chapter twelve

ALTERNATIVE MODELS OF INTERNATIONAL CRISIS BEHAVIOR*

Charles F. Hermann and Linda P. Brady

The Editor's Introduction to Chapter 2 reproduced a brief segment of the exchange that occurred at the Princeton Symposium on International Crises over whether the concept of crisis participated in any theories relevant to the social and behavioral sciences. In this concluding chapter we take a somewhat different approach to the important issue of the theoretical relevance of crisis. Rather than examine existing theories to determine if they can be extended to include crisis, we have attempted to develop models dealing specifically with behavior in crisis.[1] The assumption is that such interrelated generalizations about the patterns of crisis activity—if confirmed—improve our ability to discover relationships between crisis and other areas of theoretical interest to students of human behavior.

As a basis for model building, we have abstracted 311 propositions concerning crisis from the ten research efforts in Chapters 2–11. The entire collection of propositions appears in an Appendix to this chapter. For the most part, the authors advanced these hypotheses as discrete relationships rather than as components of some larger theoretical network. Furthermore, most of their hypotheses are bivariate, stating the relationship between only two variables. From these studies we attempt to construct chains of propositions that can be associated with some broader or meta-hypotheses which characterize one of several alternative perspectives on crisis behavior.

In some cases the original authors formed explicit hypotheses; in others we have recast into propositional form relationships between variables that we found in the author's research. Particularly in the latter cases, we may have interpreted the contributors in ways they did not intend. Therefore, it is important to acknowledge at the outset that although the propositional inventory draws exclusively from the contributions to this volume we are responsible for the specific construction and interpretation of the propositions. (To help the reader make his own evaluation, the Appendix provides the page from which each proposition was abstracted.)

If one examines the 311 propositions as we have stated them in the

* An earlier version of this chapter was prepared by the first author for a conference, "Political Theory and Social Education," at Michigan State University under a grant directed by Cleo H. Cherryholmes from the U.S. Office of Education, OEG-0-70-2028(725). The second author, Linda P. Brady, is a graduate student at the Ohio State University. In addition to contributing to the revision of the earlier paper, she abstracted the propositions upon which this chapter is based.

1. As used throughout this chapter, the term *model* refers to a set of interrelated and empirically testable propositions or hypotheses. By *interrelated* we mean that the dependent variable of one proposition serves as an independent or intervening variable for some other proposition.

Appendix, one encounters a number of apparent contradictions about crises. For example, one author claims that the response of a party in a crisis is a function of the amount and intensity of hostility he perceives in the communications directed at him. Another holds that the response is a function of his ability to cope with stress. In one study the author concludes that crises reduce the predictability of opponents, whereas another suggests that a party's behavior in a crisis can be reliably determined from the nature of the stimuli. Some propositions claim that more alternatives will be considered in a crisis whereas others advance the exact opposite. Some relationships indicate that organizational effectiveness will increase in a crisis, whereas others contend that the organization may manifest symptoms of extreme disorder. Another contradiction critical for the study of international politics concerns the opposing relationships postulated between crisis and war. At least one author suggests that crises have increasingly become surrogates for war; others suggest that crises increase the probability of war.

How are we to account for these apparent contradictions? Various competing explanations warrant examination. For one thing it is by no means certain that the same variable mentioned in two different studies is conceptualized in identical fashion, and even when the conceptualizations are the same the operationalizations can differ. With no term is this point clearer than with the basic term of crisis. In general, the authors of the ten studies employ one of two different definitions of crisis. On the one hand, crises are conflict situations between two or more parties in which the likelihood of war, or the level of violent interaction, abruptly increases. On the other hand, crises are defined as situations characterized by high threat to major national values, short time for decision, and surprise to the policy makers. When one selects actual situations in international politics that are consistent with each alternative definition, a considerable number of the same events appear in both groups. Nevertheless, the differences in definition may account for some contradictory hypotheses. This same definitional difference could apply to other variables as well.

Another explanation assumes that one of the competing hypotheses is actually false and can be disconfirmed. Using empirical data for final selection between competing hypotheses found in this volume would be premature because the type of evidence presented in these ten studies varies widely. In some instances the author advances the proposition as the product of his intuition and general understanding of crises. In other words, we have the act of hypothesis creation, but no evidence. Some propositions are illustrated with one or two case studies. Support for other hypotheses comes from such diverse sources as systematic interviews or questionnaires with crisis participants, various observer-based measures such as events data or content analysis, or the operation of simulations and games. To summarize, the hypotheses differ sharply in the nature and degree of investigation that has been performed to determine their validity. These variations could account for apparent contradictions.

An alternative explanation supposes that competing hypotheses can be true under certain circumstances and that the task is to identify these conditions or intervening variables that have not been made explicit in the original formulations. For example, what may hold in an international system such as existed in the summer of 1914 may not be valid in a system of nuclear powers. As another illustration, consider the possibility that within the situations identified by one of the definitions of crisis mentioned above, there exist other critical properties each with different consequences. Variables such as geographical distance or relative capability might consistently differentiate crises. As a result, instead of one type of crisis, we have a "family" of crises.

Considerations such as these serve as mine fields that are likely to explode beneath those who uncritically accept propositions that have been abstracted (perhaps one should say "yanked") from unknown and often quite different contexts. The growing number of propositional inventories—as valuable a resource as they are—can be badly misused unless one is aware of more than the simple assertion of the relationship between two or more variables.

The authors of this chapter have attempted to maintain a sensitivity to these various sources of explanation that might account for the competing hypotheses about crisis. The thrust of our work, however, rests on the assumption that different students of crisis make reference to alternative models of crisis. A substantial number of the discrete propositions can be associated with (if not specifically derived from) one or another of these theoretical perspectives. The four models considered in this chapter can be described as (1) individual stress, (2) organizational response, (3) hostile interaction, and (4) cost calculation. After examining the models and the individual hypotheses associated with each one, we will be able to address more general questions about the differences between the models.

INDIVIDUAL STRESS MODEL

Like the other three models, the one based on individual stress can be stated in terms of several assumptions and propositions—many of which have received empirical support in studies of crisis. The basic statements for the individual stress model are as follows:

1. *Assumption.* International crises involve a threat to one or more major national goals of the nation experiencing the crisis.
2. *Proposition.* Individual national policy makers tend to internalize national goals and to treat them as personal objectives toward which they are motivated.
3. *Proposition.* Threat to personal objectives increases stress within that individual.
4. *Proposition.* Therefore, national policy makers experience stress in international crises.

By *national policy makers* we mean those individuals who have de facto or de jure authority to structure, select, and execute the policies of the nation. International crises can threaten harm to any national goal, but almost always include goals associated with the nation's foreign policy or national security. This consideration has implications for the particular subset of policy makers most affected by the crisis.

5. *Proposition.* The national policy makers likely to experience the most stress in an international crisis are those charged with the conduct of the nation's foreign affairs.

Stress is defined as the activation of the individual's coping mechanisms including the capability for "reality" appraisal and evaluation (perception,

memory, learning, and calculation).[2] As previously noted, two primary definitions of *crisis* appear in the basic studies upon which this work is based. Threat to national goals is a component in each. In one definition the threat is specified as an increase in the risk of war which is normally a danger to the basic goal of the nation's continued existence. The other definition does not specify the goal, but requires that it be of major significance for the government. Thus the relationship between crisis and stress should occur with either definition.

Both definitions of crisis support the following further specification of the relationship between crisis and individual stress.

6. *Proposition.* International crises increase the probability of disruptive stress.

Disruptive stress refers to the defective operation of a person's coping mechanisms—such as misperception or rigidity in cognitive processing. Not all stress stimuli produce defective coping—in fact, the degree of stress and the nature of the individual experiencing it appear to be important determinants. In general, evidence suggests that the relationship between stress and various indicators of performance conforms to an inverse "U-shaped" curve.[3] Threats that create only mild stress result in improved performance. Increases in threat produce increases in performance (but in gradually decreasing increments) up to some point beyond which performance begins to decline. Beyond that threshold we can refer to stress as disruptive. As might be expected, the kind of performance or task involved makes a difference in the point at which the threshold is reached. The threshold point also varies considerably with individual differences; that is, some people can experience much more threat to their goals than can other individuals before the defective operation of their coping mechanisms begins to depreciate their performance.

Why are international crises likely to produce defective coping mechanisms in the policy makers experiencing them? The specific answer depends on the selected definition of crisis, but with both conceptualizations the effect is the same—to create threat of such magnitude and problems of such complexity that they almost always exceed the critical threshold of most individuals. When a crisis is viewed as a sudden increase in the risk of war, the threat by itself will be enough to surpass the beneficial side of the stress curve. When crisis is defined in terms of threat, time, and surprise, the latter two components serve to compound or intensify the threat to any of a number of basic values. "Temporal nearness of the confrontation with harm increases the threat."[4] Similarly, situations that occur as a complete surprise contain more threat than those for which some anticipation has led to planning and preparation.

Some of the propositions in the ten crisis studies deal specifically with elements of the individual stress model as we have described it. In his interviews with State Department officers, Lentner found that in crisis they did not distinguish between threats to the nation, their bureaucratic organization, and themselves (67).[5] This finding suggests the internalization of national and organizational goals. The State Department officers also reported that they experienced stress and anxiety in times of crisis (82). A comparative study of the 1950 Korean crisis and the 1962 Cuban crisis led Paige to advance several hypotheses about the confounding or multiple effects of international crises (40, 42) and the increases in threat that result when national values of the highest priority are threatened (41). From his knowledge of the psychological literature, Milburn includes several hypotheses about the curvilinear relationship between stressand performance (262, 263, 264) and about the differences that task complexity (265) and personality (266, 267) make in determining disruptive stress.

In addition to hypotheses relevant to the basic relationship between international crises and disruptive stress, the selected studies of crises contain propositions detailing the defective nature of coping mechanisms. Disruptive stress reduces the number of cues or bits of information of which one is aware and induces a rigidity in perception (271, 294). Such stress also increases rigidity in cognitive processes and reduces one's ability to engage in complex learning (268, 269). Two studies report that the individual's time perspective collapses under stress so that he becomes almost exclusively concerned with what happens in the present or very immediate future (47, 296). Consequences of defective coping not mentioned in this volume could be described, but those included provide sufficient basis for other hypotheses about the effects of stress on behavior.

In his hypothesis the author of one of our studies may simply report a direct relationship between crisis (or stress) and some observed behavior. Although we will cite the more general hypothesis, the particular defective coping mechanisms triggered by the crisis suggest more specific reasons for the behavior. For example, Paige notes that in an international crisis less attention is paid to the domestic political consequences of any intended action (18). This neglect can now be interpreted as a result of collapsed time perspectives. After the public learns of actions taken in a crisis, it usually takes some time for politically relevant groups to make the prior crisis behavior a political issue that could affect the public life of the policy maker. The stress theory suggests that policy makers are unlikely to have futuristic orientations during a crisis that would make them sensitive to such long range political considerations.

Now consider some other reported crisis behaviors that can be understood as consequences of disruptive stress. The threat that is an integral part of any crisis may be sufficient to lead policy makers to a restructuring of their priorities in terms of tasks and objectives to be given first consideration (259). The reduction in the policy maker's time frame which we already mentioned as an effect of disruptive stress also tends to reorganize an individual's priorities.

Several studies indicate that policy makers recognize fewer alternatives in a crisis than they do in a noncrisis, or that they perceive that their side has relatively fewer options available to it than do their opponents (49, 50, 51, 298). A reduction in alternatives can be explained in terms of rigidity in cognitive processes and the inability to engage in the complex learning tasks required to create additional options. Cognitive rigidity also might account for the

2. The definition of stress used in this chapter has been strongly influenced by Margaret G. Hermann, "Testing a Model of Psychological Stress," *Journal of Personality*, 34, no. 3 (September 1966), 381–396; and Richard S. Lazarus, *Psychological Stress and the Coping Process* (New York: McGraw-Hill, 1966).

3. The nature of the relationship between stress and performance has been established in a number of diverse studies. For example, see C. N. Cofer and M. H. Appley, *Motivation: Theory and Research* (New York: Wiley, 1964).

4. Lazarus, *Psychological Stress and Coping Process*, p. 119.

5. Numbers in parentheses in the text refer to one of the numbered propositions in the Appendix.

return to simpler forms of behavior which Milburn reported (270) and the tendency to see any outcome of the crisis in terms of absolute victory or defeat (299). With stereotyped communications and increased difficulties with complex cognitive tasks, it can be expected that tacit bargaining will be difficult for policy makers in an international crisis to comprehend (300). Tacit communication by its very nature involves a degree of ambiguity and uncertainty. Detecting such signaling under conditions of reduced cognitive processing would certainly reduce the probability of their successful use. Finally, the restriction on cues and the limitations on cognitive processing can be expected to result in the increased tendency to make inadequate analogies to past situations (15) and to repeat actions taken in prior situations that were regarded as successful (272, 273). The difficulty in being innovative and creative in the construction of new alternatives tailored to the present crisis has already been noted. Moreover, the inability to identify aspects of the existing situation that would differentiate it from prior occurrences increases the tendency to believe that old successful actions will work again.

Figure 1 summarizes the relationships described in the individual stress model of crisis behavior. The general implication of this perspective on crises is clear. If the threat present in the international crisis is sufficiently severe, the policy makers' normal abilities necessary to handle the situation will be impaired —perhaps critically.

ORGANIZATIONAL RESPONSE MODEL

Another theoretical perspective on crisis behavior rests not upon the effects of such situations on individuals but, rather, on the changes the situations bring in the organizations that conduct the nation's foreign affairs. At its core this model contains statements about the number and location of the policy makers who will cope with the crisis.

1. *Proposition.* Participation in the decisions regarding the treatment of an international crisis is limited to a small group of individuals.

2. *Assumption.* Individuals charged with the formation and conduct of foreign policy in contemporary nations are embedded in large, hierarchically structured organizations.

3. *Proposition.* The more important to the nation a foreign policy problem is perceived to be by those in the government who detect it, the higher in the organizational hierarchies will be the individuals who consider the problem.

4. *Assumption.* International crises are defined by those in foreign policy organizations as extremely important problems.

5. *Proposition.* Therefore, in an international crisis, participation in the decision as to the treatment of the situation will primarily be limited to a small group of individuals from the highest levels of the government's foreign policy organizations.

In brief, the organizational response model holds that crisis decisions are concentrated in the hands of a small number of the government's foreign policy leaders. Thus crisis decision making can be contrasted with "normal" decision making in which a much larger number of individuals at various levels throughout the foreign policy bureaucracies become involved. Notice that the statements do not assert that all of the highest level foreign policy makers will be involved. The head of state will most likely select persons who enjoy his personal trust,

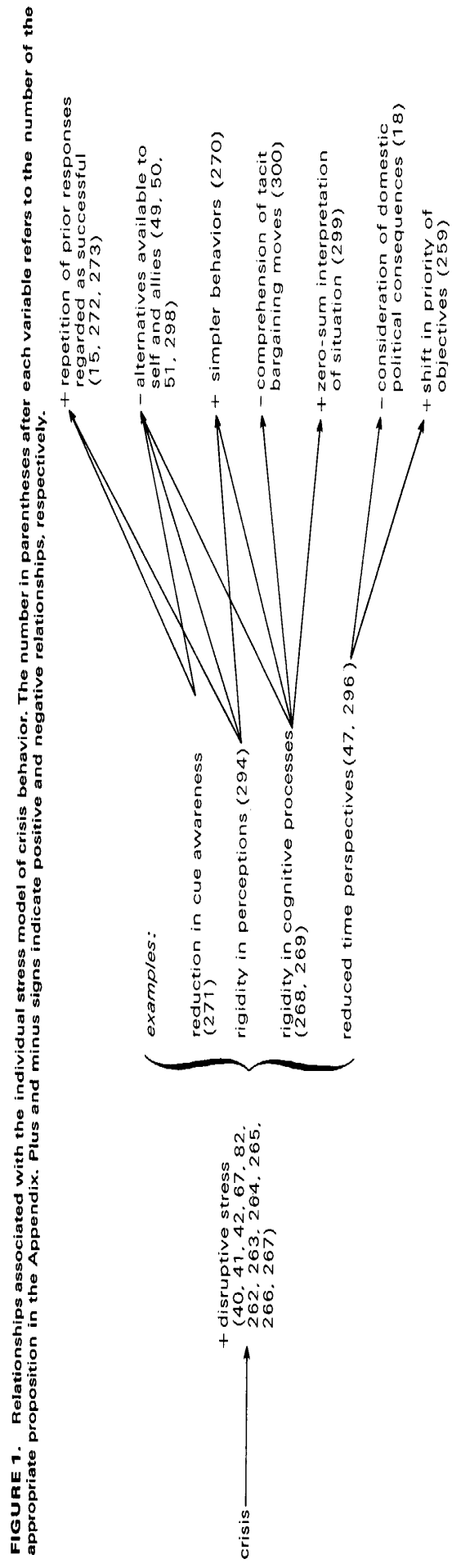

FIGURE 1. Relationships associated with the individual stress model of crisis behavior. The number in parentheses after each variable refers to the number of the appropriate proposition in the Appendix. Plus and minus signs indicate positive and negative relationships, respectively.

whose judgment he respects, and whom he feels have special knowledge of the substance of the issue. He may also include one or more individuals strictly on the basis of his appreciation of their advice even though they presently hold no high position in any foreign policy bureaucracies. This personal selection of participants often makes the decision units ad hoc rather than a permanent and formally constituted organ of government. The occasional inclusion of trusted persons from outside the foreign policy bureacracies explains the qualification in point five that the decision unit consists *primarily* of high-level foreign policy office-holders. Therefore, the following additional statement appears appropriate:

6. *Proposition.* High-level office-holders in governmental foreign policy organizations are more likely to be included in the crisis policy-making group if they enjoy the strong personal confidence of the head of state; individuals who do not hold high-level office in one of the governmental foreign policy organizations will not be included unless the head of state has extremely high personal confidence in them.

Several important definitional problems in these six statements demand attention. The concept of a *small group* figures prominently in this model. Although an appropriate definition cannot be established by specifying a precise maximum number of individuals, limits on group size can be indicated in terms of functions to be performed. The group must be small enough to permit face-to-face interactions in which each participant will have an adequate opportunity to express his views without elaborate, formalized procedural rules. Some crude indicators might be that the group be able to gather around an available table and that the members share a sense of "intimacy" so that if each is not familiar with all the others at the outset of their deliberations, he can become so in a very brief time.

As always, the dual definitions of crisis in the studies must be considered. Are the six organizational response statements appropriate characterizations of crisis activity regardless of which way crisis is defined? It seems reasonable to assume that the events classified as crises by either definition will be perceived as extremely important problems by members of foreign policy organizations and, therefore, will be referred to the highest level decision makers. When crises are defined in terms of threat, time, and surprise, the short decision-time dimension serves to keep limited the number of participants in the decision process. Time is insufficient for widespread discussion throughout the government. Similarly in the other definition of crisis, a relatively brief period may elapse between the initiation of events that sharply increase the perceived likelihood of war and the occurrence either of conflict or the psychological dissipation of the threat. Besides physical time limitations, other factors act to keep the group small. When major goals are threatened, policy makers often feel a need for secrecy during the deliberative stage which can best be achieved by limiting the number of individuals involved. The high stakes associated with major threats generate a concern for careful coordination and surveillance of actions taken during the crisis. Policy makers often feel they can best perform these tasks if direction stems from and feedback returns to a small, coherent group. Thus there is reason to expect either definition of crisis will identify situations that activate the basic triggering features described in the organizational response model.

The proposition that decision making in crises is conducted by a small group of the highest authorities received support from a number of the ten basic studies. Evidence supports both the small size of the decision unit (10, 84, 133, 135, 280) and its limitation to the highest level officials (9, 14, 74, 279). Of even greater interest is the large number of hypotheses in the studies that appear to follow directly or indirectly from this characterization of the decisional unit.

The magnitude of the crisis problem and the limited number of individuals participating in its management forces the policy makers to put aside most of the other matters that would normally come to their attention (6, 39, 71). (Incidentally, this deferral of other issues may lead to subsequent crises because matters of grave importance fail to receive the proper attention at the critical moment.) The near total commitment of the highest authorities to coping with the crisis means that they will demand more information from the governmental information network (13), and spend a considerable proportion of the time searching for alternative methods of treating the crisis (4). Here we have a potential conflict with the individual stress model of crisis which would imply less search because of defective cognitive processes. It is interesting to note that several hypotheses that contended search would be less in crisis were not confirmed (81, 138).[6] Without relinquishing any of the decision-making authority, these search procedures of high-level officials may generate extensive demands for information inputs from subordinates in their bureaucracies (11). As a result of these inquiries and—at a later stage—the instructions for action, the total volume of internal communication within the government increases (149, 150, 152, 259, 286). But, because the decision unit is small with physical limitations on the number of communication channels in which each individual can participate, the number of communication channels is less in crisis than noncrisis (286). The individual stress model suggests that psychological reasons as well as physical limitations minimize the number of channels used by the policy makers. If the number of channels becomes too restricted, the probability of distortion in the information increases because of the imperfect fidelity that exists in any channel (285). The heavy communication traffic and restricted number of communication channels result in a severe strain on the communication system that can be referred to as communication overload (53).[7]

Because most of the participants in the decision unit are high-ranking

6. It may be that stress reduces the effectiveness of search procedures, rather than the amount of effort devoted to it. There may be more search for information or alternatives, but less discovery of new inputs. Alternatively, if high-level officials devote their time and effort exclusively to the crisis, they may actually generate *more* alternatives than are obtained for noncrisis. The stress, however, may appear in the efficiency of this effort. In other words, it may take more time and energy to obtain a given number of options than would be required under less stress. The fewer number of alternatives in noncrisis (compared to crisis) may result from the absence of a strong incentive to search for them. Crisis provides the motivation for identifying the alternatives, but at the same time the stress that accompanies a crisis makes the acquisition more difficult and costly.

7. In the research for Chap. 6, Lentner asked officers in the State Department if information in a crisis was either overwhelming or inadequate. The officers did not associate an acute crisis with either of those characteristics (85, 86). His finding, however, is not surprising because his respondents did not include officials at sufficiently high levels of the organization to be likely candidates for inclusion in the crisis decision-making group. Therefore, they would be less likely to experience the information channel overload.

officials in the government's foreign policy organizations, they have the authority to bypass established procedures, authorize innovations in operations, and otherwise establish new and innovative procedures that seem appropriate in the immediate crisis situation (9). This ability to innovate and get things done fast as well as the almost exclusive attention that these men devote to the crisis may contribute to the increased frequency of action that occurs in crisis (60, 162, see also the explanation in the hostile interaction model) and certainly adds to the range or diversity of actions taken in a crisis (61). In turn, the volume and diversity of actions, together with the demands imposed on the government by the highest authorities dealing with what they regard as a major threat, contribute to the tendency for crises to consume energy and resources and to focus attention (284).

Because of the small size of the group, there is little slack in the decision unit. Each man's participation quickly becomes vital. The loss of a man or some occurrence that obstructs his continued participation becomes a serious disability to the group. When individuals assume such critical positions in the decision process, they serve as potential bottlenecks or points of breakdown (287). Unfortunately, crises often lead to fatigue and physical exhaustion (7, 258) that increase the probability of a critical man being slowed down or forced to withdraw from the group. The great stakes and the urgency imposed by time constraints are the brutal factors that induce fatigue by depriving men of rest and diversion.

Another characteristic of the small decision-making unit is its increased ability to control information about the details of the crisis and to keep it from various audiences—domestic and foreign. Such control has diverse consequences. The policy makers can deliberately and emphatically take a public position on aspects of the situation, thereby increasing their commitment to that position (290). Alternatively, they can, to a greater degree than in a large decision unit, attempt to minimize public knowledge of their current position, thus increasing their ability to shift at a subsequent point if it should be advantageous to do so (289).

Nongovernmental members of the small, high-level group also provide another means of transmitting commitment to allies and opponents. We have previously noted that one or more highly trusted citizens may be members of the decision unit. In crisis, the head of state may be increasingly tempted to use them for the communication of positions (199). By selecting private individuals more or less closely associated with the head of state, policy makers vary the credibility of the communication (196). Private emissaries prove valuable in crises not only for reasons of credibility but also to circumvent the previously noted tendency for overload of regular communication channels. Their use may partially account for the observation that crises give rise to improvised communication channels (57).

Several propositions we have reviewed—such as those concerning the control of information and the instituting of search routines—suggest a more general proposition. It might be stated as follows:

7. *Proposition.* A government in which action is directed by a small group of men, whose complete attention and energy is addressed to the crisis and who are able to command all the available resources of the government, is less likely to permit an unintended or uncoordinated response than a government whose response is a product of bargaining between large bureaucratic organizations.

This hypothesis explains the statement in one study that a centralized decision process reduces the likelihood of inadvertent war (214).

When the organizational response model—which is summarized in Figure 2—is compared to the individual stress model with respect to behavior in crisis, major differences appear. In general, the stress model expects behaviors in crisis to be less "effective" than those in noncrisis. By contrast, the organizational response model suggests both positive and negative implications for effective behavior. On the one hand, dangers of inappropriate responses can result from too few communication channels, information distortion, breakdowns following fatigue, and so on. On the other hand, the small high-level group increases control over the decision process and over the information available to various audiences. It activates search procedures, it makes innovation more likely (or at least makes less likely bureaucratic obstacles to nonroutine actions), and it expands the array of attempted international behaviors.

HOSTILE INTERACTION MODEL

The third model relevant to some of the individual hypotheses about international crisis behavior asserts that the actions of a nation in crisis are a function of the hostility its government leaders perceive the nation to have previously received.[8] The basic elements of this model can be briefly summarized as follows:

1. *Proposition.* The expression of hostile behavior by governmental policy makers toward a target is a function of the previous hostility they perceived the target or its associates to have directed at their country and their own prior expression of hostility toward the target.

2. *Assumption.* International crises involve a sudden threatening action that will be perceived by the leaders of one or more nations as hostile behavior addressed at them.

3. *Proposition.* Therefore, the more threatening the policy makers perceive the act precipitating the crisis to be, the more hostile their response and, conversely, the less threatening the act is perceived to be, the less hostile their response.

The critical terms in these three statements are hostility, expression, perception, and of course, crisis. As used here, *hostility* can be defined as opposition to some nation, its government, or actions (either initiated or anticipated) by representatives of that government or nongovernmental groups within that nation. Hostility ranges from mild statements of displeasure to physical acts of massive violence. *Expression* refers to the communication of that hostility by either verbal statements or physical deeds in a manner that *can* (but not necessarily will) be detected by the human targets of the hostility. Despite the highly technical use of the term *perception*, we stipulate that it is the interpretation by a

8. In contrast to the individual stress and organizational response models, the hostile interaction model and the final model to be considered in this chapter (cost calculation) apply to a broader range of behavior than that occurring in crisis. Recalling Robinson's concern (Chap. 2) with the participation of the crisis variable in theoretical formulations about other areas of human activity, these two models offer an explicit—if tentative and incomplete—bridge.

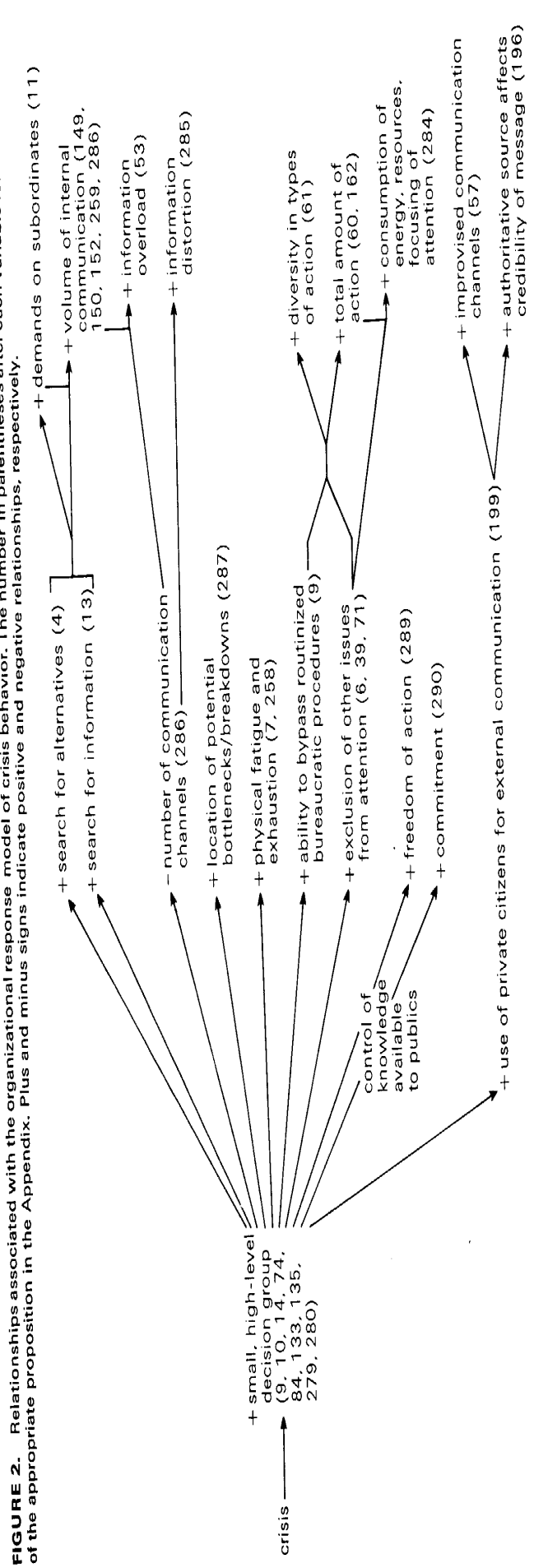

FIGURE 2. Relationships associated with the organizational response model of crisis behavior. The number in parentheses after each variable refers to the number of the appropriate proposition in the Appendix. Plus and minus signs indicate positive and negative relationships, respectively.

nation's policy makers that they or some part of their nation is the target of another nation's hostility. We have previously established that both definitions of crisis used in the ten studies involve threat. The initiation of a threat is one kind of hostile behavior; that is, it is behavior indicating the future intent to harm the values of the target if the target does not conform to the demands of the one making the threat. Thus international crises are occasions that precipitate substantial hostile behavior.

Considerable evidence for the basic relationships in the hostile interaction model appears in Chapter 7 by Zinnes, Zinnes, and McClure and in Chapter 8 by Schwartz. For example, they substantiate the relationship between crisis and hostility (87, 122) and between expression of hostility by one party (*A*) and the perception by the target (*B*) of that hostility (93, 94, 95, 106, 107). The research by the Zinnes' and Snyder (Chapters 7 and 10) confirms the impact of actor *B*'s previous expressions of hostility toward *A* on *B*'s current expression of hostility toward *A* (90, 255). In addition, these studies support the hypothesis that *B*'s perception of hostility from *A* influences *B*'s current expression of hostility toward *A* (89, 96, 97, 98, 99, 100, 101, 108, 109). One of the basic extensions of these initial statements stems from the severity of the threats associated with international crises—a point discussed earlier in connection with the individual stress model. The more severe the threat, the greater the probability of physical acts of force and violence (62).

4. *Proposition.* If hostility occurs in the context of an international crisis, then the likelihood of physical acts of force and violence increases.

Of course, one form of force and violence is war, but there are many such physical acts short of war. The introduction of violent physical acts into a conflict, even though they be on a much less massive scale than war, increases the possibility of even more violent acts of reprisal by the other party (204, 205), thus initiating an escalation cycle. Although the introduction of physical acts of force and violence makes escalation more likely, this progression of increasing reciprocal hostility can occur in a crisis even in the absence of violence.

Figure 3 displays the deadly sequence. *A* triggers the crisis for *B* which responds with stronger expressions of hostility toward *A*. In turn, *A* perceives the hostile expressions of *B* and initiates new and more intense hostile actions toward *B*. Figure 3 does not show a feedback line from *A*'s counter-expressions of hostility to new perceptions of hostility by *B*, but that loop is justified in terms of the hostile interaction model. None of the present studies offer evidence that the hostile expressions of the second party in a crisis lead to perceptions of hostility by the first, but such a link can be inferred given the hypotheses concerning additional hostile actions by the initiator of the crisis (223, 250, 251). The escalation spiral requires a fifth statement.

5. *Proposition.* Hostile expressions by the recipient (*B*) of the behaviors that precipitated the crisis will be perceived by the initiator *A* and will result in more intense expressions of hostility by *A* toward *B*.

In this unmodified form the hostile interaction model means that, inevitably, every crisis spirals to higher and higher levels of hostile expression and, presumably, ends in war and destruction. Because actual situations defined as international crises by either of our definitions do not always lead to war, researchers must consider amendments to this basic model that could alter the

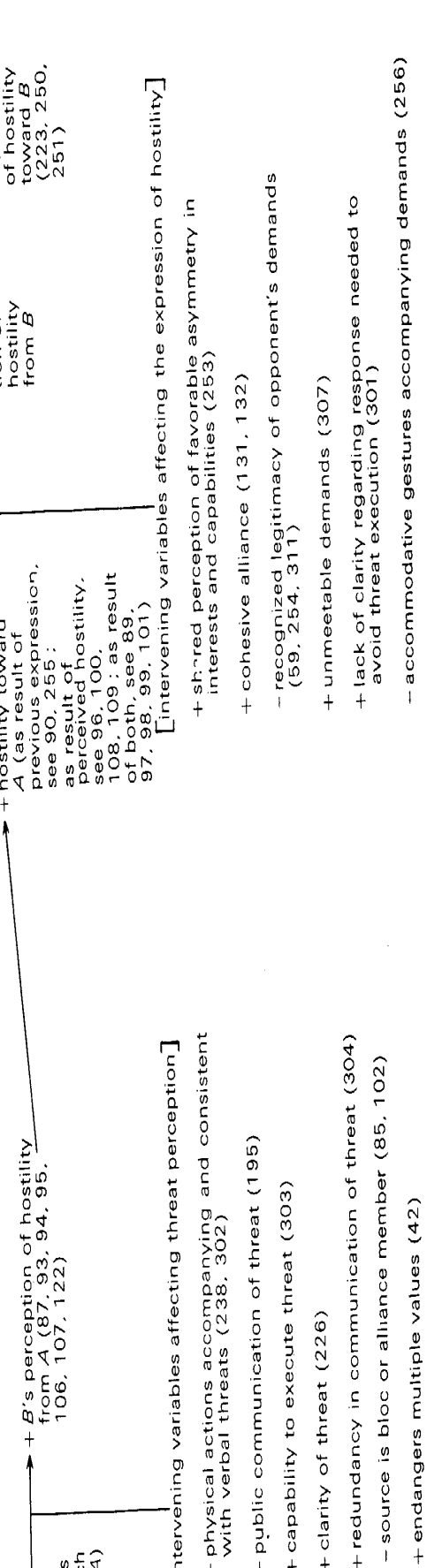

FIGURE 3. Relationships associated with the hostile interaction model of crisis behavior. The number in parentheses after each variable refers to the number of the appropriate proposition in the Appendix. Plus and minus signs indicate positive and negative relationships, respectively. For example, a plus sign in front of an intervening variable means that the higher the value of that intervening variable, the higher will be the value of the dependent variable.

escalation cycle. Our studies yield hypotheses that can be seen as intervening at one of two points: (1) considerations that affect the intensity of the perceived threat (one kind of hostility), and (2) considerations that curb the expression of hostility.

Among the variables mentioned which alter the perception of threat and hostility are a number based on the general hypothesis that the more credible the threat, the greater the perceived degree of danger and hostility. Therefore, many of the relevant intervening variables are concerned with increasing or decreasing the credibility of threats. For example, several studies support the proposition that the credibility of threats increases if physical actions accompany, and are consistent with, verbal threats (238, 302). The credibility of a threat increases if it is publicly communicated (195), thereby making it more difficult for the policy makers to fail to execute the threat should their demands not be met. The existence and availability of the capability necessary to execute the threat also constitutes a necessary element of credibility (303). If the threat is well defined and specific, then this clarity will increase the threat's credibility (226). Redundant communication contributes to clarity as well as to the initiator's determination and commitment, and hence increases credibility (304).

The perceived intensity of a threat varies with the source. Thus the reaction of a nation's leaders to unfavorable actions by its allies are not likely to be seen as threatening as equivalent actions by nations with whom past relationships have been less friendly (85, 102). The scope of the issues involved in a threat also affects its intensity. Actions that policy makers perceive to endanger multiple major values or goals will be more threatening than actions affecting only one value or goal (42). The prospect of total war represents exactly that kind of multiple-value threat. Before considering the other type of intervening variables, we should emphasize that most of these propositions concern threats and may not be applicable to other forms of hostility. Crises, by definition, involve threats so the hypotheses apply to the first cycle of hostile interaction described by the model. If subsequent cycles involve other forms of hostility these qualifications may not be operative.

The policy makers of a nation may perceive hostility but may be constrained in expressing hostility in reply; or, alternatively, intervening conditions may make their expressions even more hostile than they might otherwise be. Some of these intervening variables appear in hypotheses advanced in the ten studies. If the policy makers perceive a favorable asymmetry between their nation and the opponents with respect to the relevant capabilities and investment in the issues involved, and if they believe the opponents perceive a similar asymmetry, then the policy makers' expression of hostility will be more severe (253). Membership in a cohesive alliance will increase the probability that such a favorable asymmetry will be perceived and, therefore, contribute to an escalation of hostile expression (131, 132).

When demands are involved, as they always are when the hostility is in the form of threats, then the assessment of the demands will affect the expression of hostility. The more legitimacy the policy makers attribute to the demands contained in their opponents' threats, the more curbed will be their own expressions of hostility (254). Conversely, the more unreasonable the policy makers regard the demands, the more likely is some escalatory hostile response (59, 311). Furthermore, if the demands are beyond the capabilities of the policy makers and their nation to fulfill, then this particular kind of unreasonable request will also

precipitate an escalatory hostile response (307). Threats which are not clear as to the response required to avoid execution of the threat will be regarded as extremely provocative and will increase the likelihood of a very hostile behavior in reply (301). Accommodative gestures, however, which are undertaken simultaneously with coercive tactics (such as threats) may signal a desire to prevent an escalation spiral and will reduce the probability of an extremely hostile response (256).

The hostile interaction model, which is summarized in Figure 3, differs from the others we have considered in that the nature of the crisis behavior is clearly established in the basic statements of the model. It stipulates one and only one kind of crisis behavior—hostility—and the issue in the development of the model is essentially how much and under what conditions might the escalatory spiral be broken.

COST CALCULATION MODEL

The final model characterizes the policy makers as weighing the benefits of any given action—in crisis as well as noncrisis—against the costs it is likely to incur. In one sense this model can be viewed as identifying some of the properties which curb or prevent the endless cycle of hostility described in the hostile interaction model.

The basic statements for the cost calculation model of crisis behavior are as follows:

1. *Assumption.* The national goals that are most important to national policy makers concern the physical survival of the presently constituted nation and certain core values that define the society. The policy makers' commitment to the protection of these goals and values will be called their survival goals.

2. *Assumption.* The national goals initially endangered in an international crisis may or may not include danger to survival goals.

3. *Proposition.* In response to an international crisis, national policy makers will take actions designed to eliminate or minimize the danger presented by the crisis to major national goals.

4. *Proposition.* If the policy makers believe that the initiation or continuation of certain actions in the crisis substantially increases the danger of destroying survival goals, they will seek to negotiate a settlement of the crisis or, failing a successful negotiation, they will forfeit the threatened nonsurvival goal(s).

5. *Proposition.* If the crisis poses a direct threat to survival goals, the policy makers will seek to negotiate a settlement and will refrain from any deliberate actions that they believe will reduce the likelihood of a settlement.

6. *Proposition.* Therefore, the more an international crisis threatens a nation's survival goals, the more effort will be made to achieve a settlement; and, conversely, the less threat to survival goals, the more likely are hostile actions to be taken as part of the effort to protect the major goals that are endangered.

The basic statements could be interpreted as the guidelines for a national decision maker who calculates his costs. He has a preference ordering of goals that minimally distinguishes between those goals necessary for existence and those which are not. He will take such action (including hostile action) as he thinks necessary unless or until responses to his actions are likely to greatly

endanger even more fundamental goals. As used in this paper, *survival goals* refer to the commitment of national policy makers to protect from externally directed attacks (1) their nation's territory, people, and institutions, and (2) the core values that are regarded by all politically relevant groups within the nation as essential for the definition of their society (e.g., the rights of the individual, the nature of government, etc.). The two definitions of crisis have slightly different implications in the calculation of cost model. If crises are defined as situations that suddenly increase the likelihood of war and if war is construed to involve heavy sustained attacks on the homeland (i.e., "central war"), then such crises *always* endanger survival goals. The threat-time-surprise definition of crisis, however, need not involve survival goals. The difference in definition will be important in establishing whether the onset of a crisis leads to hostile reactions and escalatory behavior (less likely, according to the model, if survival goals are immediately endangered).

Among the ten research chapters, the study by Snyder (Chapter 11) offers the most detailed consideration of hypotheses related to the cost calculation model of crisis behavior.[9] He uses the risk-of-war definition of crisis, therefore, we can assume that survival goals almost always are present in situations he analyzes as crises. For this reason he advances hypotheses about behavior in all crises that are consistent with those basic cost calculation statements concerning crises in which survival goals are endangered. For example, Snyder contends that in crises the policy makers will be increasingly concerned about avoiding war and reducing risks (203, 211). Snyder also introduces the concept of critical risk that can be interpreted as the maximum risk of war a party can stand without capitulating. He contends that when an opponent's threat credibility exceeds the policy makers' critical risk, they will then make concessions (245). If one treats an executable threat directed at survival goals as exceeding the critical risk threshold, then this proposition—like the two previous ones—supports the sixth basic statement. That statement holds that crises endangering survival goals will lead to increased efforts to obtain a settlement.

When crises are not defined so as to always involve survival goals from the outset, then the parties to the situation will behave in such a manner as to make increasingly hostile behaviors likely. McClelland (Chapter 5) refers to this as the "upswing phase" of a crisis and it is represented in the top portion of Figure 4.

The basic studies suggest four hypotheses regarding a crisis—or that stage of a crisis—in which survival goals are not involved. First, the policy makers are more likely to give the appearance of irrationality or inability to control events (70, 221).[10] This deliberate effort to appear unable to control the situation is used as a tactic to shift responsibility for modifying positions to the opponents. Second, because survival goals have not been endangered, policy makers have a tendency to perceive opportunities in the situation to increase their opponent's risk relative to their own. As a result policy makers will be willing to manipulate

9. Some of the work by Charles McClelland in Chap. 5 also bears on the cost calculation model.

10. Proposition no. 70 results from Lentner's interviews (Chap. 6) with State Department officials and does not indicate whether the loss of control is a ruse or an actual condition. Because his respondents were lower level officers who would not be involved in crisis decision making, according to the organizational response theory, they may actually feel that they have far less control in crises as compared to noncrises in which they exercise somewhat more influence in shaping the government's action.

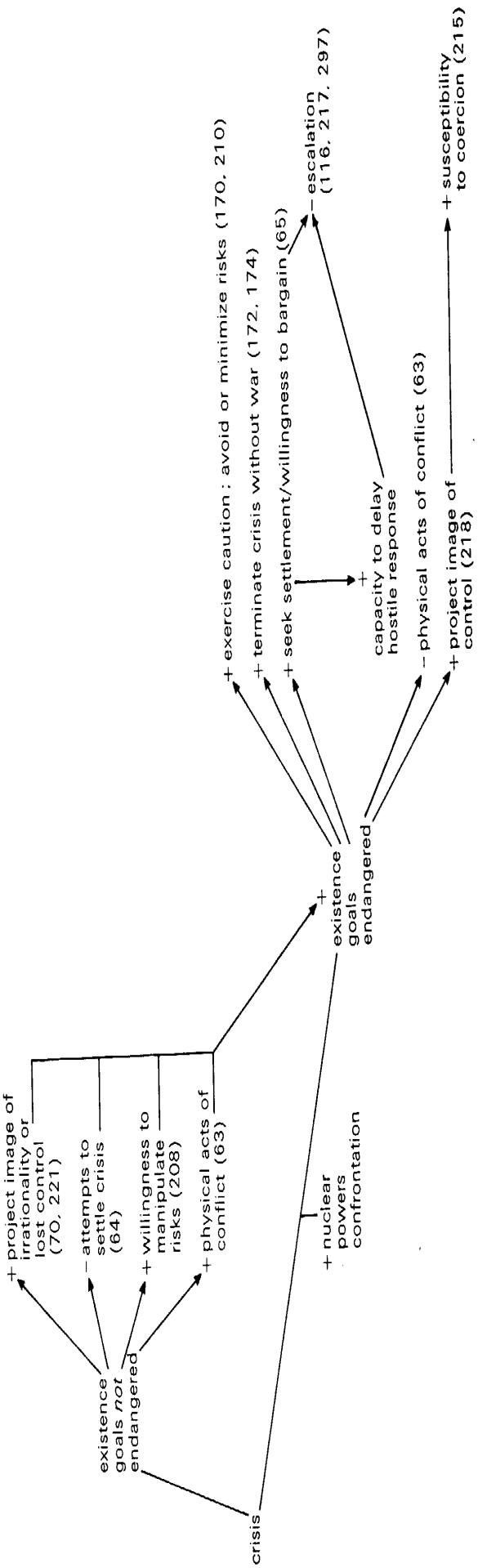

FIGURE 4. Relationships associated with the cost calculation model of crisis behavior. The numbers in parentheses after each variable refer to the number of the appropriate propositions in the Appendix. Plus and minus signs indicate positive and negative relationships, respectively.

the amount of risk present in the crisis (208). The previously mentioned tendency to appear irrational to the opponents may be a specific manifestation of the tendency to increase risk. Third, when survival goals are not endangered, the policy makers will initiate fewer attempts to settle the crisis (64). Finally, they will initiate more conflictful, physical actions (63). All of these behaviors tend to increase the hostility between the parties to the crisis and make likely the expansion of the goals threatened, so that at some point survival goals are perceived to be endangered. This development—shown in Figure 4—represents a seventh basic statement in the cost calculation theory.

7. *Proposition.* International crises that do not initially involve existence goals will tend to result in increasingly hostile behavior until the policy makers perceive that their survival goals have become endangered.

At the point when policy makers believe that significant threat jeopardizes survival goals, the crisis enters a second stage in which different kinds of behavior occur. These behaviors will be like those associated with crises in which survival goals have been involved from the outset. Before proceeding to the examination of behaviors that occur when crises reach this stage, it should be emphasized that the capabilities of the parties to an international crisis can be decisive in establishing whether threat to survival goals is perceived at its beginning. If the threat explicitly calls for the use of military force in the event execution should become necessary, then a substantial differential in military capability will lead the lesser nation's policy makers to perceive a threat to their survival goals. Similarly, if both parties have the capability to inflict substantial damage on the other's homeland, both groups of policy makers are then more likely to perceive threat to their survival goals. A special case of this symmetrical situation involves a crisis between nuclear powers. Certainly, the prospect of nuclear war threatens destruction of survival goals. Thus in Figure 4 the nuclear power status of the parties to the crisis is an intervening variable that assures threat to survival goals. Some abstracted propositions concern crises in the nuclear age or among nuclear powers, but for our purposes these hypotheses can be regarded as applicable to any crisis in which the nation's most basic goals are threatened.

We can briefly identify the propositions in the basic studies that seem appropriate characterizations of crises involving such threats. In contrast to earlier behaviors, policy makers will exercise great caution and will engage in efforts to avoid or minimize the introduction of further risks in the situation (170, 210). They will seek to terminate the crisis without war (172, 174). To this end, the government will initiate fewer physical acts of conflict than during the earlier phase (63). Furthermore, more efforts will be made to seek a settlement and to enter into negotiations with their opponents (65). The resulting willingness to communicate with their opponents increases the probability of few actions that will expand the existing level of hostilities (116, 217). The attempts to seek a settlement can be interpreted as one form of the capacity to delay hostile responses, and as such decreases the probability of escalation (297). Finally, as shown in Figure 4, the policy makers will attempt to project to their adversaries an image of firm control over the actions taken by their country (218) in order to ensure that an accidental or irrational action will not precipitate the execution of threats. One consequence of seeming to be in control, however, is increased susceptibility to coercion from the opponents (215).

The last proposition raises an important question. What happens if one

nation's policy makers perceive their survival goals to be severely threatened and their opponents do not? More specifically, if—because of this asymmetry or for some other reasons—attempts at settlement fail, what happens? This query moves beyond the insights offered by the cost calculation model, but two answers seem possible. Either the party that perceives threat to some survival goals redefines the necessities for survival to exclude those goals so that it can forfeit the goals in question or it engages in war.

CONCLUSIONS

We began with a number of discrete propositions, some of which appeared to be contradictory. A fairly large number of the propositions were related to one of the four models of crisis behavior. The association of individual hypotheses with one of the larger frameworks makes more evident that different levels and units of analysis are involved. The stress model concerns individual psychological and physiological behaviors. The organizational response model, as the name implies, deals with collectivities of individuals and suggests that small groups will replace formal organizations in the performance of certain decision activities during a crisis. Both of these models are largely indifferent to the external parties that normally participate in an international crisis. By contrast, the hostile interaction model achieves a dynamic quality by building on the effects each party to a crisis has on the other. Finally, the cost calculation model ignores the actual nature of the decision unit, but assumes that it will have a clear ordering of goals and will act in such a way as to give maximum protection to the most important goals. Thus the models deal with different aspects of crisis and are not in complete contradiction.

Contradictions do exist, however. These opposing perspectives can be seen by examining at a macro level the kinds of crisis behavior expected by each model. In general, the individual stress model suggests ineffective coping behavior—it may be total capitulation to the opponents or complete intransigence. Whatever the behavior, it will be based on an assessment of reality and the actor's relationship to that reality which is less accurate than would occur in a noncrisis. The behaviors predicted by the organizational response model are mixed, ranging from information distortion that produces ineffective coping similar to that encountered in the individual stress model to innovation and an increased array of kinds of actions. With some important qualifications, the hostile interaction model predicts cycles of increasingly hostile expressions. And, finally, the cost calculation model suggests that under certain conditions efforts will be undertaken to curb hostile behavior and seek a settlement.

The conflict may be sharpest between the individual stress and cost calculation models. The cost calculation model depends on the effective operation of certain cognitive processes which the stress model indicates will be defective. For example, the cost calculation model suggests the existence of a preference ordering of goals and that behavior depends on what goals in the preference ordering are threatened. The stress model, on the other hand, contends that priorities and time perspectives will be altered by the stress experience. It does not take much extrapolation from the stress model to contend that the goal which has been immediately and severely threatened will be treated as the highest priority objective regardless of its position prior to the crisis. In brief, the stability of the preference ordering is called into question.

Undoubtedly, multiple solutions to the points of contention between the four models can be advanced. In these conclusions we propose one means of integrating certain basic features of each model that allows a resolution of the differences between them. Although it does not account for all the individual propositions previously associated with each model, we believe this integrative model could be expanded to incorporate most of them.

According to the integrative model, any crisis contains critical branching points that have the effect of engaging, combining, or overriding the salient features of each of the four models. The actor's response to the crisis depends upon the route taken at these major branching points. To represent the model pictorially in Figure 5, we have used a flow chart like those used in computer programming. The flow chart provides an unambiguous sequence and highlights the branching points (represented as yes-no questions in the diamond-shaped boxes). For the present, it allows us to avoid the difficult problem of what factors determine the response to a given question. As indicated in Figure 5, the integrative model yields four alternative behaviors as the response to any crisis (represented as trapezoids).

One response—the expression of hostility to the opponent—involves the hostile interaction model supplemented by disruptive stress. The absence of threat to any survival goals releases the policy makers from the restraints that would likely result from danger to these most basic values. At the same time, the experience of disruptive stress blocks the positive effects of search and innovation that might otherwise occur from such organizational response features as high level decision group and bureaucratic bypass. Under such conditions the policy makers react in terms of the hostility they perceive in the crisis and the prior hostility they have expressed to that opponent. Thus the response constitutes a step in the escalation cycle postulated by the hostile interaction model.

If the policy makers experience neither a threat to survival goals nor disruptive stress, then the positive effects of the organizational response model combine with the rationality present in the cost calculation model. Innovative methods of tackling the situation and information generated from search routines —both consequences of the small, high level decision group and bureaucratic bypass—become inputs in the decision process. Should the policy group calculate that their position in the present situation is favorable relative to their opponent, then their response will be coercive and will put pressure on the opponents to yield. These calculations also increase the likelihood of behaviors allowing the enemy to withdraw with some grace or face-saving gesture.

The two columns on the right side of Figure 5 both result when policy makers perceive survival goals as threatened. When they remain free of disruptive stress, the policy makers calculate that their energy must be devoted to preserving the survival goals and, therefore, accommodative behavior occurs—proposals for settlement, offers to negotiate, partial withdrawals. Imaginative proposals for accommodation can occur from the search input that has not been minimized by disruptive stress. Also note that accommodative behavior results when the policy makers calculate that the balance of resources applicable to the present situation favors their opponents.

Perhaps the most troubling response appears in the extreme right column of Figure 5. The decision group experiences threat to their survival goals and the reduction in effective cognitive processing that follows from severe stress. Rational calculations that in the absence of stress would lead to accommodative

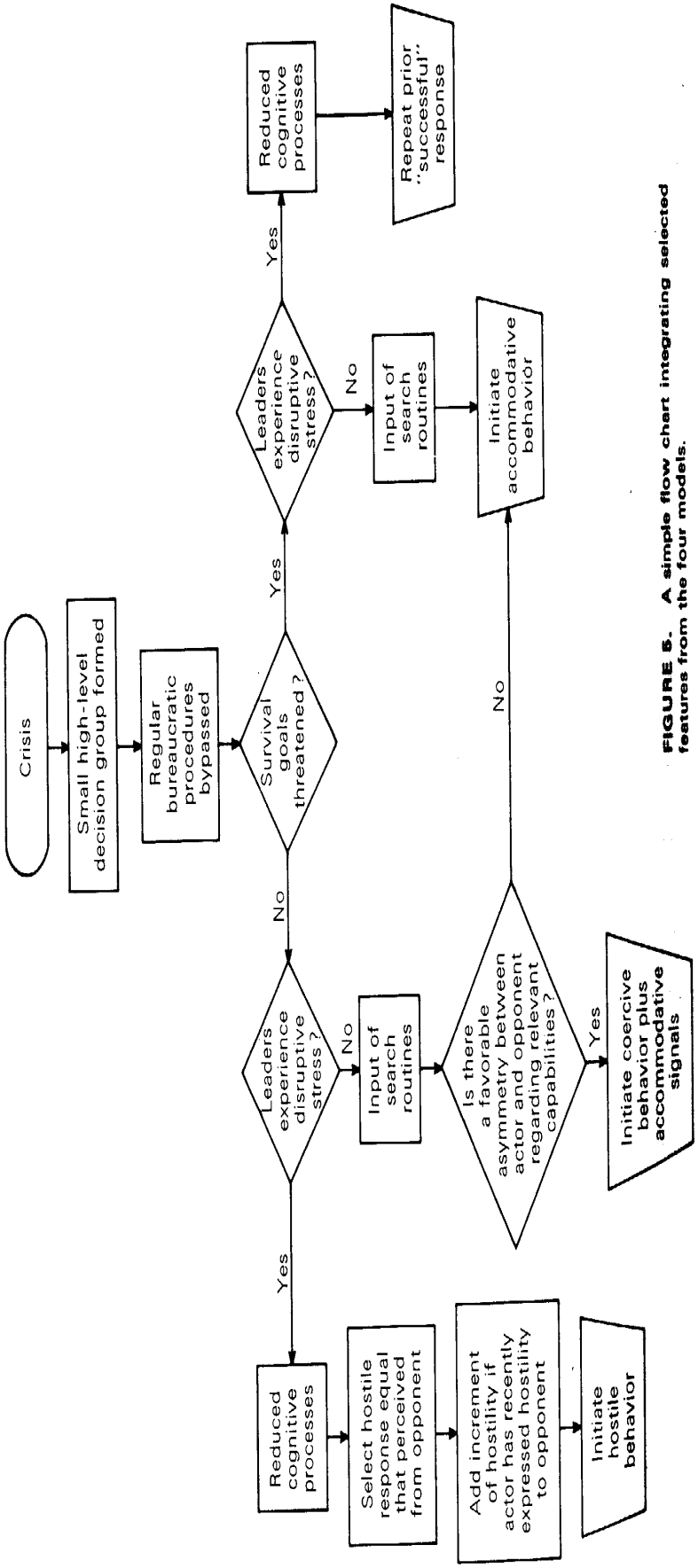

FIGURE 5. A simple flow chart integrating selected features from the four models.

behavior become unlikely. Experiencing reductions in cue awareness, restricted time perspectives, and rigidity in perceptions and cognitive processing, the policy makers fall back on their prior experiences and equate the present situation with a previous one to which a successful response was made. In a "knee-jerk" reaction that may be quite inappropriate to the present crisis the policy makers may do nothing, escalate sharply, or suddenly capitulate. If the crisis continues through multiple cycles, responses that initially passed through the extreme left-hand path in Figure 5 will shift to the extreme right when the exchange of hostilities has increased to the point that threat to survival goals occurs.

The proposed integrative model remains incomplete. We noted that it does not account for all the propositions in the other models. Furthermore, the dynamic processes between parties that are necessary for systematic analysis have not been considered. To include the interaction would require determining the opponent's processes and responses to the initial reactions of the actor diagrammed in Figure 5 plus a means of introducing these further inputs into the present model. Such expansion exceeds the basic inventory of propositions abstracted from this book. What the integrative model does provide is one way of connecting the various models introduced in this chapter and a possible explanation for the diverse outcomes associated with actual crises. Its elaboration or replacement awaits the further study of international crises.