise reject? Many observers presume that prominent politicians can do so whenever they wish. The presumptions ignore several important aspects of individual psychology and elite strategy.

We examine how fear-based attributes of citizen responses affect strategic politicians. We work from the premise that the inferential power of game theory can clarify the political relevance of such attributes in ways that studies focusing exclusively on fear or strategic behavior

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cannot. In so doing, we build upon recent theoretical and empirical research.

For example, Bueno de Mesquita's recent theoretical work (2007) examines how certain kinds of threats affect government policy decisions. It is an important advance in many respects. Its conclusions describe how politicians can benefit from the public's desire to be protected from threats. But its findings depend on two key assumptions: (1) that citizens know a lot about what government does and (2) that they process this information efficiently. Ample evidence suggests that these assumptions are not true, particularly when citizens are fearful. The effectiveness of the policy recommendations from this and other theoretical papers is therefore imperiled. Our goal is to clarify how such recommendations would work under more psychologically realistic conditions.

There is also a growing empirical literature on emotions and politics (see reviews in McDermott 2006 and Brader 2006). This literature accumulates evidence on how citizens feel about political actors and events. However, researchers tend to select on a key dependent variable—they study events that they suspect have caused emotional reactions. Without greater attention to how elite incentives affect *which issues become scary to citizens*, it is difficult to know whether effects of fear observed in revious studies will be relevant in other contexts.

But a game theoretic approach? To some, the notion contradicts the long-standing Cartesian postulate that emotion and reason are separate cognitive functions. Perhaps game theory—with its focus on incentives, strategic decision making, and goal-oriented learning—is unsuitable for clarifying emotional aspects of politics. This is what Elster argues:

> The social sciences today, however, cannot offer a formal model of the interaction between rational and non-rational concerns that would allow us to deduce specific implications for behavior. As mentioned earlier, the idea of modeling emotions . . . is jejune and superficial. The fact that emotion can cloud thinking to the detriment of an agent's interests is enough to refute this idea. (2000, 692)

There is much to disagree with in this claim, such as the notion that emotions always impair decision quality (Lupia and Menning 2007; Marcus, Neuman, and MacKuen 2000) and the tendency to confound game theory as a method with narrow rationality notions (Lupia, McCubbins, and Popkin 2000). But we contend that integrating even a few insights from the empirical study of fear with the analytic advantages of game theory can clarify important elements of the relationship between politicians and citizens.

Still, the question remains, "How?" Following Witte, we treat fear as a "negatively valenced emotion, accompanied by a high-level of arousal, and elicited by a threat that is perceived to be significant and personally relevant" (1992, 330). Treated as such, fear has subconscious aspects that are beyond the purview of strategic decision making. But there is more to fear than what happens at the subconscious level. Examinations at the neural substrate level reveal an important connection between emotional responses and goal-oriented learning. As Kandel, Schwartz, and Jessell describe:

> [T]he amygdala is required for the conditioning of an organism to the environment (or context) in which it lives. The survival of an organism depends on behaviors that maximize contact with biologically safe environments and minimize contact with dangerous environments. Many of these dangers *are subject to modification through experience.* (1995, 610, emphasis added)

In other words, the conditions under which many social phenomena will induce, or be affected by, fear are a function of modification. Modification, in turn, can be affected by incentives. As game theory clarifies how incentives and strategies affect behaviors and outcomes in other contexts, it has the potential to clarify how fear affects politics.

To this end, we develop a model to address the question—when can politicians scare people into supporting policies that they would otherwise reject? The model features two players, a strategic politician and a not entirely strategic citizen, in a two-period game. In the game, the politician desires public support for a given policy. He has private information about the presence (or absence) of a threat. If the threat is present, his desired policy benefits the citizen; otherwise, the citizen would be better off without it. The politician's strategic decision is whether or not to say, "The threat is present."

How we represent the citizen's response differs from most game theoretic models. The differences follow from well-established attributes of fear. One implication of these attributes is that the citizen's initial response to a fearful message is subconscious (i.e., automatic). Later in the period, and if the citizen receives a certain kind of feedback about her initial response, she may attempt to inhibit similar reactions in the future in a manner that is strategic—at least in part. In the second period, the politician receives new information and can speak once again. Depending on the feedback properties and inhibitory

mechanics of the first period, the citizen may react differently to a second period fear appeal.

We use the model to derive an *equilibrium of fear*. With it, we show that a politician's ability to manipulate through fear depends on how his current public support and expectations about the future interact with key attributes of the citizen's psychology (what the citizen believes about current and future threats, what feedback the citizen will receive about such threats, and the extent to which she can learn to modify her fearful response in the second period). Our findings reveal psychological constraints on political power that are absent in numerous claims about how easily politicians use fear to manipulate citizens. They also yield different strategies for countering the manipulative use of fear than does recent counterterrorism scholarship.

The article continues as follows. First, we describe empirical premises about fear that guide our model. Then, we present the model, derive results, and describe their substantive implications. We close by relating our findings to claims made in existing theoretical and empirical work. A brief appendix contains additional mathematics.

A Foundation for Modeling Fear in Politics

We are interested in clarifying when politicians can scare citizens into supporting policies that they would oppose if they had the same knowledge of a threat as the politicians. To do so, we offer a model where a politician acts strategically and a citizen may have opportunities to react in partially strategic ways. Our characterization of the citizen is motivated by our reading of relevant literatures in psychology and the neurosciences. Researchers in these fields have not reached a consensus about many aspects of how fear affects decisions.[1] Yet, there exist widely replicated findings about fear that are relevant to our substantive question. That said, ours is not a comprehensive model of emotional decision making. Rather, it is an attempt to clarify the topic at hand by building a clear and accessible bridge between currently detached theoretical and empirical literatures. With such goals and caveats in hand, we now present the five fear-related premises that motivate our model. Each premise has broad scholarly support and its main implications have proven robust to important challenges.

1. *The initial response to a threatening stimulus is automatic.* Many studies document such automaticity. As LeDoux describes:

> [The fear system] detects danger and produces responses that maximize the probability of surviving a dangerous situation in the most beneficial way . . . Although we can become conscious of the defense system, especially when it leads to behavioral expressions, the system operates independently of consciousness—it is part of what we called the emotional unconscious. . . . (1996, 128)

In an initial encounter with a threatening stimulus, we have minimal control over the onset of fear, particularly when our ability to counter the threat is low (Witte 1992).

The same idea is recognized in work that examines fear and violence as political weapons. As Kalyvas notes, politically motivated attempts to induce fear "produce, initially at least, a paralyzing, turbulent, irrational fear, scarcely permitting any thought. . ." (2004, 103). Referencing an example of German terror in Greece by Skouras et al., he continues, "Most people were paralyzed by the daily expectation of an 'unpredictable and unknown misfortune'" (1947, 125).

2. *An initially fearful response may induce subsequent attention.* We assume that fear may drive subsequent attention towards objects that would otherwise receive nonthinking responses. In this sense, we assume that "direct thalamic input may mediate short-latency, primitive emotional responses and prepare the amygdala for the reception of more sophisticated information. . ." (Kandel, Schwartz, and Jessell 1995, 608). Indeed, the stimulus may activate attention that subsequently induces goal-oriented processes that we can model (Phelps 2006).

3. *Preferences and incentives can affect the extinction of fear responses.* Extinguishing a fear can be a long and difficult process. This difficulty is partly explained by the physical process involved in extinguishing a fear. Instead of eliminating the fear-inducing connection between an unconditional stimulus (US—e.g., an electric shock) and a conditional stimulus (CS—e.g., a bell),[2] successful extinction processes create a second, inhibitory connection (e.g., a second sound) between the CS and the US (Davis

[1] One point on which there is no consensus is on the relationship between fear and anxiety. Some scholars simply equate the two factors while others draw a range of distinctions. Here, we focus on fear because we prefer the clarity of a single term and because extant definitions of fear are subject to less variance than extant definitions of anxiety.

[2] If the bell is sounded immediately before shocks are administered, then the bell itself can soon elicit a proportion of the shock's emotional response. Even if the shock is not administered, the bell induces fear.

and Myers 2002, 1000). While emphasizing the difficult nature of extinction, LeDoux reminds us that "repeated exposure to the CS in the absence of the US can lead to extinction" (1996, 145). But adaptability varies by situation (Bouton and Bolles 1979). Variations in a person's experience, and in the availability and quality of feedback, can affect whether an attempt to inhibit a fear will be seen as worthwhile (in terms of future benefits) or likely to succeed by the person experiencing it.

4. *Feedback is necessary to extinguish old fears.* Extinguishing a fear requires establishing a new link between the US and CS. In other words, the CS must provide, or seem to provide, new information about the US (Leahey and Harris 2001). If the person experiencing the fear receives no new information, he or she has no reason to rethink his or her previous reaction to the stimulus. In such cases, brains work on "autopilot"—wherein the physical structure of relevant parts of the brain, in combination with previous mental episodes often involving conscious processing, yield synaptic activation potentials that affect subsequent reactions with little or no conscious effort. Conscious processing of the kind required to establish a new US-CS link requires reception of information that suggests a costly error in a previously held belief. In some cases, extinction is easy due to the availability of a sufficiently informative CS. In other cases, particularly for issues that are complex or whose implications are ambiguous, recognizing such errors may be difficult as the implications of actions taken today need not be realized for years or decades. In such cases, available information may be too sparse or ambiguous to facilitate effective fear extinction. The availability of such information will be a key variable in our model and will affect the political implications of fear appeals in our results.

5. *Activation of the fear system in response to future stimuli can be adjusted.* This idea follows from many findings, such as Damasio, who finds that key decision-making tools are "acquired by experience, under the control of an internal preference system and under the influence of an external set of circumstances which include not only entities and events with which the organism must interact, but also social conventions and ethical rules" (1994, 177–79). Just as fear itself can instigate rapid decisions, subsequent rethinking about what stimuli are worth fearing can be valuable. As Cacioppo and Gardner note,

> . . . an additional adaptive advantage is conferred to species whose individual members have the capacity to learn based on the unique environmental contingencies to which they are exposed, to represent and predict events in their environment, to manipulate and plan based on representations, and to exert some control over their attentional and cognitive resources. (1991, 199)

The Model

Our model features two players and two periods. The two players are a politician and a citizen, where the latter may also be thought of as representing a larger group of citizens who share interests and perceptions. While the politician is fully strategic, the citizen is only partially so. Ours is a game of asymmetric information, where the politician has private information about a potential threat. In each period, the politician must decide whether or not to say that the threat is present. The statement need not be true. In particular, the politician can say that a threat is present when it is not.

Unlike many other games of asymmetric information, the citizen's initial reaction to this statement is automatic. Though the citizen benefits if her initial reaction is consistent with the true threat level, her ability to act strategically comes later in the first period—and only if she receives sufficient feedback. So while the model has a communicative element, in that the politician sends a message to the citizen, it is not a signaling (Spence 1973) or cheap talk model (Crawford and Sobel 1982) in the traditional sense (see Banks 1990 for a review). In particular, we do not assume that the citizen thinks deeply about the politician's type (e.g., possible motives) or processes available information with maximum efficiency (i.e., she does not engage in Bayesian reasoning). Put another way, our assumptions about citizen perceptions and reactions follow from the five premises listed above.

We now turn to a more precise definition of the game. Figure 1 depicts the timeline of events. Figures 2 and 3 depict the game's extensive form. While it is possible to expand the model in many respects, this version represents *the simplest* logical framework for addressing the question, "When can politicians scare citizens into supporting policies that they would otherwise reject?" Except where noted, all aspects of the game are common knowledge.

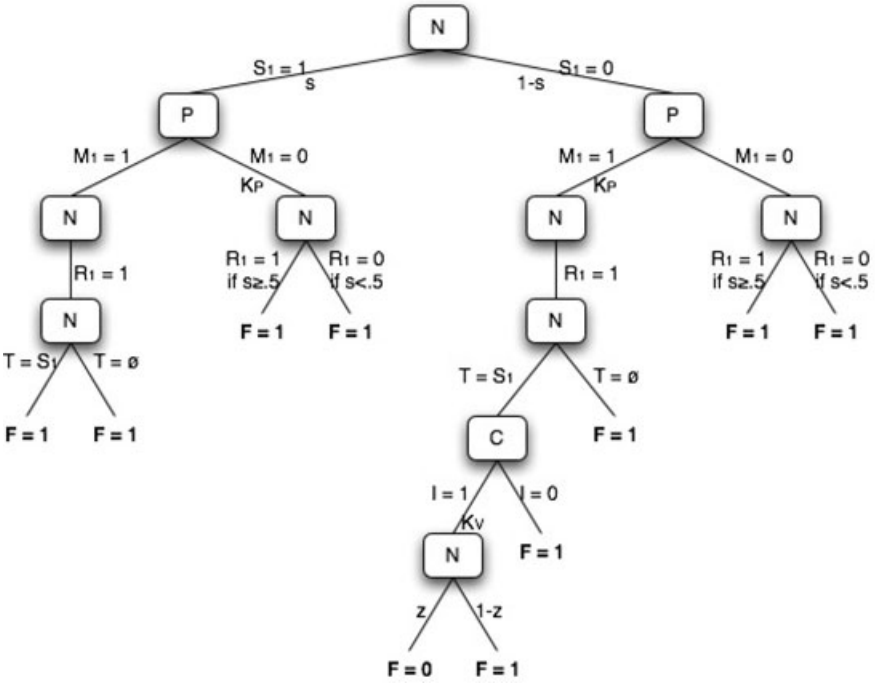
The game begins with the determination of the state of the world for period 1, $S_1 = \{1, 0\}$. $S_1 = 1$ denotes a state in which the citizen benefits from reacting fearfully (i.e., a bad thing is happening). If $S_1 = 0$, there is no rationale for a fearful response.

The politician observes the true state of the world. The citizen does not. The citizen does, however, have a baseline expectation. She knows that S_1 is determined by

FIGURE 1 Timeline

Period 1 begins. The politician learns the true state of the world.	He chooses whether or not to issue a fear-provoking message.	The citizen's initial reaction is automatic, non-strategic, and affects her support of policy.	Later, the citizen may receive feedback (new information) about the true state of the world.	If she learns that her initial reaction led her to support a suboptimal policy, she can try to inhibit future fearful reactions.	An inhibition attempt is costly to the citizen and not always successful.	**Period 2 begins.** The politician learns the true state of the world.	He chooses whether or not to issue a fear-provoking message.	The citizen's reaction can depend on her inhibition attempt and affects her support of policy. **The game ends.**

FIGURE 2 The Extensive Form of Period 1

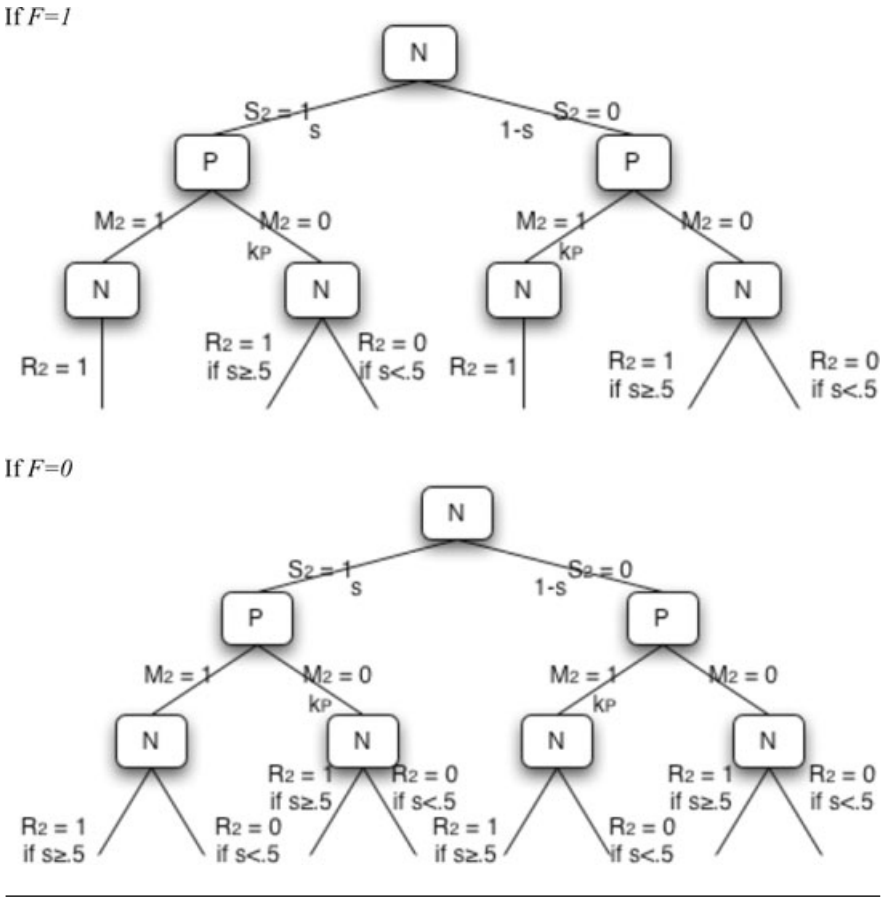


a single draw from a distribution that yields $S_1 = 1$ with probability $s \in [0, 1]$ and $S_1 = 0$ with probability $1 - s$. So, absent any additional information, the citizen believes that a bad thing is happening with probability s.

The politician makes the game's first strategic move. He chooses whether or not to send the message, $M_1 = 1$, to the citizen. Its content is that "it is the state of the world in which you will benefit from reacting fearfully and supporting my desired policy." $M_1 = 0$ is the absence of such a message. He need not speak the truth. Indeed, we are interested in learning when the politician will send an unwarranted fear signal ($M_1 = 1$ and $S_1 = 0$), a choice he may make because he wants the citizen to support his (exogenously given) policy. We assume that delivering an unwarranted fear appeal is costly to the politician, as is saying nothing when the fearful state is at hand ($M_1 = 0$ and $S_1 = 1$). This cost, $k_P > 0$, is exogenous to the play of the game and represents the effort that the politician may have to devote to getting others to go along with his lack of candor and the risk that the politician may perceive to his reputation from actors not included in this game. (Below, the politician may face additional endogenous consequences for his actions.)

Next, the citizen supports the policy or she does not ($R_1 \in \{0, 1\}$). $R_1 = 1$ denotes her support for the policy in a setting that matters to the politician (such as a meaningful public forum, an election, or a poll). $R_1 = 0$ denotes her disapproval. Following premises 1 and 2, we assume that the citizen's initial reaction is automatic. She treats the fear signal $M_1 = 1$ as evidence that the fearful state

FIGURE 3 The Extensive Forms of Period 2



of the world is at hand ($S_1 = 1$) and her initial response is to support the policy.[3] This premise echoes a theme in studies of how violence affects citizens. Kalyvas, himself following White (1989, 328), argues that

> As long as the victims have no way to react against such violence, its effect is 'to increase compliance with authority among those who feel they may be threatened.' In other words, the population may be pushed into total passivity and political abdication. (2004, 104)

Beyond this inference of threat, the citizen does not initially think about the quality of the signal itself. She simply becomes fearful or she does not. If she becomes fearful, she supports the policy in period 1.[4]

$M_1 = 0$ denotes the absence of a fear signal. In this case there is no stimulus. There is no new information for the citizen to think about. Here, her reaction follows automatically from her baseline expectation, *s*, and her utility function (defined below).[5]

[3]An alternate rationale for our assumption that the citizen's reactions to the fear signal are automatic and supportive of protection from the politician follows from work in prospect theory (Kahneman and Tversky 1979) and risk-sensitive optimal foraging theory (Caraco, Martindale, and Whittam 1980). In each of these theories, a person or an animal benefits from remaining particularly attuned to negative outcomes (as opposed to positive or neutral outcomes) and to developing or evolving rules of thumb that allow effective automatic reactions. While the introduction of such perspectives into political science has been slow, McDermott, Fowler, and Smirnov (2008) have recently used both theories to clarify behavior in other political situations.

[4]Alternatively, let $R_1 = 1$ represent the citizen's willingness to delegate greater power to the politician in the policy domain to which S_1 applies. Let $R_1 = 0$ represent her withholding support. With this frame, the game addresses when the politician can use fear to increase his power.

[5]Huddy et al. (2005) document reactions to antiterrorism policies after the 9/11 attacks. They hypothesize that anxiety reduces support for antiterrorism policies. Since Huddy et al. equate fear and anxiety (2005, 595, fn 1), their hypothesis contradicts our assumption that the citizen's initial reaction will be to support the politician's policy. The difference merits discussion. We accept Huddy and colleagues' core premise (2005, 595) that anxious individuals tend to perceive more risk and will have a preference for less risky options. Their subsequent hypothesis is that anxiety reduces

The citizen's period 1 utility, V_1, from her response, R_1, depends on how her initial reaction corresponds to reality, S_1. If $S_1 = R_1$, she benefits ($V_1 = x_1 > 0$). Otherwise, she does not ($V_1 = 0$). So, if the "bad thing" represented by $S_1 = 1$ occurs, then the citizen benefits by supporting the politician's desired policy.

When $M_1 = 0$ (the politician does not issue a statement), she approves of the politician's policies if she believes that the bad state of the world is more likely than the good one (i.e., if $s \geq .5$) and disapproves otherwise. This reaction increases her expected utility.

The politician, in turn, values citizen support for his policy. Let U_1 be his period 1 utility. If the citizen supports him ($R_1 = 1$), then he earns $U_1(R_1 = 1) = c_1 > 0$. Otherwise, he earns nothing ($U_1(R_1 = 0) = 0$). So the higher is c_1, the more he values the citizen's support in period 1.

These utility functions imply that when $S_1 = 0$, the politician desires support for a policy that the citizen would reject if she knew the true state of the world.[6] This situation sets up the tension underlying our main question, "When can the politician scare the citizen into accepting a policy that she would otherwise reject?" In particular, we are interested in clarifying conditions under which the politician will say $M_1 = 1$ after observing $S_1 = 0$.

We now turn to the ways in which the first period can end. Here we integrate premises from the previous section that are pertinent to how fears are extinguished. Following premises 3–5, we assume that the citizen may have an opportunity to rethink her initial response to the politician's fear appeal. Specifically, if the politician sent a fear signal, then Nature (i.e., factors and actors outside of the model) may provide feedback to the citizen, $T \in \{S_1, \emptyset\}$. With probability $t \in (0, 1)$, this feedback reveals the true state of the world, $T = S_1$. Nature reveals nothing ($T = \emptyset$) with probability $1-t$ if a fear signal was sent (or with probability 1 if no fear signal was sent). In other words, $T = \emptyset$ provides insufficient feedback for the citizen to rethink her previous reaction and, as a result, ends the period. From the politician's perspective, high values of t represent cases where the citizen is likely to learn that a fear signal was false. Low values of t represent cases where such feedback is unlikely to surface.

If the citizen receives feedback, $T = S_1$, the first period continues. The feedback reveals the utility consequence of her initial reaction, R_1. If $T = R_1 = S_1$, she learns that her emotional response was satisfactory. We assume that this situation gives her no motive for thinking about the matter further and, as above, ends the period. This assumption echoes research that finds "substantial evidence of reliance on heuristics and the 'peripheral processing' of information when people are in happy or positive mood states" (Brader 2006, 85).

If, however, the citizen learns that her initial fearful response was unwarranted ($S_1 = 0$ and $R_1 = 1$), then she makes the period's final move. She decides whether to invest the time and effort necessary to attempt to extinguish similar responses in the future. Following premise 3, we assume that extinction can be a difficult process, requiring "the establishment of an inhibitory connection between the CS and the US" (Davis and Myers 2002, 1000).[7]

Hence, we model this choice as a strategic inhibition investment decision, $I \in \{0, 1\}$. $I = 1$ denotes a decision to pay cost $k_V > 0$ to try to inhibit a fear response in the game's second period (e.g., therapy—self-administered or professional—or taking the time to find relevant information). $I = 0$ denotes the decision not to rethink her previous response (i.e., no effort).

Again following from premise 3, we treat the consequence of an inhibition attempt as if it is only partially

support for antiterror policies that are seen as personally dangerous but not for policies directed against enemies. The latter part of this hypothesis parallels our assumption. The difference lies in the first part of the hypothesis. It treats the personal risk associated with an antiterror policy as something that occurs in isolation of other risks. We proceed as if there are also risks entailed in a government's failure to act—allowing risk-averse citizens to be motivated by anxiety about policy inaction. It treats them as more likely to support government action right after a fear-provoking stimulus emerges. Huddy et al. later report that "anxiety reduces support for any retaliatory policies that could jeopardize American security" (2005, 596). But their results do not constitute strong evidence against our assumption. The reason is that they report a measure of respondent anxiety about the U.S. policy, but not a corresponding measure of respondent anxiety if the United States chose not to respond. Therefore, even amongst their respondents, we cannot say whether government action or inaction would cause greater anxiety.

[6] As to why a politician would care about citizen support, there are multiple explanations. In parliamentary governments, low public support for a focal policy can substantially weaken a government or even topple it (Lupia and Strom 1995). In the U.S. case, several presidents have argued that they do not base their policies on polls. If we take them at their word, public opinion still matters, because members of Congress also face electoral pressures. If a policy is sufficiently unpopular, it can become harder for a president to achieve policy objectives (Kernell 1986). Even a president whose own motives are relatively isolated from reelection pressures must be sensitive to variations in public support if he or she wants Congress to approve subsequent aspects of his or her policy agenda.

[7] In this sense, our representation of the citizen reflects the "two systems" approach to emotional decision making articulated by Sloman (1996). The first system is automatic and affective. The second system is controlled and deliberative. The second system can regulate the first, but does not always do so. Over time, decisions and reactions are seen as a joint product of both systems.

under the citizen's control. To offer a precise definition of inhibitory mechanics, we first describe the extensive form of the second period, where inhibition—if successful—will have an impact. Then, we will use details about period 2 to fill out the mechanics.

At the beginning of period 2, the true state of the world, $S_2 = \{1, 0\}$, is revealed to the politician. S_2 is defined analogously to S_1. As before, it is common knowledge that the politician directly observes the true value of S_2 and that $S_2 = 1$ with probability s. Then, the politician chooses whether or not to send a fear signal, $M_2 \in \{0, 1\}$, where the meaning and costs attributable to his strategy are as defined in period 1. Next, the citizen supports the politician's policy or does not, where $R_2 \in \{0, 1\}$ is defined as before. The utility consequences of such actions, U_2 and V_2, are analogous to those in period 1, with the exception that c_1 need not equal $c_2 > 0$ for the politician and x_1 need not equal $x_2 > 0$ for the citizen. This assumption allows us to use the model to differentiate the strategic use of fear in cases where the politician cares much more about support now (period 1) than about support later (period 2), from cases in which the politician has the opposite preference and cases in which the politician cares equally about present and future support. Similarly, the citizen's reward for responding in a manner that is consistent with the true state of the world need not be identical across periods. The utility consequence for the politician of failing to receive the citizen's support ($R_2 = 0$) and for the citizen of failing to act in accordance with the true state of the world ($R_2 \neq S_2$) remain zero.

We now return to the inhibition mechanics of period 1. When the citizen chooses $I = 1$, she learns to ignore the politician's second period message with probability $z \in [0, 1]$, where z is exogenous. To ignore the message means that she will treat $M_2 = 1$ as if it were $M_2 = 0$. In other words, an inhibitory connection is made, her fear is extinguished, and she will respond as if the politician has said nothing. We denote this outcome as $F = 0$ (i.e., no fear). With probability $1 - z$, her inhibition attempt fails, and she will again react fearfully to a fear signal. We denote this outcome as $F = 1$ (i.e., the citizen's initial response to a period 2 fear appeal is just as it was in period 1). High values of z denote cases where players expect the citizen to inhibit successfully. Low values of z represent cases where the citizen can do little to inhibit her fear—even if she tries. To reiterate, the "fear factor," F, equals 1 if: there was no period 1 fear signal ($M_1 = 0$), *or* the citizen observed a fear signal but did not receive feedback ($M_1 = 1$ and $T = \emptyset$), *or* she received feedback and learned that reacting fearfully was appropriate ($M_1 = 1$ and $T = S_1$ and $S_1 = R_1$), *or* she learned that her fearful response reduced her utility but she chose not to invest in inhibition ($M_1 = 1$ and $T = S_1$ and $S_1 \neq R_1$ and $I = 0$), *or* she invested in inhibition but the attempt was unsuccessful (an outcome that occurs with probability $1 - z$ if $M_1 = 1$ and $T = S_1$ and $S_1 \neq R_1$ and $I = 1$).

So, unlike the first period, $M_2 = 1$ need not trigger fear. If $F = 1$, then she reacts as before: $M_2 = 1$ induces $R_2 = 1$. But if $F = 0$, then she suppresses that reaction because she has learned to override her fear (i.e., she responds as if $M_2 = 1$ implies $M_2 = 0$).[8]

Thereafter, the game ends. Utility functions are as follows. The politician receives positive utility in each period only if he earns the citizen's approval and pays a cost only if he sends a false signal. Therefore, $U = U_1 + U_2 = R_1c_1 + R_2c_2 - |M_1 - S_1|k_P - |M_2 - S_2|k_P$. The citizen's utility, V, comes from responding in a way that is consistent with the true state of the world and she pays a cost only if she attempts to inhibit. Therefore, $V = V_1 + V_2 = (1 - |R_1 - S_1|)x_1 - (I * k_V) + (1 - |R_2 - S_2|)x_2$.

To complete the definition of the model, we state a tie-breaking rule for cases in which more than one action provides equal expected utility to a player. We assume that if sending a fear signal and sending no signal provide the politician with equal expected utilities, then $M_1 = 0$. Our motivation for this rule is that sending a fear-based message requires effort that the politician will not expend unless he expects a positive return. Similarly, we assume that an indifferent citizen chooses not to invest in inhibition, $I = 0$.[9]

[8]One reader of this article has interpreted our model as assuming that erasing a fearful association is difficult. This is not accurate: we do not assume that erasing a fearful association is difficult. Instead, the difficulty varies and is a function of several parameters, including the likelihood of receiving feedback ($t \in [0, 1]$), the cost of "therapy" ($k_V > 0$), and the exogenous likelihood of inhibitory success ($z \in [0, 1]$). While it is true that there are combinations of these variables that can make erasure difficult (low t, low z, and high k_V), there are also combinations of variables that make erasure trivial (the opposite conditions).

[9]While the five premises detailed above motivate our model, other interpretations are possible. For example, a nonemotional citizen observes a political statement and later learns the true state of the world with probability t. Upon making this observation, she decides whether or not to withdraw support for the politician in the future. $1 - z$ becomes a measure of external forces, such as the threat of reprisal for criticizing the politician, or the probability that weakening support for the politician on the issue at hand will limit his ability to pursue policies outside of this game that the citizen likes (domestic policy objectives). k_V becomes the cost to the citizen of attempting to ensure that the act of withholding support or speaking out is effective (i.e., the cost of organizing sufficient collective action around a protest). Hence, low values of t and z and high values of k_V limit the citizen's ability to adapt to her observations. This framing produces a principal-agent game in which the principal lacks information and is constrained in her ability to adapt. Beyond not knowing the state of the world, she

An Equilibrium of Fear and Its Implications

In this section, we describe the model's equilibrium. Then, we use it to answer the question, "When can politicians scare citizens into supporting policies that they would otherwise reject?" The subgame perfect equilibrium concept is our inferential standard. A set of strategies qualifies as such only if it maximizes expected utility at every decision node in the game. Note that the concept covers only the game's strategic elements (e.g., since the citizen's initial reactions to the politician's messages are automatic, they are not included). A more precise statement of the concept for this game follows, where EU is the politician's first period expectation of U given his uncertainty about T (represented as the probability t), F (represented as the probability z), and S_2 (represented as the probability s) and where EV is the citizen's first period expectation of V given her first period uncertainty about the value of S_2:

- $\forall S_1,\ EU(M_1^*(R_1,\ c_1,\ k_P,\ t,\ k_V,\ z,\ s,\ c_2,\ x_2) \mid S_1) \geq EU(M_1(R_1, c_1, k_P, t, k_V, z, s, c_2, x_2) \mid S_1);\ M_1^* \neq M_1$
- If $T = S_1, EV(I^*(k_P, k_V, z, s, c_2, x_2) \mid M_1) \geq \mathrm{EV}(I(k_P, k_V, z, s, c_2, x_2) \mid M_1);\ I^* \neq I$
- $\forall F,\ S_2,\ U_2(M_2^*(R_2,\ c_2,\ k_P) \mid F)) \geq U_2(M_2(R_2,\ c_2, k_P) \mid F);\ M_2^* \neq M_2.$

That is, there are up to three decision nodes: the politician's communicative decisions in periods 1 and 2 and the citizen's possible inhibition decision at the end of period 1. A subgame perfect Nash equilibrium consists of best responses to anticipated player strategies and automatic responses later in the game.

In the appendix, we prove that the game has a unique subgame perfect equilibrium. This solution to the game connects every possible set of values for every variable defined above to a single set of strategies and a single outcome. The solution distinguishes conditions in which a politician can use unwarranted fear appeals for political gain from cases in which he has no such power. Contrary to the quotations at the beginning of this article, the politician cannot scare up support for his policies any time he chooses. How fear affects politics depends on strategic considerations. On the other hand, these mechanics also reveal that the politician's ability to manipulate the citizen is broader than implied by recent formal models where fear is presumed to be irrelevant. A proposition describes the equilibrium.

Proposition. The game has a unique subgame perfect equilibrium. In it, the politician's period 1 strategy is:

If $S_1 = 1$ or $s \geq .5$, then $M_1 = S_1$.

If $S_1 = 0$ and $s < .5$ and "$c_2 \leq k_P$ or $zx_2(1 - 2s) \leq k_V$" and

- $c_1 > k_P$, then $M_1 = 1$.
- $c_1 \leq k_P$, then $M_1 = 0$.

If $S_1 = 0$ and $s < .5$ and $c_2 > k_P$ and $zx_2(1 - 2s) > k_V$ and

- $c_1 > k_P + tz(c_2 - (1 - s)k_P)$, then $M_1 = 1$.
- $c_1 \leq k_P + tz(c_2 - (1 - s)k_P)$, then $M_1 = 0$.

The citizen's inhibition strategy is:

If $c_2 > k_P$ and $s < .5$ and $zx_2(1 - 2s) > k_V$, then $I = 1$.
If $c_2 \leq k_P$ or $s \geq .5$ or $zx_2(1 - 2s) \leq k_V$, then $I = 0$.

The politician's period 2 strategy is:

If $F = 0$ or $s \geq .5$, then $M_2 = S_2$.
If $F = 1$ and $s < .5$ and either $S_2 = 1$ or "$S_2 = 0$ and $c_2 > k_P$," then $M_2 = 1$.
If $F = 1$ and $s < .5$ and $S_2 = 0$ and $c_2 \leq k_P$, then $M_2 = 0$.

This equilibrium answers the question, "When can politicians scare citizens into supporting policies that they would otherwise reject?" by specifying conditions under which the politician will have an incentive to ask questions such as "Will the citizen learn the truth?" and "How will she adapt to her initial fearful response?" It also clarifies how variations in the psychological factors, t, z, and k_V, alter the politician's strategic considerations.[10] In some

need not process information in a Bayesian manner. That said, we prefer the fear frame as it (a) was our true motivation for this model and (b) provides a means for linking the potential benefits of game theoretic modeling to the broad public interest in unwarranted use of fear appeals by politicians.

[10]One reader of this article has claimed that since we use the subgame perfect equilibrium concept to derive our conclusion, then we must be describing "fully rational behavior." The truth value of this claim depends on how "rationality" is defined. As we point out in the text, scholars use the term "rationality" in many different ways. So, if "full rationality" requires all players to have complete information about all aspects of the game and to process all information efficiently, then it is clear that *our model does not* describe fully rational behavior. To see why, first note that the equilibrium, which is the source of our conclusion, *does not account for all behaviors in the game.* Some behaviors, such as the citizen's initial reactions to the fear signals, are explicitly nonstrategic. Second, the strategic actions that are available to the citizen (the decision about whether or not to attempt to adjust a future fear response) are contemplated *only if* the citizen receives feedback of a particular quality. Third, the citizen is *not required to use information efficiently* (as a pure Bayesian would). Therefore, the citizen in our model is far from

cases (i.e., when the citizen is unlikely to learn the truth or inhibit successfully), the politician cares only about his own utility. In other cases, the citizen's well-being plays a larger role in his decision.

To provide greater specificity about such relationships, we now work backwards through the game's extensive form, beginning with the second period mechanics and ending with the politician's first move. In period 2, if the citizen's baseline expectation is that the fearful state of the world is more likely than not to occur ($s \geq .5$), then she supports the politician regardless of what he does. He, in turn, does not need to send an unwarranted fear signal to earn the citizen's support. Alternatively, if the citizen has successfully inoculated ($F = 0$), then the politician cannot benefit from sending an unwarranted fear message. In either case, the politician sends only warranted fear messages in period 2 ($S_2 = M_2$).

In the remaining period 2 case, there is no inoculation ($F = 1$), and the citizen believes that the fearful state of the world is unlikely ($s < .5$). Here, the politician will send a fear signal if it is warranted *or* the benefit of increased citizen support that comes from "pulling a false alarm" is greater than the exogenous reputation costs associated with sending an unwarranted fear message ($c_2 > k_P$). This is the only case in which the politician can scare the citizen into supporting a suboptimal policy in period 2—but since this decision follows simply from the size of the exogenous reputation cost relative to c_2, we draw no further substantive meaning from it.

Now, we move back one step in the model, to the citizen's inhibition decision at the end of period 1. Recall that this decision node is reached only if feedback ($T = S_1$) reveals that $M_1 = 1$ when $S_1 = 0$. In this case, if the citizen has reason to believe that the politician cannot benefit from deceiving her again in period 2 (because the damage to his reputation will matter more to him than gaining her second period support, $c_2 \leq k_P$), then she cannot gain from attempting inhibition.

Otherwise, if $c_2 > k_P$ and $s < .5$, the citizen realizes that if she does not inhibit, then the politician may use an unwarranted fear appeal to gain her support in period 2. In this case, investing in inhibition is worthwhile if the citizen believes that it is likely to help her adapt effectively (z high), the benefits of reacting in accordance with reality are large (x_2 high), the likelihood of the politician sending a false fear signal absent successful inhibition is high ($1 - s$ high, as the politician sends a false fear signal only if $S_2 = 0$), and the cost of attempting inhibition (k_V) is relatively low. In short, the citizen chooses to invest in inhibition when she has reason to believe doing so will allow her to extinguish her fear, when doing so better aligns her reaction with reality in cases where the politician is likely to use fear to manipulate her, and when the expected benefit of attempting to adjust future emotional responses justifies the cost.

We now turn to the politician's first period strategy, the focal point of our analysis. There are two cases in which the politician's decision is straightforward.

If $S_1 = 1$, the politician sends the fear signal without risk. Initially, the citizen will react by supporting him. If the citizen receives feedback later in the period, she will learn that the signal correctly indicated the state of the world. She will have no reason to consider inhibition. So, the politician can only gain by sending the fear signal.

If $s \geq .5$ and $S_1 = 0$, the citizen's baseline expectation will lead her to support the politician in period 1 regardless of his signal. In this case, sending an unwarranted fear signal would not benefit the politician as the citizen will support him without it. He also sends no signal if $c_1 \leq k_P$ and $S_1 = 0$ because the value of the citizen's support to him in period 1 is less than the exogenous reputational penalty.

In the remaining case, the politician can use the citizen's fear against her.

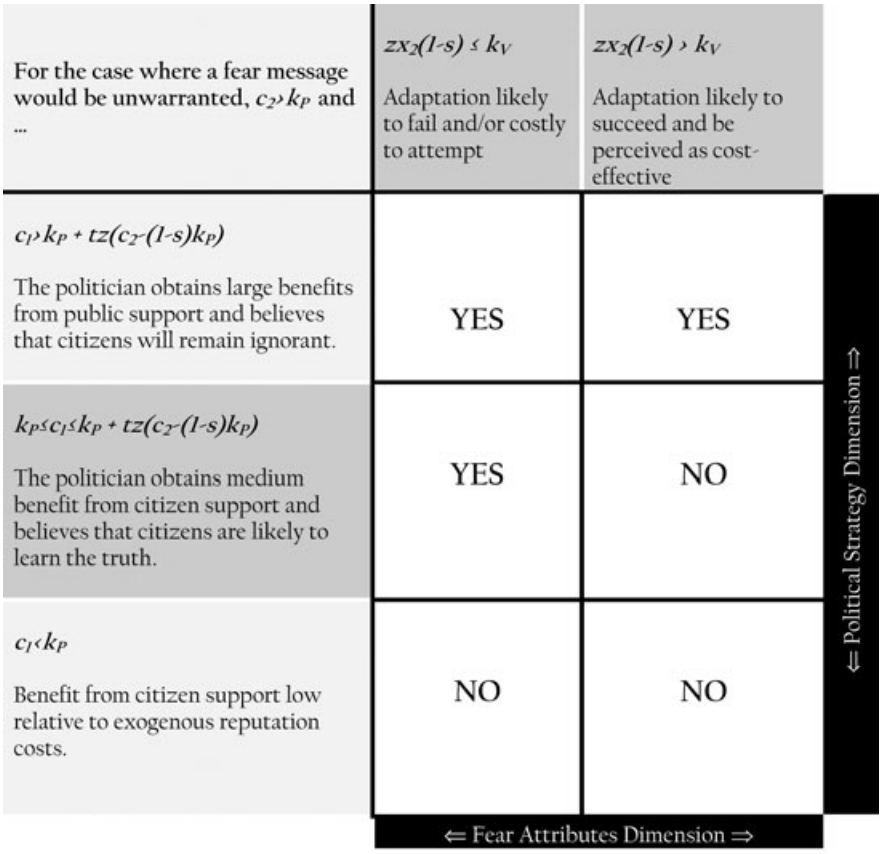
> *Key Interaction.* In period 1, the politician scares the citizen into supporting a policy that she would otherwise reject if $s < .5$ and *either* $c_1 > k_P$ and "$c_2 \leq k_P$ or $zx_2(1 - s) \leq k_V$" *or* $c_1 > k_P + tz(c_2 - (1 - s)k_P)$ and $c_2 > k_P$ and $zx_2(1 - s) > k_V$.

For when $S_1 = 0$, $s < .5$, and $c_1 > k_P$, a tension emerges. If the politician wants to be supported, he must send a fear signal. But an unwarranted fear signal can prompt the citizen to invest in inhibition, lead her to ignore the politician in the future (period 2), and, hence, reduce the politician's expected utility from the game as a whole. The question for the politician is whether the short-term benefit of scaring the citizen into supporting him now is worth the risk associated with losing her support in the future. His choice depends not only on how he feels about support now versus later, but also on *what information he believes the citizen will receive and whether the attributes of fear specified in the model will affect her adaptability to subsequent information.*

If the politician expects that the citizen will never receive the kind of feedback that prompts consideration of inhibition (t is low), or if he believes that she would

this idealized notion of full rationality and the reviewer's claim—if so stated—would be false. If "full rationality" means that at least some players base at least some decisions on beliefs about how at least some actions correspond to goals that they themselves can sometimes perceive, then the description fits our model. Such a description also fits most work that occurs under the guise of political psychology.

FIGURE 4 Depiction of Comparative Statics



Cell entries refer to the question, "Can the politician scare citizens into supporting policies that they would otherwise reject?"

not or cannot adapt her behavior even if she gets such feedback ($c_2 \leq k_P$ or $zx_2(1-2s) \leq k_V$), he will base his decision solely on his own well-being: the immediate benefits of acquiring citizen support (c_1) relative to the exogenous cost of sending an unwarranted fear signal (k_P). The citizen's well-being affects his calculation only when the likelihood of her receiving actionable feedback and extinguishing her fear becomes sufficiently high. In such cases, he sends an unwarranted fear signal only if the benefits of citizen support now (c_1) are large relative to the benefits of future citizen support (c_2), the exogenous political cost of sending a misleading signal (k_P), the likelihood that the citizen will receive informative feedback about the issue in question (t), the likelihood that such feedback will engender successful inhibition (z), and the probability that the citizen will support the candidate in the absence of a fear signal (s).

Figure 4 provides a graphical depiction of this result. Going from south to north on the "strategic" dimension is analogous to increasing benefits to the politician from gaining the citizen's support, decreasing the likelihood that the citizen receives feedback, and decreasing the exogenous reputational costs of sending an unwarranted fear signal. Moving from left to right on the "fear attributes" dimension is analogous to moving from an issue where inhibition is likely to fail to an issue where it is more likely to succeed.

Comparing the three rows in the figure clarifies when fear matters most. In the bottom row, the citizen's fear-related attributes are irrelevant because the exogenous reputational costs of sending an unwarranted fear signal are so large that they preclude the politician from dissembling. In the top row, fear is also irrelevant, as the net benefits of gaining the citizen's support in period 1 are so high, relative to the likelihood that the citizen will obtain informative feedback, that the model's fear variables are insufficient to constrain the politician.

The middle row is the set of cases in which various attributes of fear have an impact on the outcome. Here, the ratio of benefits from sending an unwarranted fear

signal to the exogenous costs of doing so is not extreme in either direction. If the politician expects the citizen to receive feedback upon which she can act effectively, he will be constrained in his ability to gain by creating unwarranted fear. As the citizen becomes less likely to receive the feedback required for her to consider inhibition (t decreases, which is equivalent to a northward move on the figure) or as the citizen cannot suppress her fear (z decreases, which is equivalent to a leftward move on the figure), the advantage shifts back to the politician.[11]

Such dynamics explain why fear appeals would peak in the days before an election. As the date of election approaches, there is reduced opportunity for citizens to receive pre-vote feedback about their validity (i.e., a smaller window of time for which to learn the true value of S_1). If winning the election is more important to the politician than the possible repercussions, then unwarranted fear appeals are more likely to follow. The logic also implies that *if unwarranted fear appeals are going to be used, they will be used for distant, abstract, or ambiguous issues*—as such issues are less likely to produce the kinds of feedback that make citizens realize, rethink, and change previous behaviors. This dynamic would also explain why the temptation to proffer unwarranted fear appeals is greater for terrorism from abroad than it is for domestic terrorism. Politicians may calculate that disconfirming feedback is less likely to appear when the threat originates from distant and hard-to-observe locations.

These results suggest that laws or other social forces that fuel competitive information transmission can limit a politician's ability to scare citizens into supporting policies that they would otherwise reject. While one cannot easily change the kinds of fears people are likely to have, at least in the short run, one can try to affect the likelihood that political claims about cause-and-effect can be checked quickly and credibly. Where such competition exists, politicians in the middle range of Figure 4 will be more constrained in using fear to build support for suboptimal policies. By contrast, as politicians are permitted to become more secretive or ambiguous, we can expect them to have greater latitude to use fear to manipulate the public.[12]

Does the Model's Fear-Based Content Make a Difference?

It is reasonable to ask whether the model's fear-based content makes a difference. We demonstrate that it does by comparing our model and our findings to those of two complementary theoretical endeavors, Bianco (1998) and Bueno de Mesquita (2007).

Attempts to integrate psychological content into formal models of politics are rare. Bianco (1998) is a notable exception. Noting a vigorous debate about whether "rational choice" models were psychologically viable, he explicitly compared psychological and game-theoretic models of candidate evaluation. The psychological model was a formal version of Fiske and Neuberg's (1990) motivated tactician. The game-theoretic model was similar to a standard two-person signaling game. Bianco found that even though the models arose from different premises, they yielded the "same predictions ... motivated tacticians will reason to the same conclusions about a candidate as their rational actor counterparts" (1998, 1063).

[11] A reader has asked whether the insights we seek would be better drawn from an associative network model (ANM). ANMs are mathematical models of memory that presume a stimulus-response framework. A mathematically represented stimulus is fed into a network and may change the character of the network's nodes and pathways. The stimulus, by contrast, is typically exogenous—it is not affected by changes in the respondent's memory.

These attributes of an ANM are worth pointing out because our interest is in characterizing *the interaction between the politician and the citizens*. We want to clarify how what a politician says depends on what he might believe about psychological factors in the populace *and vice versa*. This interactive pursuit requires something different than a unidirectional stimulus-response approach. It requires a simultaneous focus on how two or more actors adapt to one another in a politically relevant context.

Neural substrate–based memory models (i.e., ANMs) have the potential to support such interactive inquiries. But this potential is not yet realized as current ANM pursuits tend to focus on the thoughts of a single individual. As such they are not sufficient to address our interests. While the reader suggests that ANM and our models are substitutes, we see them as likely complements as both endeavors progress.

[12] Reframing the model can clarify when politicians use anger to increase their power. Let the two possible states of the world be described as one in which citizens should be angry with a particular enemy ($S_1 = 1$) and one in which such anger is unjustified ($S_1 = 0$). The politician then chooses whether or not to make an incendiary statement about the enemy ($M_1 = 1$) or not ($M_1 = 0$). The citizen's choice entails delegating greater authority to the leader ($R_1 = 1$) to confront the enemy or not ($R_1 = 0$). The model is best suited for cases where the leader's statement induces a visceral response ($M_1 = 1$ implies $R_1 = 1$). The resulting "equilibrium of anger" reveals when the politician can and cannot use unjustified anger provocations to increase his power. As in Figure 4, the politician's ability to garner support from anger mongering is increased for issues on which personally damaging feedback is unlikely (distant and abstract issues or issues for which it is possible to be secretive). But as citizens can regulate their anger to match the situation, the leader's manipulative power decreases.

Alternatively, one can think of $R_1 = 1$ as the citizen supporting a politician's *inaction*. With this frame, the politician tries to scare citizens about the consequences of change that he opposes. This version of the game would clarify when citizens can be frightened into supporting a status quo even though they would want change if they knew what the politician knew. Since inaction itself is a policy choice, the model can clarify when the politician can use fear to get what he wants, whether he wants action or inaction.

Bianco's argument is important to make. Psychological and game-theoretic approaches are far more compatible than many naysayers allege. But, here, we reach a different conclusion about why this point matters. In his model, the introduction of psychological factors to the analysis does not change the theoretical conclusion. In our model, it does.

The difference stems from our differing approaches to modeling information processing. In Bianco's version of Fiske-Neuberg, the following assumption is paramount: "having formed an initial impression, the perceiver decides whether to gather more information" (1998, 1064). By contrast, our citizen is motivated to gather more information *only if* she receives feedback *($S_1 \neq R_1$)* that calls M_1 into question. To demonstrate the implication of this difference, note that our model and Bianco's are closest if we assume that the citizen always receives feedback and can act upon it freely (i.e., $t = 1, z = 1$). The models are most different if we assume that the citizen in our model receives no feedback (i.e., $t = 0$, $z = 0$). Plugging these values into the key interaction described above reveals an implication of our decision to model citizen attributes in ways that the five premises from the fear literature suggest.

> *Similarity-seeking Key Interaction*: $t = z = 1$. In period 1, the politician scares the citizen into supporting policies that she would otherwise reject if $s < .5$ and *either* $c_1 > k_P$ and "$c_2 \leq k_P$ or $x_2(1 - s) \leq k_V$" *or* $c_1 > k_P + (c_2 - (1 - s)k_P)$ and $c_2 > k_P$ and $x_2(1 - s) > k_V$.
>
> *Difference-seeking Key Interaction*: $t = z = 0$. In period 1, the politician scares the citizen into supporting policies that she would otherwise reject if $s < .5$ and $c_1 > k_P$.

In the similarity-seeking version, the politician must factor in the risks associated with being punished by a citizen who learns that her initial response led her to support a suboptimal policy, represented by $(c_2 - (1 - s)k_P)$ and $x_2(1-s)$. Here, the politician is quite constrained in his ability to manipulate through fear. In the difference-seeking version, by contrast, the only constraint the politician faces is due to k_P, the exogenous reputation factor. In other words, introducing feedback as a necessary condition for processing and allowing information processing to be ineffective drives a wedge between our findings and those of Bianco-Fiske-Neuberg.[13]

Bueno de Mesquita (2007) models an interaction between a politician, a terrorist, and a voter. The politician decides how many and what kind of resources (observable or clandestine) to devote to counterterrorism. Terrorists decide whether and how to attack citizens. Citizens decide whether or not to reelect the politician. Bueno de Mesquita finds that the government will allocate resources to observable antiterror policies in excess of the social optimum. The focal intuition is that as voters base their judgments on observable actions, politicians overspend on observable counterterrorism.

This work is an important advance in many respects. However, its conclusions depend on the following assumption: "[t]he voter chooses whether or not to reelect the government based on observing the division of the budget between observable and non-observable spending, the allocation of the observable spending, and the success or failure of the terrorist campaign" (Bueno de Mesquita 2007, 16). Voters know not only that the government engages in observable counterterror activities, but also how much it spends. They also know that the government spends a certain amount of money on nonobservable activities, some of which may include additional counterterrorism efforts and some of which may be devoted to rent-seeking behavior (i.e., corruption). The voters also have very precise information about how the government's preferences align with their own on all such matters. The only thing about which voters are uncertain is how much of the nonobservable spending is devoted to counterterrorism.

Bueno de Mesquita's conclusion depends not just on voters having this kind of information, but also on voters processing it in very rigorous ways, without the kinds of fear-based attributes seen in our model. The assumption that voters know so much and think so rigorously does not square well with ample evidence of citizen knowledge of the details of government programs. There is substantial evidence that most voters pay less attention to governmental phenomena that are far more accessible and understandable than the size of government budgets (see, e.g., Delli Carpini and Keeter 1996). To that end, we model citizens as if they use emotion-laden rules of thumb in their evaluations (Gigerenzer et al. 1999). This change in assumptions matters because

[13]We have been asked about how allowing the citizen to process more information with greater efficiency (i.e., Bayesian processing) would change our results. If we assume that the initial reaction has no subconscious component and that the citizen thinks extensively and efficiently about what the lack of a fear signal means, then the inhibitory stage described above is redundant, our model becomes a traditional cheap talk model with binary message categories (see, e.g., Lupia and McCubbins 1998), and k_P plays a more substantial role in determining whether a pooling ($M_1 = 1$, $S_1 = 0$) or separating ($M_1 = 0$, $S_1 = 0$) equilibrium occurs.

it affects the likely success of key policy recommendations, such as the following:

> for any given non-counterterrorism budget, voters should allow the government to increase the amount of rents it extracts . . . In so doing, the voters increase the value to the government of holding office, which decreases the government's incentive to act corruptly with respect to the counterterrorism budget. (Bueno de Mesquita 2007, 30)

Here, if voters want more security, they should allow more rent-seeking behavior (which can include various kinds of corruption). The logic being that as holding office becomes more valuable to politicians, they will work harder to prevent the terror attacks that cause voters to boot them out of office. But if voters could actually restructure government incentives in this way, what would be the government's best response? If officeholders like rents, they would have an incentive *to increase the demand for security even further*. Following the proposal's logic, voters would then allow even more rent seeking. One way in which politicians could try to induce such demands is through unwarranted fear appeals—a tactic that would prove particularly effective when voters receive limited feedback about the true state of the world and are limited by fear—or other factors—to punish such manipulation. Given that voters tend to lack such information, our model suggests that increasing rents to governmental actors need not yield greater accountability or better security.

Bueno de Mesquita later suggests that "one possible institutional response that could mitigate the agency problem while preserving secrecy is a non-partisan, non-elected monitoring body (such as the 9/11-commission in the U.S.)" (2007, 31). Our work suggests that such a body would face challenges. For example, if voters have limited knowledge and pay limited attention to politics, and if lack of feedback, fear-based factors, or other variables prevents them from reacting to information effectively, then opportunistic politicians or other interests would have an incentive to influence the body. To make this body more effective, it must be sufficiently credible to simultaneously offer truthful information to the public while altering the incentives of opportunistic politicians. Such attributes must be built into the design of information-providing institutions rather than assumed to follow from their existence (McNollgast 1987). Credibility assessments, in turn, come not from institutional designers but from the perceptions of the target audience. When attempting to minimize fear-based political manipulation through institutional design, it is important to understand what citizens know and whether fear or other emotions affect how they think.

Conclusion

Fear affects politics. Many political actors are strategic. Those who believe that these two statements are true should be open to the idea that strategic decisions influence how fear affects politics. They should also be open to the idea that attributes of citizens' fear can affect the practical and policy consequences of strategic calculations by politicians.

Our work offers a demonstration of how to integrate these factors into a research design that challenges claims about the ease with which politicians can scare citizens. In particular, we challenge the notion that politicians are unhindered in their ability to use fear to manipulate the public. If the psychology of the citizenry has certain attributes, then even very powerful leaders can have an incentive to stop and think about the wisdom of "crying wolf." This incentive will be strong when the politician believes that citizens are likely to receive contradictory feedback that motivates them to inhibit the fears on which he initially played.

When a citizenry's psychological profile makes it less motivated or able to adapt to fear appeals, politicians will have greater ability to use fear to get their way. One way to limit such occurrences is to consider the requirements for conscious processing of fear-related stimuli. To form a second, inhibitory connection the citizen must receive feedback demonstrating the ineffectiveness of the initial response. A principal means of generating such feedback is through institutional, market, or other societal mechanisms that alter informational economies in ways that increase the availability of feedback that will allow citizens to inhibit successfully. As this kind of feedback becomes more likely to emerge, our equilibrium suggests that politicians should have an incentive to seek other means for earning public support.

Our approach also clarifies whether and how recent claims about fear and politics will generalize across contexts. To see how, note that extant scholarship tends to focus on cases where an emotion has already been provoked (e.g., the effects of fear and anxiety in the months and years following the New York and Washington terror attacks of September 11, 2001). Collectively, such work documents emotional responses to political phenomena. But the selection criteria underlying such studies can

undermine the credibility of attempts to generalize these results to other situations.

When contemplating generalization of such work, it is important to account for the fact that researchers tend to ask about people and events *that they suspect have caused emotional reactions*. They tend not to ask about other topics. When such selection criteria are an integral part of the research design, we must be cautious when drawing general inferences about the political consequences of fear from such findings.

Issues vary in the extent to which citizens can overcome their fears (i.e., two issues can be associated with different informational and psychological characteristics—represented here as values of t, z, and k_V) and in the extent to which politicians have incentives to induce fearful reactions (represented here as c_1, c_2, and k_P). Therefore, two issues that are seemingly equivalent in terms of the danger they pose (e.g., domestic terrorism versus terrorism from abroad) can—if they differ with respect to the variables just listed—yield very different outcomes. Strong emotional responses to one of the two issues need not replicate if the second issue is one for which the fear-producing conditions described above are not met. Without accounting for the interplay of strategic and psychological factors, there is reason to be skeptical of broad claims about the applicability of specific empirical findings.

Experimental research can further improve the applicability of research on fear and politics. Since political leaders are not easily recruited as experimental participants, creativity is needed to evaluate focal implications of our model experimentally. A common design strategy for dealing with such problems is to train (and compensate) experimental subjects to play the roles of politician and citizen and then to give the former to stimulate the latter emotionally (i.e., a variant of the strategic persuasion experiments described in Lupia and McCubbins 1998). A complementary tack follows Mutz and Reeves's (2005) work on how variations in civility amongst political elites in televised interactions affects viewer attention and responsiveness. In their study, actors play the elite roles and their actions are scripted to suit the experimental design. While leader actions are not endogenous as is the case in our model, they may appear more realistic to subjects who are playing the role of citizens. If designs such as these can be coordinated, their collective impact can more effectively document citizen reactions and inhibitory mechanics in political contexts, which should yield a better understanding of which empirical and theoretical claims about the political impact of fear are relevant to particular situations.

Appendix

A Proof of the Proposition

We proceed by backward induction. In period 2, the politician has the only strategic move. The citizen's response is as defined in the text: determined by her baseline expectation s, if $F = 0$ or $M_2 = 0$, or her automatic response to a fear signal, if $M_2 = F = 1$. The politician's period 2 utility calculation depends on the value of S_2, F, and whether or not $s \geq .5$. Throughout the proof, s's relation to .5 matters because it determines whether or not the citizen will support the politician absent a fear signal.

If $s \geq .5$, the citizen supports the politician regardless of his actions. In period 2, this follows because $U_2(M_2 = S_2) = c_2 > U_2(M_2 \neq S_2) = c_2 - k_P$ and $k_P > 0$, by definition.

Now consider the case $F = 0$. Here, inhibition succeeded and the citizen ignores M_2. Hence, $U_2(M_2 = S_2) > U_2(M_2 \neq S_2) - k_P$. So, if $s \geq .5$ or $F = 0$, the politician's best response is $M_2 = S_2$.

In the remaining case, $F = 1$ and $s < .5$, the citizen's reaction depends on the politician's period 2 strategy. If $S_2 = 1$, then $U_2(M_2 = 1 \mid S_2 = 1) = c_2$, $U_2(M_2 = 0 \mid S_2 = 1) = -k_P$. Hence, the politician's best response is $M_2 = 1$. If $S_2 = 0$, then $U_2(M_2 = 1 \mid S_2 = 0) = c_2 - k_P$, $U_2(M_2 = 0 \mid S_2 = 0) = 0$. Here, the politician's best response is $M_2 = 1$ if the benefit of having the citizen's support, c_2, is greater than the cost of sounding a false fear alarm, k_P.

Now we move to the citizen's inhibition investment decision at the end of period 1. Here, the citizen knows that she is at the information set $S_1 = 0$, $M_1 = 1$, $T = S_1$. Hence, her expected utility calculation at this node depends on whether or not $s \geq .5$ or $c_2 \leq k_P$.

If $s \geq .5$, then she supports the politician regardless of his actions. If $c_2 \leq k_P$, then the politician does not gain utility by sending a false fear signal, so the citizen infers that $S_2 = M_2$. In neither case does her period 2 utility depend on whether or not she inhibits. Therefore, the citizen's best response is $I = 0$.

In the remaining case, $c_2 > k_P$ and $s < .5$, the politician will send a fear signal in period 2 regardless of whether or not it is warranted. Therefore, the citizen's expected utility in period 2 depends on her inhibition strategy. Here, $EV(I = 1) = [z(1 - s)x_2] + [(1 - z)sx_2] - k_V$ and $EV(I = 0) = sx_2$. Since $s < .5$, successful inhibition (which occurs with probability z) implies that she will not react fearfully in period 2, a reaction which she expects will provide her with payoff x_2 when the non-fearful state occurs (which she expects with probability $1 - s$). With probability

$1 - z$, inhibition does not work, in which case she knows that she will react fearfully to $M_2 = 1$ in period 2, which will provide her with payoff x_2 when the fearful state occurs. In this case, $EV(I = 1) > EV(I = 0) \Leftrightarrow zx_2(1 - 2s) > k_V$.

The game's first move belongs to the politician. Recall that the citizen's response to the politician's period 1 fear signal is automatic; the politician receives period 1 utility of c_1 just by sending such a signal. Beyond this, the politician's period 1 expected utility calculation depends on the true value of S_1 and whether or not $s \geq .5$ or $c_2 \leq k_P$.

We first examine the case $S_1 = 1$. Here, the citizen cannot receive feedback that the fear stimulus ($M_1 = 1$) was inconsistent with reality, so the inhibition investment node is not reached. In this case, the politician's period 1 expected utility calculation depends on whether or not $s \geq .5$ or $c_2 \leq k_P$.

If $s \geq .5$, the citizen supports the politician unconditionally in both periods. Hence, $EU(M_1 = 1 \mid S_1 = 1) = c_1 + c_2$ and $EU(M_1 = 0 \mid S_1 = 1) = c_1 + c_2 - k_P$. Since $k_P > 0$, the politician's best response is $M_1 = 1$.

If $s < .5$ and $c_2 \leq k_P$, then the politician will send a truthful fear signal in the second period and the citizen will support the politician in period 2 only if he sends a fear signal. Hence, $EU(M_1 = 1 \mid S_1 = 1) = c_1 + sc_2$ and $EU(M_1 = 0 \mid S_1 = 1) = sc_2 - k_P$. Since $c_1 > 0$ and $k_P > 0$, the politician's best response is $M_1 = 1$.

If $s < .5$ and $c_2 > k_P$, then the citizen will support the politician in period 2 only if he sends the fear signal. Since the benefits of so doing in period 2 will outweigh the costs even when fear is unwarranted, the politician will send the fear signal in period 2 regardless of S_2. Hence, $EU(M_1 = 1 \mid S_1 = 1) = c_1 + sc_2 + (1 - s)(c_2 - k_P)$ and $EU(M_1 = 0 \mid S_1 = 1) = sc_2 + (1 - s)(c_2 - k_P) - k_P$. Since $c_1 > 0$ and $k_P > 0$, the politician's best response is $M_1 = 1$.

We now turn to $S_1 = 0$. If $M_1 = 0$, then there is no fear signal, the citizen cannot receive feedback that the fear stimulus was inconsistent with reality, and the inhibition investment node is not reached. If $M_1 = 1$, not only must the politician pay cost k_P, but the sequence that can lead to inhibition can be reached. In this case, the politician's period 1 expected utility calculation depends on whether or not $s < .5$, $c_2 \leq k_P$, and the conditions for the citizen choosing to invest in inhibition are satisfied.

If $s \geq .5$, the citizen supports the politician unconditionally in both periods. Hence, $EU(M_1 = 1 \mid S_1 = 0) = c_1 + c_2 - k_P$ and $EU(M_1 = 0 \mid S_1 = 0) = c_1 + c_2$. Since $k_P > 0$, the politician's best response is $M_1 = 0$.

If $s < .5$ and $c_2 \leq k_P$, then the politician will send only a truthful fear signal in period 2, the citizen will have no reason to inhibit, and the citizen will support the politician in period 2 only if he sends a fear signal. Hence, $EU(M_1 = 1 \mid S_1 = 0) = c_1 - k_P + sc_2$, $EU(M_1 = 0 \mid S_1 = 0) = sc_2$, and the politician's best response is $M_1 = 1 \Leftrightarrow c_1 > k_P$.

If $s < .5$ and $c_2 > k_P$ and $zx_2(1 - 2s) \leq k_V$, then the citizen will not invest in inhibition and will support the politician in period 2 only if he sends the fear signal. Since the benefits of so doing in period 2 will outweigh the costs even when fear is unwarranted, the politician will send the fear signal in period 2 regardless of S_2. Hence, $EU(M_1 = 1 \mid S_1 = 0, s < .5, c_2 \leq k_P) = c_1 - k_P + sc_2 + (1 - s)(c_2 - k_P)$, $EU(M_1 = 0 \mid S_1 = 0) = sc_2 + (1 - s)(c_2 - k_P)$, and the politician's best response is $M_1 = 1 \Leftrightarrow c_1 > k_P$.

In the remaining case, $s < .5$ and $c_2 > k_P$ and $zx_2(1 - 2s) > k_V$, sending an unwarranted fear signal in period 1 can induce inhibition. If the politician sends no fear signal in period 1, then inhibition is not triggered and $EU(M_1 = 0 \mid S_1 = 0) = sc_2 + (1 - s)(c_2 - k_P)$, as above. Otherwise, the citizen receives feedback, learns that the fear signal was unwarranted, and invests in inhibition with probability t. With probability $1 - t$, she receives no feedback and $F = 1$. When she invests, inhibition succeeds with probability z and $M_2 = 1$ is treated like $M_2 = 0$. With probability $1 - z$, the attempt fails and she responds as if $F = 1$. Hence, $EU(M_1 = 1 \mid S_1 = 0) = c_1 - k_P + (1 - tz)(sc_2 + (1 - s)(c_2 - k_P))$, which compared to $EU(M_1 = 0 \mid S_1 = 0)$, yields the politician's best response being $M_1 = 1 \Leftrightarrow c_1 > k_P + tz(c_2 - (1 - s)k_P)$. QED

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