

# Foreign Policy Decision Making in Familiar and Unfamiliar Settings

## AN EXPERIMENTAL STUDY OF HIGH-RANKING MILITARY OFFICERS

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The concept of policy makers' familiarity with a decision task has received considerable attention in recent years in the literature on decision making by analogy, intuitive decision making, and dynamic versus static decision making. The effect of familiarity on the decision strategy change of high-ranking officers of the U.S. Air Force is tested to see whether and how familiar versus unfamiliar decision tasks affect decision strategy change during the decision-making process. Results support the noncompensatory principle of political decision making and poliheuristic theory: Leaders are sensitive to negative political advice, which is often noncompensatory. They first use dimensions to eliminate noncompensatory alternatives and then evaluate acceptable alternatives. This two-stage process is even more pronounced in unfamiliar decision settings with low or high levels of ambiguity—a situation that characterizes many foreign policy crises.

**Keywords:** *Decision making; experimental analysis; poliheuristic theory*

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**D**oes the familiarity or lack of familiarity of decision makers with a decision problem have an impact on foreign policy decision making? The concept of familiarity has received considerable attention in recent years in the literature on “decision making by analogy” (e.g., Khong 1992), the literature on “intuitive decision making” (Klein 2002), and the literature on “dynamic versus static decision making” (Mintz et al. 1997). In this study, I test the effect of familiarity on the decision process with actual national security decision makers.

Klein (2002, 272) pointed out that most critical decisions we make are based on intuition:

Although sometimes difficult to explain, intuition is important in making decisions and is based on the ability to recognize patterns and interpret cues, i.e., it develops through experience

and familiarity with the decision problem.

Khong (1992) found that American policy makers repeatedly have invoked the lessons of history when making decisions about military campaigns. Khong argued that leaders use analogies to perform specific cognitive and information-processing tasks essential to decision making. Familiarity with the decision problem based on previous experience is used as a decision aid in making decisions. Geva, Mintz, and Redd (2000) and Mintz et al. (1997) found familiarity to affect decision making when alternatives or dimensions are added to the choice set or dimension set in a dynamic way during a crisis.

By all accounts, the events on September 11, 2001, were new and unfamiliar to U.S. leaders and the public and caught the administration off guard. The Oklahoma bombing of 1995 was also viewed as a different type of domestic terrorism that stunned the nation. Threats in the area of CBRN (chemical, biological, radiological, and nuclear) are virtually unknown, and policy makers and the public at large are, for the most part, unfamiliar with decision problems associated with such threats. The blackout in the Northeast of the United States in summer 2003 was also an unfamiliar event for policy makers and the general public. In contrast, although the peace process between the Israelis and Palestinians is dynamic and rapidly changing, dealing with the Middle East peace process is not new to U.S. administrations that have historically pursued the familiar "land-for-peace" principle.

Regrettably, Israel has been subjected to frequent suicide attacks during the Palestinian uprising (the Intifada). Consequently, there is more or less a standard (familiar) operating procedure in Israel on how to deal with such events following each attack. However, unfamiliar threats and situations are also envisioned.

In this study, I test the effect of familiarity of the decision tasks on national security decisions made by top-ranking officers of the U.S. Air Force. Specifically, I examine whether unfamiliar decision tasks lead to more changes in strategies of decision during a decision process than familiar decision problems. I use a process tracing experimental methodology via the computerized Decision Board simulator to test the effect of familiarity on strategy selection. I do so in the context of the poliheuristic theory of decision (Mintz 1993, 2003, 2004; Mintz and Geva 1997; Mintz et al. 1997).

### **DOES FAMILIARITY WITH THE DECISION TASK AFFECT STRATEGY CHANGE IN FOREIGN POLICY?**

Poliheuristic theory (PH) suggests that policy makers switch from one decision strategy (i.e., dimension based) to another (i.e., alternative based) during the decision process. In other words, in reaching a decision, policy makers first focus on dimensions and then on alternatives. Does familiarity or lack of familiarity with a decision task affect decision strategy change in foreign policy?

Poliheuristic theory attempts to bridge between the rational choice school of decision making and the cognitive psychology school. A major proposition of poliheuristic theory is that decision makers use a variety of decision strategies in a two-stage process and that different decision strategies (heuristics) are employed at different stages of the decision process (Mintz 1993; Payne, Bettman, and Johnson 1993).

Mintz et al. (1997) posit that in the first stage of the poliheuristic decision process, the decision maker typically screens alternatives using a simplified heuristic-based search. In the second stage, the decision maker uses an analytic, alternative-based search on the narrowed choice set in an attempt to maximize gains and minimize costs.

Leaders are sensitive to negative political advice. One decision rule that they use in the first stage of the decision is "avoid major political loss." I test whether national security decision makers change strategies of decision during the decision process under familiar versus unfamiliar decision tasks and with ambiguous versus unambiguous information. I also test whether negative political advice is noncompensatory in familiar versus unfamiliar settings.

Poliheuristic theory has implications for the analysis of how foreign policy decision makers cope with unfamiliar choice situations versus how they deal with familiar choice situations. It is well documented that the selection of decision strategies is related to the cognitive demands imposed by the decision task (Maoz 1990, 1997; Russo and Doshier 1983). The heavier the demand on the decision maker, the more likely he or she is to employ simplifying heuristics such as avoid major political loss (Mintz et al. 1997). Unfamiliar decision problems naturally have heavier cognitive demand on decision makers than familiar decision tasks (Geva, Driggers, and Mintz 1997). Thus, a state leader who has to decide among policy options that are unfamiliar to him or her may use a different decision strategy than when faced with a familiar case. Consistent with poliheuristic theory, foreign policy decision makers use decision heuristics such as the avoid-major-loss, noncompensatory decision principle to simplify the decision task in the first stage of the decision process. One way that this is accomplished, as pointed out by Russo and Doshier (1983; see also Geva, Driggers, and Mintz 1997), is for the decision maker to use a more dimension-based analysis, which is cognitively less demanding and, therefore, aids in coping with the lack of familiarity of the decision maker with the decision task. Consequently, it is hypothesized that in unfamiliar decision situations, decision makers will resort to dimension-based processing in the first stage of the decision process and then switch to a search based on alternatives.

In contrast, in a familiar context, in which the decision maker can often rely on rules of decision making such as decision making by analogy or rely on his or her own experience and less on new information, he or she may be less likely to change decision strategy during the decision process. This is because the decision maker is already familiar with the decision task, the choices, and their implications. As the familiarity with the decision problem increases, the cognitive strain experienced by the decision maker decreases. Conversely, as the familiarity of the decision maker with the decision problem decreases, the cognitive demand on the decision maker increases (Geva, Driggers, and Mintz 1997). Faced with an unfamiliar situation, the decision maker may try to alleviate increasing cognitive strain through the use of simplifying heuristics in the first stage of the decision process.

Poliheuristic theory postulates that decision makers use a dimension-based strategy in the first stage of the decision process and an alternative-based strategy in the second stage of the decision process. The theory states that dimension-based heuristics simplify the decision process. It therefore implies, indirectly, that in unfamiliar

settings that characterize numerous foreign policy decisions, policy makers will tend to rely in the first stage of the decision process on dimension-based heuristics; that is, they will focus on the dimensions or attributes of the decision. Once the decision task becomes more manageable and simplified, the foreign policy decision maker switches to an alternative-based strategy. Although this pattern of decision making should also work in familiar settings, I hypothesize that it will be more pronounced in the unfamiliar, more cognitively demanding decision situation.

### HYPOTHESES

The following hypotheses are tested in this study, using a computerized process-tracing methodology and the Decision Board technology:

*Hypothesis 1:* Consistent with poliheuristic theory, decision makers use more than one decision strategy during the decision process. Specifically, they switch from dimension-based analysis in the first stage of the PH process to alternative-based calculations in the second stage of the process.

*Hypothesis 2:* The familiarity of decision makers with the decision task affects strategy change during the decision process. Specifically, the poliheuristic shift from a dimension-based strategy to an alternative-based strategy is more likely to occur in an unfamiliar situation than in a familiar setting.

*Hypothesis 3:* Consistent with poliheuristic theory, leaders are sensitive to negative political advice, which is often noncompensatory. This is more pronounced in familiar decision situations than in unfamiliar situations.

*Hypothesis 4:* There is an interaction effect between familiarity and ambiguity on choice.

To test these hypotheses, I use the Decision Board simulator and a decision process-tracing experimental methodology in a study of high-ranking officers of the U.S. Air Force.

### COMPUTERIZED DECISION PROCESS TRACING

There is a wide use of theoretical ideas from cognitive and social psychology in the study of foreign policy decision making. These ideas are not easily tested using historical case studies alone. George (1980) advocated the use of process tracing in the late 1970s. The methodology has not yet been rigorously used in the study of foreign policy decision making (but see Astorino-Courtois 2000; Mintz et al. 1997; Redd 2002). The main strength of the process-tracing methodology is its ability to identify specific decision rules and decision models used by decision makers and to test theoretically derived implications of situational and personal variables on the decision process and its outcome.

Ford et al. (1989) explain that process tracing directly identifies what information was accessed to form a judgment and the order in which the information was accessed. This information can then be used to make inferences about what decision strategies have been employed in arriving at a choice. According to Ford et al., the examination

of the decision maker's pattern of information search can "identify alternative models or strategies used in making a decision" (p. 77).

Three groups of scholars in political science use process-tracing techniques:

(1) Taber and Steenbergen (1995) focus on tracing the cognitive algebra in political decision making; (2) Riggle and Johnson (1996) employ protocol-tracing techniques to investigate age-related differences in strategies used to evaluate political candidates; (3) Lau and Redlawsk (1992) use information boards to trace compensatory and noncompensatory strategies of decision. (Mintz et al. 1997, 556)

### THE DECISION BOARD SIMULATOR

The core structure of the Decision Board platform, which is depicted in Table 1, is a matrix of alternatives and dimensions on which the alternatives are evaluated (see Mintz et al. 1997). The computerized board records key features of the decision-making process. These features are subsequently used to identify decision strategies of policy makers.<sup>1</sup> A major category of these features relates to the sequence in which the information is accessed by the decision maker. Version 4.0 of the Decision Board is available at [www.decisionboard.org/academic](http://www.decisionboard.org/academic).

A decision problem typically consists of the selection of an alternative from a set of available alternatives. The choice set is evaluated along single or, more typically, multiple dimensions. The "values" in the matrix represent the evaluation of a given alternative on a given dimension. These information bins can be opened to reveal their contents by the click of the mouse, whereas decisions are made by clicking on the choice box of a desired alternative (Mintz et al. 1997). The computerized Decision Board records (a) the sequence in which decision makers acquire the information, (b) the number of items that respondents view for every alternative along every dimension, and (c) the amount of time that elapses from the time respondents begin the task until they make their choice. Version 4.0 of the Decision Board also displays the "decision portraits" of decision makers and calculates holistic versus nonholistic search patterns and maximizing versus satisficing decision rules. Using the process-tracing technique, one can identify the strategy selection and decision model of leaders and other decision makers.

1. The Decision Board Simulator 4.0 has been used for research, teaching, and training:

*Research:* to test theories of decision making (expected utility, prospect theory, cybernetic theory, poliheuristic theory); to assess the effect of framing and affect on decision making; for modeling voting games and electoral campaigns; for process tracing of political and economic trends and events; to understand consumer behavior and choice.

*Teaching:* in courses in international relations, public policy and public administration, and management. The board has been used at 10 universities, including the University of Michigan; National Defense University; University of Canterbury, New Zealand; China Foreign Affairs University in Beijing, China; School of Management at Tel Aviv University, Israel; the University of Wisconsin–Milwaukee; U.S. Air Force Academy; Yale University; and the Program in Foreign Policy Decision Making and the George Bush School of Government and Policy, Texas A&M University.

*Training:* in emergency response decision making, bargaining, negotiation, mediation, and analysis of a variety of crisis situations.

TABLE 1  
The Decision Board Platform

<i>Dimension</i>	<i>Alternatives</i>			
	<i>Blockade</i>	<i>Sanctions</i>	<i>Use of Force</i>	<i>Do Nothing</i>
Political	Implications	Implications	Implications	Implications
Military	Implications	Implications	Implications	Implications
Economic	Implications	Implications	Implications	Implications
Diplomatic	Implications	Implications	Implications	Implications
Your choice:	_____	_____	_____	_____

Two foreign policy scenarios were used to introduce alternatives and dimensions into the decision board. One context (the “familiar scenario”) dealt with a military dispute that erupted between two small islands because of a rivalry over control of a large uranium field (see also Mintz et al. 1997). Subsequently, one nation invaded the other. The invasion also resulted in the invading country holding foreign citizens as hostages. In this scenario, the decision maker was presented with four alternatives:

- use of force,
- containment,
- sanctions, and
- isolationism (do nothing).

A second scenario (the “unfamiliar scenario”) dealt with the choice of a hypothetical site for a new naval base in the Pacific. The alternatives in this scenario consisted of four fictitious islands that were unknown to the officers: Alpha, Beta, Charlie, and Delta (see Mintz et al. 1997). Whereas the values used in both scenarios were identical, the statements that preceded the numerical values were modified to reflect the specific context of each case (Geva, Driggers, and Mintz 1997).

The dimensions that were employed in both scenarios represent decision criteria that were found to be relevant in other studies of foreign policy decisions in international relations (see James and Oneal 1991; Morgan and Bickers 1992; Ostrom and Job 1986). Hence, the dimensions included in the Decision Board were the following:

- political,
- economic,
- military, and
- diplomatic.

Following the definition of the four alternatives and four dimensions, the values were inserted in the decision matrix. These values consisted of a descriptive statement and a summarizing numeric value (on a scale from –10 to +10). For instance, the decision maker can speculate, on the basis of her or his stored beliefs (Taber and Steenbergen

1995), on the impact of the use of force on the political dimension. He or she may evaluate the use-of-force option in terms of public approval and decide that it is too costly (Mintz et al. 1997). Converting such an evaluation to a scale, the decision maker assigns a negative score,  $-10$  or  $-9$ , to this alternative on the political dimension. The values in the matrix can also stem, of course, from an external source to the decision maker. A credible source, such as the chief economic adviser, may tell the chief executive that “do nothing” can be very beneficial to the nation’s trade deficit, implying a high positive score (e.g., a score of 9) for this alternative on the economic dimension (Geva, Driggers, and Mintz 1997). Naturally, the extent of advisers’ influence on these scores may represent various factors associated with the decision maker’s expertise and susceptibility to influence (Redd 2002). Thus, as in Redd (2002) and Mintz et al. (1997), the alternatives and their values were introduced into the Decision Board as being provided by chief advisers to the decision maker: “the chairman of the Joint Chiefs of Staff,” “the secretary of state,” the “chief political adviser,” and the “chief economic adviser.” To introduce a certain measure of uncertainty and ambiguity to the decision problem, we also inserted ranges of values into the information bins (see below).

I expect decision makers to process information in a two-stage process as predicted by the theory. The extent of familiarity with the alternatives is expected to affect the policy maker’s dependence on the information in the decision board. The “unfamiliar scenario” is assumed to make the decision task cognitively more demanding. Consequently, I expect that respondents will access more information in the unfamiliar case and use more dimension-based processing in the first stage of the unfamiliar case than in the familiar situation.

## METHOD<sup>2</sup>

### SUBJECTS

Seventy-two high-ranking military officers from the U.S. Air Force Academy at Colorado Springs participated in this experiment. The respondents included 1 brigadier general, 3 colonels, 11 lieutenant colonels, and other officers. They are members of the command and instructional staff at the U.S. Air Force Academy. The Air Force commanders were randomly assigned to the different experimental conditions.<sup>3</sup>

### DESIGN

The basic structure of the experiment was a  $3 \times 2$  between-groups factorial design. The factors were (1) familiarity with the choice set (unfamiliar vs. familiar alternatives) and (2) ambiguity (no ambiguity, mid-level ambiguity, and high-level ambiguity). We also randomized the sequence of alternatives in the choice set (see below).

2. This section is based on Geva, Driggers, and Mintz (1997). Also see Mintz et al. (1997).

3. I thank Russell Driggers for administering the experiment at the U.S. Air Force Academy.



### DEPENDENT VARIABLES

The dependent variable in this study consisted of two process-tracing parameters of decision making: information search pattern and the choices respondents made. Previous studies of process tracing (e.g., Ford et al. 1989; Payne, Bettman, and Johnson 1993) depict two “pure” modes of information acquisition that are often used as a key dependent variable in studies using the process-tracing methodology (Mintz et al. 1997). The first pattern is known as the *alternative-based* strategy, whereby the decision maker reviews sequentially all items for a given alternative across different dimensions—and then continues the search process by reviewing information for another alternative across dimensions. The second strategy, *dimension based*, implies a process whereby the decision maker focuses on a given dimension and reviews all the alternatives along this dimension and repeats the process for another dimension. The moves were compared and measured in our study using the Billings and Scherer (1988) search index (see Mintz et al. 1997 for a similar operationalization). The index is used to quantify the search sequence. It ranges from  $-1$  (purely dimensional processing) to  $+1$  (purely alternative-based processing). Obviously, a change of sign in this process indicator represents a change in the decision strategy.

The scoring of the moves followed Billings and Scherer’s (1988, 10) definition:

Each move to a new piece of information which was within the same alternative and across dimensions was classified as an inter-dimensional move (alternative-based), while a move within a dimension and across alternatives was labeled as intra-dimensional (dimension-based). Moves to both a different alternative and a different dimension were labeled shifts. The search pattern variable is defined as the number of alternative-based moves minus the number of dimensional moves divided by the sum of these two numbers.

The index tallies the number of dimensional moves ( $d$ ), alternative moves ( $a$ ), and shifts ( $s$ ) (moves that are not alternative or dimension based) and uses the equation  $SI = (a - d)/(a + d)$  to define the search index. Positive numbers imply more alternative-based moves, and negative numbers imply dimensional moves. Shifts are disregarded from this index.

To identify the change in decision strategy, we compared the search pattern that the Air Force officers used for the first six items of information with the search pattern of the remaining items that respondents reviewed during the crisis. We chose six items as the cutoff point because this represents half of the mean number of items reviewed by the respondents. Our pretests consistently demonstrated this as well (see Mintz et al. 1997).

### MATERIAL

It is well documented that the cognitive demands imposed by the decision task affect strategy selection (Russo and Doshier 1983; Maoz 1997). Specifically, the heavier the cognitive load, the more likely it is that decision makers will use simplify-



ing heuristics. In this project, variations in cognitive demand were introduced by (a) manipulating the familiarity of decision makers with the decision task and (b) manipulating the level of ambiguity of information. We also controlled for the sequence of alternatives in the choice set.

*Manipulation of familiarity.* As pointed out above, two foreign policy scenarios were used. One dealt with a military dispute between two small islands. Previous experiments (see Mintz et al. 1997) demonstrated that such a scenario was *familiar* to the respondents; that is, they held a priori beliefs about what such alternatives entailed, and they had a priori preferences for certain alternatives (the preference-over-preference phenomenon). The second scenario—the unfamiliar case—consisted of four fictitious islands unfamiliar to the respondents and involved the choice of a site for a new naval base in the Pacific. The respondents analyzing this scenario were asked to choose among these islands. Our manipulation check showed that respondents in the unfamiliar scenario used considerably more information than in the familiar condition in the experiment. They accessed more decision cells (information) on the Decision Board, an indication that this scenario was less familiar to them (also see Mintz et al. 1997). In the unfamiliar scenario, decision makers had no a priori preferences for certain alternatives.

*Manipulation of ambiguity of information.* The second manipulation used in this study is for ambiguous information. *Ambiguity* is defined as a situation in which the outcome associated with each alternative in a choice set can only be represented as a *range* of possible outcomes. As reported in Geva, Driggers, and Mintz (1997), the numerical evaluations of the alternatives along the four dimensions were altered to reflect increasing levels of ambiguity. This was done by increasing the range of the numerical evaluations presented to the respondent. In the no-ambiguity condition, the evaluation of each alternative was represented by a single numerical evaluation. In the medium-ambiguity condition, the evaluations were presented as a range of 2 in the values. For example, the single numerical value of 5 was expressed as a value that is “somewhere between 4 and 6.” In the high-ambiguity condition, the range between the lowest rating and the highest number was 4. Under this condition, the sentence read, “I would rate this alternative somewhere between 3 and 7” (Geva, Driggers, and Mintz 1997). Moreover, the same ranges of values were kept constant across the two different scenarios in the experiment. Table 2 shows the values used in this experiment to evaluate the four alternatives along four dimensions.

*Manipulation of the sequence of alternatives.* To control for any bias introduced by the order in which the alternatives were presented, the design included four different sequences of the alternatives (A C B D, B D C A, C A D B, and D B A C).

Because many foreign policy and national security decisions are made under time and informational constraints, we introduced in this experiment a time constraint cued by occasional beeps by the computer. No other time limit was imposed on the respondents.

TABLE 2  
Values in the Decision Matrix

	<i>Alpha</i>	<i>Beta</i>	<i>Charlie</i>	<i>Delta</i>
Political	0	7	1	-8
Military	-7	0	6	5
Economic	2	-6	4	6
Foreign affairs	8	2	-8	2

NOTE: The numbers in the matrix correspond to the "no-ambiguity" condition. The values for mid-level ambiguity have a range of 2. The values for high-level ambiguity have a range of 4 (Geva, Driggers, and Mintz 1997).

### PROCEDURE

The experiment was administered at the computer labs of the U.S. Air Force Academy, where each respondent was able to operate individually on a computer. The instructions and decision scenarios were displayed on the computer screen. The instructions to the officers were straightforward. The officers were told that they would be exposed to a specific international scenario and were then presented with a decision matrix that contained action alternatives relevant to the decision and their consequences on different dimensions. The instructions to the decision makers also mentioned that the "quality of decision you make in the context of the simulation will suggest your ability to comprehend national-level decision making." Previous studies (e.g., Mintz et al. 1997) indicate that portraying a decision task in these terms increases the motivation of the respondents to perform the task seriously, without contaminating or confounding the salience of a particular decisional dimension.

Prior to performing the foreign policy decision, a simple practice session was administered to familiarize the officers with the Decision Board simulator. When a decision was made, a postdecision questionnaire was administered, followed by a debriefing (see also Geva, Mintz, and Redd 2000; Mintz et al. 1997).

### RESULTS

The experiment revealed that the Air Force commanders used significantly more dimension-based processing in the unfamiliar condition than in the familiar condition, as demonstrated by the strong effect of familiarity on the search index,  $F(1, 66) = 4.103$  ( $p < .03$ ). Specifically, when the decision task was unfamiliar to the officers, they tended to use more dimensional search ( $M = -.293$ ) than under conditions of familiarity ( $M = .130$ ). In attempting to deal with increased complexity, leaders apparently employ the simplifying heuristic of dimension-based processing. Unfamiliarity as a stressor showed a more heuristic-driven decision process than familiarity.

The results also show support for the two-stage poliheuristic decision process. As in previous studies, changes in strategy were identified by comparing the search pat-

tern (search index) for the first items of information reviewed (stage 1) with the search pattern of the remaining items of information (stage 2). The results of this test show that there is a statistically significant difference,  $F(1, 66) = 7.508$  ( $p < .01$ ), between the stage 1 search index ( $M = -.254$ ) and the stage 2 search index ( $M = -.038$ ), suggesting a decrease in dimension-based processing between the stages (Geva, Driggers, and Mintz 1997). This pattern supports hypothesis 1 and a key tenet of poliheuristic theory, that is, a two-stage foreign policy decision process. In other words, in making decisions, policy makers first use dimensions to simplify the complex decision problem while eliminating unacceptable alternatives and then evaluate the remaining alternatives.

The proportion of subjects who changed from a dimension-based to an alternative-based strategy when the decision task is unfamiliar and the information is ambiguous also supports this hypothesis, except for the mid-level of ambiguity. Specifically, 50% and 58% of the respondents in the unfamiliar condition switched strategies in the predicted direction under high and low levels of ambiguity, respectively, whereas only 25% and 33% of the subjects in the familiar setting switched strategies in low and high levels of ambiguity, respectively (50% of the subjects switched strategies in the mid-level of ambiguity in the familiar condition). The results thus show stronger evidence for a poliheuristic processing in the unfamiliar condition, at low and high levels of ambiguity, than in familiar situations. The ANOVA test showed, however, that neither ambiguity nor familiarity alone had significant effects on changes in decision strategy (Geva, Driggers, and Mintz 1997). Therefore, hypothesis 2 is only partially supported.

When one examines the specific search index (SI) scores at each processing phase, it is evident that when significant strategy changes occur, they consistently reflect a shift from a dimension-based to an alternative-based search. This is consistent with the theory. In the unfamiliar choice set, the changes in the high and low levels of ambiguity reflected the same pattern—less dimension-based processing in the second phase of information acquisition. Specifically, in the high-ambiguity condition, the SI score goes from  $M = -.164$  (dimension-based search) to  $M = .218$  (alternative-based search). In the familiar choice set, where most of the strategy changes are associated with the medium level of ambiguity, decision makers also increased alternative-based processing at the second phase ( $M = .224$ ) compared with the first phase ( $M = -.043$ ). This result lends support to poliheuristic theory.

The results strongly support the noncompensatory principle of political decision making (hypothesis 3), especially in the familiar condition: Faced with negative information (a score of  $-8$  on a scale ranging from  $-10$  [*very bad*] to  $+10$  [*very good*] about the political consequences of selecting the “correct” alternative), two thirds of the officers did *not* select the “correct” alternative, even though this alternative had the highest overall score among all alternatives (see Table 2). When given a negative evaluation on the political implications of the alternative with the highest overall score, three fourths of the officers in the familiar scenario and almost 6 in 10 officers in the unfamiliar condition did not select this alternative.

In the unfamiliar condition, when the information about the negative political consequences of the alternative was unambiguous and clear, as many as 83.33% of the officers rejected the “correct” alternative, despite the fact that it yielded the highest

overall score. However, as the information presented became vague (in the mid-level and high level of ambiguity), there was naturally less evidence for the elimination of the “correct” alternative based on negative political advice. In addition, the ANOVA yielded a significant interaction effect of familiarity and ambiguity on choice,  $F(2, 66) = 2.584$  ( $p < .05$ ), supporting hypothesis 4 of this study.

The results thus showed strong evidence for a shift from a dimension-based search in the first phase of the decision to an alternative-based analysis in the second phase in the unfamiliar condition with low or high ambiguity, as well as a noncompensatory elimination process when decision makers are given negative political advice about the political consequences of a particular alternative.

## CONCLUSION

The familiarity or lack of familiarity of policy makers with the decision desk is a key concept underlying many studies of foreign policy decision making. It has relevance to the literature on (a) decision making by analogy, (b) intuitive decision making, (c) problem representation, and (d) dynamic versus static decision making, to name a few. This study tested, using Air Force commanders and the Decision Board simulator, the effect of familiarity on strategy *change* during a decision-making process—a key proposition of poliheuristic theory.

The results provide strong support for poliheuristic theory. Specifically, it was found that decision makers change decision strategy in the course of the decision task, as predicted by the theory (Mintz 1993, 2003, 2004; Mintz et al. 1997). Unfamiliar decision problems with ambiguous information about the decision’s consequences also have a significant impact on a two-stage poliheuristic process, although familiarity and ambiguity alone did not affect strategy change during the decision process. It is still a two-stage process.

The results also support the noncompensatory principle of poliheuristic theory: Negative political advice led the officers to eliminate the “correct” alternative, due to the noncompensatory, avoid-major-political-loss principle. Leaders might be sensitive to negative political information even more than to bureaucratic/organizational advice (see Christensen and Redd 2004). In unfamiliar situations, this is especially evident when the political advice that is given is clear and unambiguous.

Ford et al. (1989) have noted that the selection of a particular strategy affects the ultimate choice. Ford et al. showed that choices made while processing information by alternatives are often very different from choices made while relying on dimensions. Herek, Janis, and Huth (1987) have also found significant correlations between the decision process and the decision outcome. Ford et al. found that alternative-based strategies produce outcomes that led to better consequences, whereas the use of simplifying heuristics often led to suboptimal outcomes (also see Maoz 1990).

The literature on decision making by analogy relies heavily on the assumption that decision makers operate differently under familiar (analogous) conditions than under unfamiliar historical conditions (Khong 1992). The finding that familiarity or lack of familiarity of the decision makers with the decision task influences strategy change by

decision makers during the decision process highlights the relevancy of analogous decision situations, not only to the choices made by policy makers but also to the decision *process* in foreign policy decision making.

The literature on intuitive decision making also relies heavily on the familiarity of decision makers with the decision task. Firefighters, U.S. Marines, and chess players make decisions not by evaluating all alternatives on all dimensions but by using intuition—their experience and analogous situations that are familiar to them. Our findings on strategy change in familiar versus unfamiliar settings are also relevant to understanding intuitive decision making, which inherently relies on experience and familiarity with the decision problem.

The findings are also relevant to the literature on problem representation. It is obviously easier to “frame” an unfamiliar decision problem or threat to the public than a familiar one. It will be interesting to study whether unfamiliar situations are framed differently than familiar ones.

The literature on dynamic and static decision making tests whether and how policy makers make decisions when new information (e.g., a new alternative, new dimension, or both) is received. The initial level of familiarity of policy makers with the decision problem mediates this process (see Geva, Mintz, and Redd 2000; Mintz et al. 1997).

The implications of our findings for poliheuristic theory are significant: Using high-ranking commanders of the U.S. Air Force, we showed that even national security decision makers reject promising alternatives when they are presented with negative political advice on the consequences of such alternatives. Consistent with theory, they also switch from a dimension-based analysis to an alternative-based processing in a two-stage process. This is especially pronounced in unfamiliar and ambiguous settings, which characterize many foreign policy crises.

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