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A TEST AND AN EXTENSION OF COGNITIVE BALANCE THEORY IN A CHOICE SITUATION INVOLVING TWO HEALTH CARE PLANS

by
Arnold Daniel Kaluzny

A dissertation submitted in partial fulfillment
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A TEST AND AN EXTENSION OF COGNITIVE BALANCE THEORY IN A CHOICE SITUATION INVOLVING TWO HEALTH CARE PLANS

By Arnold Daniel Kaluzny

This study is concerned with some of the ways situational and personality dispositions affect cognitive relations involving a social triad composed of the individual as a recipient of social influence, an organization as a source of this influence, and a medical care program as the object of this influence. Given the triad, the study attempts to elaborate the general balance models in order to account for personality and situational variations that may be operative in a situation involving the choice of two health care plans. This is expressed as a synthesis of two levels of analysis.

At the descriptive level, balance and imbalance are defined and discussed in terms of the relationship between two sets of attitudes: the individual's attitude toward medical care relative to the union's position toward medical care (termed cognitive interaction toward medical care) and secondly, the individual's attitude toward the union relative to the union's position toward medical care (termed cognitive interaction toward the union). This relationship is treated as the dependent variable having states of balance and imbalance. Balance is conjunctively defined, i.e., ith state = jth state, with imbalance being the disjunctive relationship, i.e., ith state $\neq$ jth state.

At the analytical level, an attempt is made to explain the existence of various states of balance and imbalance using the following dispositions (independent variables): (1) personality disposition - a system of ordering that serves as a mediating link between stimulus input and response of which the concrete - abstract dimension was taken as the most important structural characteristic, (2) union interaction - an index of the amount of communicative interaction and the importance of this interaction to the individual, (3) social support - an index of the amount of social reinforcement the individual manifests for a confirmed or refuted cognitive structure. Each is dichotomized and combined by joint assertion to form a deterministic system for all states of the dependent variable (dispositional balance model).

To evaluate the model two analyses were conducted. Data for both were derived from the Study of Choice or Rejection of Group Practice Prepayment Plans* which was based on two independent samples representing choice of health care plans by UAW members employed by Chrysler, Ford, and General Motors living within the Greater Metropolitan Detroit Area. Both analyses were conducted on subsets selected from the two samples in order to maximize the relevance of the choice situation.

In that the model designates dichotomous states relative to cognitive interaction toward medical care and the respective dispositions, response patterns are partitioned into dichotomous clusters through a multivariate analysis of contingencies. The

measure of cognitive interaction toward the union is based on a single question with four response categories.

Although there exists a tendency toward balance the overall predictions of the model are not supported by the data. To account for this, further analysis is made by considering the respective dispositions relative to the relationship between the two cognitive interaction variables. Although the data indicate significant departures from independence there is no difference in the direction of the departures relative to the state of cognitive interaction toward medical care.

Two conclusions may be drawn from the study. (1) That individuals as members of the union do not tend to perceive influence attempts by that organization in such a way that it generates unequivocal consonance or dissonance processes as predicted by the model. (2) That the union's position with respect to medical care may not be as innovative as originally thought.

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*Metzner, C. A. and Bashshur, R. C. Choice or Rejetion of Group Practice Prepayment Plans, On going research, School of Public Health, University of Michigan, Ann Arbor, 1967.

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CHAPTER I

SOCIAL AND CONCEPTUAL SETTING

I. THE SITUATION

Organized labor has manifest a long history of concern for the health of its members and for security against the costs and losses that follow sickness and disability. Although its exact position with respect to medical care is far from unanimous, its views may generally be considered to be innovative and represent a distinct departure from the existing institutional arrangements.

I. S. Falk in attempting to characterize these innovative tendencies suggests that the following concepts seem central to the view presented by labor leaders who are actively interested in medical care:

> Comprehensive medical care should be available to everybody.
> It should be available through well organized health services, preferably from an integrated and efficient medical care team functioning through group practice.
> The medical care personnel or the organized medical team should be available to serve people wherever they should receive care - in the doctor's office, clinic, hospital, nursing home, or patient's homes.
> All who provide service should be expected to observe high standards of quality.
> And the financing should be through group payment, that is, as comprehensive as practical so that the costs are neither a barrier when care is needed nor a financial burden after it has been received.[1]

Labor's approach in attempting to institute these concepts has been primarily through the modification and improvement of the

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[1] I. S. Falk, "Medical Care: Its Social and Organizational Aspects," New England Journal of Medicine, 270 (January, 1964), p. 27.

voluntary health insurance system and through legislation for the needs that nongovernmental health programs seem unable to meet. However, with the decreasing possibility of a national health insurance program,[2] the increasing evidence that the voluntary health insurance system was unable to incorporate the concepts established by organized labor[3] and the increasing concern of union leaders with the problems of membership attraction and maintenance,[4] there arose emphasis on direct group prepayment programs.

Such a situation existed in Detroit, Michigan. The International Union, United Automobile, Aircraft, and Agricultural Implement Workers of America (UAW) as one of the most concerned unions in the field of health and medical care, traditionally concentrated on expanding existing Blue Cross-Blue Shield (BC-BS) programs. However, with increasing evidence that the existing arrangements were unable to meet its demands in terms of cost and coverage, the UAW in 1956, initiated the Community Health Association (CHA) of Detroit. This association, in being dedicated to the principle of hospital based prepaid group practice, embodied many of the union norms with respect to health and medical care. As a result, it represented an explicit departure from the existing medical care structure, which is more nearly preserved under Blue Cross-Blue Shield.

In that the UAW expresses a position with respect to medical care,

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[2] Ibid., p. 22.

[3] W. J. McNerney et al., Hospital and Medical Economics, Vol. 1, (Chicago: Hospital Research and Educational Trust, 1962), p. 30.

[4] R. M. Williams, American Society: A Sociological Interpretation (second edition; New York: Alfred A. Knopf, 1961), p. 208.

it may be viewed as a social group manifesting norms in this area. As a group, the union is composed of the relationships of individuals. These relationships are organized around the problems in or arising from social interaction of a plurality of individuals manifesting distinct personality systems.[5] Deriving from this interaction of individuals is a set of complementary expectations concerning the individual's own actions and those with whom he interacts. These complementary expectations are termed group norms and permit the union, as a social group, to transcend the individual members of the union.

Thus, although intimately related, the individual and the group are not identical with one another, nor explicable by one another; the group is not a plurality of individuals. Instead, the group is considered a system of a new order, independent or at least quasi-independent of the individual, and thus manifests characteristics which are not just a collective personification and/or psychological reification of the individual.

The norms of the group may therefore be considered as a potential means of influence and control with respect to the individual's behavior, including matters of medical care. In so much as these norms are innovative, relative to the existing normative patterns regarding medical care, the union is viewed as a medium of change. As such, the union induces forces toward influencing appropriate segments of the individual's behavior. However, these forces may be supported or blocked depending, first, upon the nature

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[5] T. Parsons, et al., "Some Fundamental Categories of the Theory of Action: A General Statement," in Toward a General Theory of Action, eds., T. Parsons and E. A. Shils (New York: Harper and Row, 1962), p. 23.

of the relationship between the individual and the union, e.g., the individual's sense of belongingness to the union at a particular point in time; the prestige of the union or the perceived legitimacy of the union in the area of the attempted influence; and secondly, depending on the psychological state of the individual, e.g., the integration of the individual's actions within the individual's own personality system. Relative to the state of these conditions there exists degrees of conformity or deviance within the union.

Thus within the union, efforts to influence may result in either a confirmation or a refutation of the individual's existing attitudes with respect to medical care. However, for an influence effort to be reacted to as either confirming or refuting an existing attitude, a condition of relevance, at some level of subject awareness must be satisfied.

The condition of relevance in a field situation usually exists only as a potential out of the totality of events impinging on the individual at a particular point in time. Its particular realization hinges upon the presence of a particular object at the appropriate moment, upon a particular interaction and/or a particular wedding of the stimulus event with existent attitudinal structures. In the Detroit situation the condition of relevance was structurally realized in that under contract members of the UAW were provided a choice between CHA and Blue Cross-Blue Shield.

Thus, the choice situation presents a state in which cognitive conflict may have been induced by the innovative nature of the union's norms relative to the individual's existing cognitive structure with

respect to medical care. Concomitant with the individual's evaluation of the union as the agent of these norms the choice situation may be viewed in a conceptual triad involving the individual as the recipient of social influence, the union as the agent of such influence, and medical care organization as the stimulus object.

II. RELEVANT THEORY

Social psychologists have directed much attention toward the problems considered to be those of cognitive conflict. Although addressed by various names, the basic underlying approach states that human beings have a tendency to maintain a fairly high degree of consistency in their psychological functioning, both at the level of all inclusive personality systems and at the level of more limited cognitive and attitudinal systems. Three excellent reviews of these approaches and related empirical findings have been written by Zajonc,[6] Osgood,[7] and more recently by McGuire,[8] and thus, it would be an unnecessary duplication of effort to provide any lengthy discussion here. However, to provide a setting for the present study a brief discussion of the main features of several approaches is presented.

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[6] R. B. Zajonc, "The Concepts of Balance, Congruity and Dissonance," Public Opinion Quarterly, 24 (Summer, 1960), pp. 280-296.

[7] C. E. Osgood, "Cognitive Dynamics in the Conduct of Human Affairs," Ibid., pp. 341-365.

[8] W. J. McGuire, "The Current Status of Cognitive Consistency Theories," in Cognitive Consistency, ed. S. Feldman. (New York: Academic Press, 1966), pp. 1-46.

An early formalization is attributed to Heider[9] who was concerned with the way relations among two persons involving some impersonal entity are cognitively experienced by the individual. The analysis was limited to two persons labeled P and O, with P as the focus of the analysis and O representing some other person, and to one impersonal object, idea or event labeled X. The problem is how relations among P, O, and X are organized in P's cognitive structure. Heider posits, that the person's (P's) cognitive structure representing relations among P, O, and X are either "balanced or imbalanced." Degrees of either state are not represented. Thus, a balanced state is obtained if all three relations are positive in all respects or if two are negative and one is positive. For example, if P likes both O and X, and O is perceived to like X, P's cognitions are balanced. Similarly, if P likes O and perceives that both he and O dislike X, P's cognitions with respect to O are balanced. Variations from this state of affairs results in imbalanced states.

Newcomb[10] presents a similar notion in the form of a "strain toward symmetry." This conceptualization is a direct extension of balance theory as formulated by Heider, in that Newcomb extended Heider's concept of intrapersonal balance to the interpersonal communications among people. Thus, when two persons are oriented toward a common object, the strain toward symmetry influences

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[9]F. Heider, "Attitude and Cognitive Organization," Journal of Psychology, 21 (January, 1946), pp. 107-112.

[10]T. M. Newcomb, "An Approach to the Study of Communicative Acts," Psychological Review, 9 (September, 1953), pp. 393-404.

communication between them so as to bring about a congruence in their attitudes toward the common object.

Cartwright and Harary[11] generalize Heider's three element systems to structures of any number of elements, solving for balance by use of graph theory and postulating a number of principles that yield predictions about empirical situations involving interpersonal relations.

Osgood and Tannenbaum[12] postulate a "principle of congruity" which deals specifically with the problems of direction of attitude change resulting from outside information, e.g., effects of mass communication. In so doing, the model takes into account the original attitude toward the source of the message, the original attitude of the object of the message as evaluated by the source, and the nature of the evaluative assertion which relates source and object in the message. Predicted changes in attitude toward both source and concept are based upon the combined operation of a principle of congruity, a principle of susceptibility as a function of polarization, and a principle of resistance due to incredulity for incongruous messages.

Perhaps the largest systematic body of data is that collected in the realm of Festinger's[13] dissonance theory. Briefly, the theory

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[11] D. Cartwright and F. Harary, "Structural Balance: A Generalization of Heider's Theory," Psychological Review, 63 (September, 1956), pp. 277-293.

[12] C. E. Osgood and P. H. Tannenbaum, "The Principle of Congruity in the Prediction of Attitude Change," Psychological Review, 62 (January, 1955), pp. 42-55.

[13] L. Festinger, A Theory of Cognitive Dissonance, (New York: Harper and Row, 1957).

holds that two elements of knowledge "....are in dissonant relations if considering these two alone, the obverse of one element would follow from the other."[14] It further holds that dissonance "being psychologically uncomfortable will motivate the person to try to reduce dissonance and achieve consonance" and "....in addition to trying to reduce it, the person will actively avoid situations and information which would likely increase the dissonance."[15]

Abelson and Rosenberg[16] developed a system using matrix algebra to define balance in a multielement structure. However, unlike Cartwright and Harary this multielement structure is not applied to interpersonal situations but to Heider's more basic notion of intrapersonal cognitive systems.

These various approaches differ in their conceptualization and symbolic representation of cognitive systems, in their definition of balance, in their approach to quantification and measurement, in the specific phenomena to which the model is applied, and in emphasizing modes of attaining balance. In general, however, the approaches do not sharply contradict one another. Instead, there is a general tendency for the various formulations to supplement factors or applications which are relatively neglected by the others.

On the other hand, all the approaches have tended toward a rather narrow view of the conflict problem with the fundamental

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[14] Ibid., p. 13.

[15] Ibid., p. 3.

[16] R. P. Abelson and M. J. Rosenberg, "Symbolic Psycho-logic: A Model of Attitudinal Cognition," Behavioral Science, 3 (January, 1958), pp. 1-13.

assumption being that an imbalanced state produces tension and generates forces to restore balance. In so doing, they have generally defined social perception as determined solely by the properties of balance or imbalance. Possible situational and personality variables governing the induction, maintenance, and reduction of cognitive conflict have been minimally considered. Moreover, empirical documentation of the various balance theories have been largely confined to laboratory situations. This study focuses upon the elaboration of the general theory in order to take account of the personality and situational dispositions existing in a field situation.

CHAPTER II

GENERAL STUDY OUTLINE

Within a triad composed of the union, the stimulus object (a medical care organization), and the individual, this study is concerned with some of the ways situational and personality dispositions affect cognitive structures with respect to innovative norms regarding medical care and the evaluation of the union as an explicit agent of these norms. This concern may be represented as a synthesis of two levels of analysis.

The first level of analysis is primarily descriptive and involves the representation of three sets of relationships. The first set involves the relationships existing between the individual, the union, and the stimulus object. These are termed the first order interactions. The task here is to describe the three relationships existing between the points of the triad. The second set of relationships involves the interaction of the first order relationships and are termed second order interactions. Two such interactions are defined: cognitive interaction toward medical care and cognitive interaction toward the union. These are dealt with in a conjunctive - disjunctive balance matrix. The relationship of the two sets of cognitive interactions is treated as the dependent variable and termed the third order interaction.

The second level of the study involves an attempt to explain the conditions under which the various states of balance and imbalance exist within the configuration. Here the concern is with the personality and situational dispositions. These are considered the

independent variables and the study of their relationship to the third order interaction constitutes the analytic level of the study. The respective dispositions are combined by joint assertion to form an explanatory system relative to the various states of balance and imbalance. This system is termed the dispositional balance model.

The combination of the descriptive and analytic levels provides a study of the conditions determining, or at least associated with, the existence of various states of balance and imbalance. In so doing, this approach permits at least a beginning of a more systematic social psychology of cognitive structure with respect to medical care. Moreover, it attempts to integrate the data and conclusions into the mainstream of behavioral theory and in so doing, extends and tests a behavioral model in an actual field situation.

The model's specific applicability to medical care rests in the very nature of the field. At the institutional level of analysis medical care is defined as the organized social arrangements through which the technology of the health sciences is made available to the population.[17] These arrangements, as are most social arrangements, may be characterized as lagging relative to the available technology. As a result, there exists numerous interest groups, e.g., consumer groups, labor unions, professional associations, etc., exerting various forms of influence to maintain or modify the existing arrangements. To the extent that these arrangements are relevant to the individual, he manifests an attitude toward medical care.

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[17] B. J. Darsky and C. A. Metzner, Health Organization in American Society (Unpublished manuscript, Department of Medical Care Organization, School of Public Health, University of Michigan, Ann Arbor), p. 16. (Mimeographed)

Thus, attempts to influence the individual by the various interest groups, results in either a confirmation or a refutation of his existing attitude structure. The question arises as to the effect the influence attempts have on the individual's evaluation of the group generating the influence. This leads to the more general question concerning the effectiveness of the group's continuing role as an influencing agent in medical care. Moreover, given a state of confirmation or refutation, the further question arises concerning the intermediate factors that influence the individual's evaluation of this refuting or confirming source. The UAW, as one of many social groups exerting influence in medical care, provides not only an important example of innovation in the field, but a convenient setting within which to analyze these questions.

Two analyses have been conducted to test the dispositional balance model, and thus provide insight into the manner in which situational and personality dispositions mediate the individual's evaluation of the union as an innovator in medical care. They differ from each other only in terms of the population base involved in the analysis. The first is termed the major analysis and evaluates the model in terms of the total study population. This involves members of the UAW who were aware of the choice between CHA and Blue Cross-Blue Shield and who made an unequivocal statement regarding the union's role in medical care. The second analysis evaluates the model on a subset of the total population. This is a refinement of the major analysis and is termed the subsidiary analysis. Findings are presented for both analyses with conclusions relating to social

psychology as the theoretical basis of the study, and medical care as its problematic orientation.

CHAPTER III

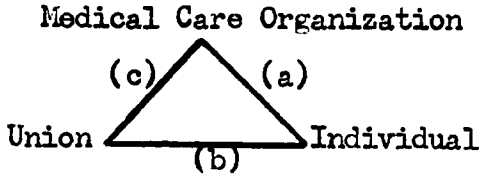
SPECIFIC STUDY OBJECTIVES

The specific objectives of the study define the respective levels of interaction and their relationships.

I. DESCRIPTIVE LEVEL OF ANALYSIS

Attitudes toward objects, persons or groups influence each other. Thus, an attitude toward an object or an event affects the individual's attitude toward the person or group who caused the event.

In terms of the choice situation, the interdependency of attitude formation suggests the following triad configuration (Figure III-1) as a means for conceptually dealing with the individual, the innovator, and the innovation - in this case, the union member, the union, and the new health organization.



where,

Individual = a member of the UAW

Union = innovative source with respect to the stimulus object

Medical Care Organization = stimulus object

Figure III-1 Conceptual Triad Involving the Units and Their Interactions

Units of Conception

Individual: is symbolically designated as I, and defined as one of the members of the UAW who participated in the choice situation. Within these defining characteristics the individual is viewed as manifesting an attitude with respect to both the union and the stimulus object.

Union: is symbolically designated as U, and described as a social group (UAW) functioning as a medium of change with respect to innovative norms regarding medical care organization. Pressure for change resulting in the innovative norms, was established by the existence of a shared perspective among union leaders and selected members interested in the problems of health and medical care and given explicit sanction by the group hierarchy.

Medical Care Organization: is symbolically designated as O, and viewed as an undefined object except for its existence in the configuration, where it is a stimulus (choice) object for the individual conforming to the norms of the union. Thus, although undefined, the stimulus object is associated with the major structural components that differentiate CHA from Blue Cross-Blue Shield. These components are considered in terms of the organization of medical practice, i.e., group versus solo practice; the payment of physicians, i.e., salaried versus fee for service; the control of the medical care plan at the policy level, i.e., consumer versus professional; and the type benefit structure, i.e., comprehensive versus restricted.

Relationship of Units: First Order Interactions

The relationship of units is termed first order interactions and symbolically represented as R_1. The specific unit relationships as noted in Figure III-1 are (a) Attitude of the Individual Toward Medical Care, (b) Attitude of the Individual Toward the Union, (c) Union Norms. The relationships are defined as follows:

(a) Attitude of the Individual Toward Medical Care: the relationship of the individual to the stimulus object is symbolized as $I\ ^{R}\ O$ and denoted as R_{10}.

This relationship is described in terms of the attitude the individual manifests toward the perceived object. This attitude[18] is defined as the individual's tendency or predisposition to evaluate the object in a certain way. The evaluation[19] is the attribution of qualities each of which is either positive (+) or negative (-). This evaluation is restricted to the structural elements of the stimulus object. Symbolically, the two states of the relationship are represented as R_{10}^{+} and R_{10}^{-} respectively.

(b) Attitude of the Individual Toward the Union: the relationship of the individual to the union is symbolized as $I\ ^{R}\ U$ and

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[18] D. Katz and E. Stotland, "A Preliminary Statement to a Theory of Attitude Structure and Change," in Psychology: A Study of a Science, Vol. 3, ed., S. Koch (New York: McGraw Hill, 1959), pp. 428-431.

[19] Evaluation in this sense always includes cognitive and affective components. However when attitudes, with respect to both (a) medical care and (b) the union, are operationalized in terms of union norms (second order interactions) the study concerns itself mainly with cognitive components, i.e., verbal statements of belief, without explicitly attempting to measure their respective affective components.

denoted as R_{1U}^{-}.

This relationship is described in terms of the attitude the individual manifests toward the union. This attitude is defined as the individual's tendency or predisposition to evaluate the group in a certain way. As in the relationship of the individual to medical care the evaluation[20] is the attribution of qualities which are either positive (+) or negative (-). Symbolically, the two states of the relationship are represented as R_{1U}^{+} and R_{1U}^{-} respectively.

(c) Union Norms: the relationship of the union to the stimulus object is symbolized as $U\ ^{R}\ O$ and denoted as R_{1N}.

This relationship is described in terms of the union norms with respect to the medical care organization. These norms are defined as a set of directions with respect to the stimulus object, which the group, as manifest by its leaders in the area of medical care and given sanction by the group hierarchy, induce forces which act upon members of the group. Operationally, these norms are given a priori and restricted to the structural elements of the stimulus object. Thus, the directionality of the norms with respect to the particular stimulus exists in only one state; positive (+). Symbolically, the state of this relationship is represented as R_{1N}^{+}.

Relationship of First Order Interactions: Second Order Interactions

Within the primary interactions two further relationships are considered: cognitive interaction toward medical care and cognitive interaction toward the union. These are derived from the interaction

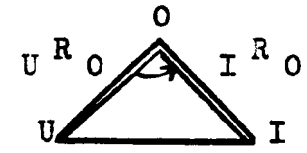
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[20] Ibid.

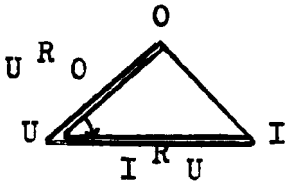
of the first order relationships and are designated second order interactions.[21] The relationships between the first order interactions is symbolically represented as R_2 and described as follows:

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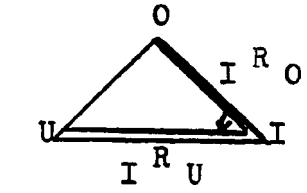
[21]The combinations of the first order interactions results in the existence of the following relationships:



$$I\ R\ O \cdot R \cdot U\ R\ O = R_{10} \cdot R \cdot R_{1N} = R_{20} = D$$



$$I\ R\ U \cdot R \cdot U\ R\ O = R_{1U} \cdot R \cdot R_{1N} = R_{2U} = D'$$



$$I\ R\ O \cdot R \cdot I\ R\ U = R_{10} \cdot R \cdot R_{1U} = R_{2X}$$

R_{20} and R_{2U} define cognitive interaction toward medical care and cognitive interaction toward union respectively and are derived by collapsing R_{1N} into R_{10} and R_{1U}. This is possible in that R_{1N} is constant and defined a priori as positive to the stimulus object (O).

R_{2X} is not dealt with as a second order interaction in that its relationship involves only R_{10} and R_{1U} without taking into consideration R_{1N}. The exclusion of R_{2X} at this level of interaction is apparent in that the study objectives are specifically concerned with the union norms relative to the individual's cognitive structure with respect to the stimulus object (therefore yielding consonance or dissonance) and the evaluation of the union as a source of these norms (therefore yielding some state of negation) and the resulting third order interaction between the respective states of cognitive interactions R_{20} and R_{2U}.

Cognitive Interaction Toward Medical Care (D): is defined as the relationship (R_{20}) existing between the individual's attitude toward medical care (R_{10}) and the union's norms with respect to the stimulus object (R_{1N}). Symbolically, this relationship between these two first order interactions is designated as:

$$D = R_{20} = R_{10} \cdot R \cdot R_{1N}$$

This interaction, as a second order relationship (D), is differentiated into two dichotomous states: consonance and dissonance. Symbolically, these states are designated as D_1 and D_4 respectively.[22]

Within the condition of relevance, the states of consonance and dissonance exist to the extent that the innovative norms, as manifest by social influence, are met with cognitive confirmation or refutation. The former is the state resulting from the individual's perception or evaluation of the social influence as an impinging event which is compatible with or facilitative to the cognitive structure operative at the particular point in time. In this state there would be cognitive consonance (D_1) between the respondent's cognitive structure and the union's innovative norms. Refutation occurs when social influence, as the impinging event, is evaluated as conflicting with or being incompatible with the directionality of the

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[22]The notation D_1, D_4 rather than D_1, D_2 is used to make explicit the existence of degrees of cognitive interaction ranging from consonance to dissonance and that the present analysis limits itself only to the dichotomous states. Although it is conceptually possible for the disjunctive-conjunctive balance matrix to accomodate degrees of cognitive interaction toward the stimulus object the limitations of the available data do not permit operational distinctions other than that of consonance and dissonance.

existing cognitive structure. In this state there would be cognitive dissonance (D_4) between the respondent's cognitive structure and the union's innovative norms.

Cognitive Interaction Toward the Union; Negation (D'): is defined as the relationship (R_{2U}) existing between the individual's attitude toward the union (R_{1U}) and the union's norms with respect to medical care (R_{1N}). Unlike the preceeding interaction, evaluation is not expressed in terms of normative content, i.e., evaluating medical care relative to union norms, but in terms of an appraisal of the union as an agent of these norms, i.e., the legitimacy of the union's role in medical care. Symbolically, the relationship between these first order interactions is designated as:

$$D' = R_{2U} = R_{1U} \cdot R \cdot R_{1N}$$

This interaction as a second order relationship (D') is differentiated into the following states: no negation, minimal negation, moderate negation, and maximal negation. These states are designated as: D'_1, D'_2, D'_3, D'_4, respectively.

Relationship of Second Order Interactions: Third Order Interaction

The relationship between the two second order interactions shall be termed a third order interaction (R_3) and treated as the dependent variable. Within this relationship, balance between the two sets of cognitive interactions (D and D') is conjunctively defined, i.e., balance is said to exist where the states of each second order interaction coincide (ith state = jth state for D_i and D'_j). Concomitant to each of the balance states there exists three states of imbalance

with the relationship between the two sets of cognitive interactions being disjunctively defined, i.e., imbalance is said to exist where the states of each second order interaction do not coincide (ith state $\neq$ jth state for D_i and D'_j).

Expressed graphically (See Figure III-2) balance is represented as those states of cognitive interaction (D) and (D') which are in cells (a) and (h) of the D x D' matrix. Imbalance is represented by cells b, c, d, e, f, g .

Cognitive Interaction Toward Medical Care (D)	Cognitive Interaction Toward the Union (D')			
	D'_1	D'_2	D'_3	D'_4
D_1	a	b	c	d
D_4	e	f	g	h

Figure III-2 Cognitive Interaction Matrix (D x D')

Expressed symbolically, the respective states of balance and concomitant states of imbalance exists as follows:

(1) Balance in which there is consonance and no negation

$$D_1 {}^{\bullet}R^{\bullet} D'_1 = R_{31}$$

(2) Imbalance in which there is consonance and minimal negation

$$D_1 {}^{\bullet}R^{\bullet} D'_2 = R_{32}$$

(3) Imbalance in which there is consonance and moderate negation

$$D_1 {}^{\bullet}R^{\bullet} D'_3 = R_{33}$$

(4) Imbalance in which there is consonance and maximal negation

$$D_1 \cdot R \cdot D_4' = R_{34}$$

(5) Imbalance in which there is dissonance and no negation

$$D_4 \cdot R \cdot D_1' = R_{35}$$

(6) Imbalance in which there is dissonance and minimal negation

$$D_4 \cdot R \cdot D_2' = R_{36}$$

(7) Imbalance in which there is dissonance and moderate negation

$$D_4 \cdot R \cdot D_3' = R_{37}$$

(8) Balance in which there is dissonance and maximal negation

$$D_4 \cdot R \cdot D_4' = R_{38}$$

II. ANALYTICAL LEVEL OF ANALYSIS

Thus far we have dealt conceptually with the descriptive level of analysis, defining the units and defining their relationship as first order interactions; the relationship between first order interactions as second order interactions; and lastly, the relationship between second order interactions which was termed a third order interaction and designated the dependent variable. We shall now go beyond the descriptive level of analysis and attempt to deal with the situational and personality conditions under which we would expect the existence of various states of the third order interaction.

In dealing at the analytical level of analysis, and thus attempting to impute meaning to the third order interaction, one is faced first, with the task of defining the relationship between the

personality and situational dispositions as independent variables, and secondly, defining their relationship to the various states of the third order interaction. Thus, we are forced to deal with one of the most interesting and possibly most important questions that has been raised both in social psychology and sociology; that is, in what way is social behavior determined by: (a) the individual's membership in some larger interacting unit, e.g., union, (b) the individual's experience or, (c) a function of both. In other words, how is social behavior as manifest by a predisposition to evaluate an object, person, or group in a certain way, determined by situational (external) variables, experiential (internal or internalized) variables, or by some combination of the two in the personality.

In considering the above questions, two basic views have traditionally been presented: that which posits a sociological approach and considers the situational variables as the determinents of social behavior; and that which posits a psychological approach and considers the experiential variables as the determinents of social behavior. In terms of the first, a number of investigators have considered the group as a social entity independent or at least quasi-independent of any specific individuals. In so doing, these investigators posit that the group influences individual behavior by the existence of normative patterns which transcend the respective individuals. In support of this position the argument is advanced that a group is more than the total of its parts. Durkheim, as a strong proponent of this position has stated that, "Social facts

(collective representations)....by their very nature tend toward an independent existence outside the individual consciousness, which they dominate."[23]

F. H. Allport is a chief proponent of an opposing position. He suggests, that the existence of a social group manifesting normative patterns influencing the individual's behavior represents a "group fallacy" and is nothing more than an abstraction of certain attitudes and beliefs generated from the personal mental life of the individual. Taking this position Allport[24] states that, "by the similarity of human nature the individuals of the crowd (group) are all set to react to their common object in the same manner, quite apart from social influence. Stimulation from one another releases and augments these responses, but do not originate them."

Thus, the existence of a group's normative pattern is regarded as abstractions from the behavior and consciousness of individuals. People are not a part of social groups manifesting norms, but norms are parts of people.[25] Although this conceptualization overstresses conformity and understresses the reciprocity of roles within the group setting, it preserves the strictly individual approach to the study of larger interaction patterns.

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[23]E. Durkheim, The Rules of Sociological Method, trans. S. A. Solovay and J. H. Mueller, ed. G. E. Catlin (eighth edition; Chicago: University of Chicago Press, 1938), p. 30.

[24]F. H. Allport, Social Psychology (New York: Houghton-Mifflin, 1924), p. 299.

[25]G. W. Allport, "The Historical Background of Modern Social Psychology," in Handbook of Social Psychology, Vol. 1, ed., G. Lindsey (Cambridge, Addison Wesley, 1959), p. 39.

Evolving from this more or less classic dichotomy has been a synthesis, indicating that the integrity of the personality system can be preserved while affirming the existence and action of social structures that transcend the individual. Parsons and Shils[26] in approaching the question in terms of systems analysis write:

> Personality as a system has a fundamental and stable point of reference, the acting organism. It is organized around the one organism and its life processes. But ego and alter interaction with each other also constitute a system. This is a system of a new order, which, however intimately dependent on them does not simply consist of the personalities of the two members.

It can therefore be said, that understanding and predicting of behavior in a social setting requires not only the knowledge of experiential variables as they compose the personality system or the knowledge of situational variables as they compose the social system - but the knowledge of their complex interaction. For example, given a particular complex of social stimuli (input) the resulting behavior (output) is a function of both the personality system through which the social stimuli are perceived and the situational variables which determine what seems to the individual to be necessary or expedient behavior in terms of the social situation to which the response is made.

This interdependent relationship of experiential and situational variables appears to be highly complex. Any understanding and prediction of social behavior requires the integration of many facets of experiential functioning and situational dispositions into a meaningful whole.

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[26] Parsons, et al., op. cit., p. 23.

Thus, one may posit that the conjunctive-disjunctive states of balance and imbalance (dependent variables) may be represented by some combination of personality and situational dispositions. The situational disposition is viewed as a function of two background factors: interaction between the individual and the union, and secondly, the existence of social support for the individual's refuted or confirmed cognitive structure with respect to medical care. The personality disposition is defined independently of either of these terms and is formulated along a developmental dimension from a concrete to an abstract orientation.

Although the exact manner in which the two background factors interact to generate situational dispositions, and the manner in which situational dispositions interact with the personality disposition relative to the states of cognitive balance and imbalance is problematic, testable hypotheses are derived on the basis that the dispositions interact with equal influence. However, to provide some insight into the validity of this assumption, the respective dispositions are analyzed relative to the two cognitive interaction variables.

Personality Disposition and Cognitive Structure

Ideally, one would desire a superordinate system defining the personality disposition in such a manner that would combine several variables into a general cluster of behavioral patterns. Under such a system, variables which are relatively uncorrelated within the total population would be highly correlated within the cluster. These variables would therefore serve as a pattern of joint prediction for

a given response to a stimulus object.

A theory of personality organization that moves in this direction has been formulated by Harvey, Hunt, and Schroeder.[27] They describe a system of concepts along a developmental dimension from a concrete to an abstract orientation.

These concepts represent a system of ordering that serves as a mediating link between the input (stimuli) and the output side (response). In operating as a system of ordering, a concept may be viewed as a categorical scheme, an intervening medium or program through which impinging stimuli are coded, passed, or evaluated on their way to response evocation.

Harvey, et al.,[28] designate the most important structural characteristic of the concept to be the degree of concreteness or abstractness. Variations in the degree of concreteness - abstractness result in individual differences in the extent to which the individual is restricted to or can go beyond the physical characteristics of the impinging stimuli in organizing his evaluation and experience of a situation. Thus, the greater the individual's abstractness the greater his ability to transcend immediacy and to move into the temporally and spatially remote, and secondly, the more capable the individual is of abstracting relationships from objects of his experience and of organizing them in terms of their interrelatedness.

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[27] O. J. Harvey, D. E. Hunt, and H. M. Schroeder, Conceptual Systems and Personality Organization (New York: John Wiley and Sons, Inc., 1961).

[28] Ibid., p. 3.

On the other hand, the greater the individual's concreteness, the greater the degree of stimulus "oughtness" in dictating his response with concomitants almost opposite that of abstractness. Furthermore, whereas the more abstractly functioning individual tends toward differentiating his world into many facets and integrating them holistically, but interdependently, the more concretely functioning individual is more likely to make only few differentiations of his environment and to leave these cognitive "elements" in greater states of isolation.

Harvey, Hunt, and Schroeder postulate four nodal positions or systems along the concrete - abstract dimension which they term Systems I, II, III, and IV.[29] Due to the complexity of the field situation and the limitations of the existing questionnaire schedule relative to this particular conceptualization, the concrete - abstract dimension is dichotomized and designated as two states: System A and System B.

System A

System A, represents a synthesis of Harvey, Hunt, and Schroeder's Systems I and II and is characterized as being relatively concrete in orientation. Thus, the individual is characterized by external control and the acceptance of externally derived concepts not built up through experience with the actual stimuli, and by the absolute nature of such concepts relative to the stimulus object. Moreover, the individual

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[29]For a description and discussion of the four systems see, Ibid., pp. 93-109.

functioning at this system level tends toward the use of absolutistic ready made conceptual criteria. This characterization implies a lack of differentiation between a rule and its purpose; between authority and one's own experience, and between one's thought about authority and the self.

System B

System B, represents a synthesis of Harvey, Hunt, and Schroeder's Systems III and IV and is characterized as being relatively abstract in orientation. Thus, the individual is characterized as being able to view others less subjectively, i.e., less in terms of his own motives and less in terms of absolute standards and more in terms of other standards and past experience. Moreover, this level of functioning is also characterized by the ability of the individual to hold alternative views of the self, of events and of others simultaneously with a minimum of concern for ambiguity.

In this system, the abstract standards are developed through the exploration of alternative solutions against a variety of criteria. Thus, functioning is characterized both by the availability of alternate conceptual schemata as a basis of relating to stimulus objects and by the ability to hold a strong view or attitude without distorting incoming information.

In terms of the conceptual configuration, the relationship of the two personality dispositions (System A and System B) to the individual's cognitive interactions toward the union (negation) depends on the existing state of the individual's cognitive interaction regarding medical care. Thus, in a conflict situation regarding the individual's

cognitions toward medical care, individuals characterized by System A can tolerate only minimal cognitive discrepancies and tend to negate the source of conflict in order to minimize such discrepancies. Conversely, in nonconflict situations the individual will tend not to negate the source of cognitive confirmation in order to maintain these discrepancies at a minimal level. On the other hand, individuals characterized by System B can tolerate a greater level of cognitive discrepancies with respect to medical care in that he believes a situation can be interpreted in many ways. When conflict occurs the individual is able to objectively seek information and resolve conflict by integration and not by negation. Moreover, in that events are perceived as having a multiple and relativistic relationship to each other the individual has a tendency, or at least the capacity, to negate a source of confirmation in a nonconflict situation.[30]

These sets of relationships would suggest that:

(1) to the extent that the individual has experienced cognitive refutation and therefore manifests cognitive dissonance regarding medical care (D_4), the existence of a relatively concrete personality disposition (A) results in an increased tendency to negate the union as the source of refutation.

(2) to the extent that the individual has experienced cognitive refutation and therefore manifests dissonance regarding medical care

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[30]Statement (4), as an operational presentation of this relationship is thus expressed in terms of the individual's capacity to negate the union as a source of cognitive confirmation, rather than as a tendency as is the case for the preceeding relationships presented by statements (1), (2), and (3).

(D_4), the existence of a relatively abstract personality disposition (B) results in a decreased tendency to negate the union as the source of refutation.

Conversely,

(3) to the extent that the individual has experienced cognitive confirmation and therefore manifests cognitive consonance regarding medical care (D_1), the existence of a relatively concrete personality disposition (A) results in a decreased tendency to negate the union as the source of confirmation.

(4) to the extent that the individual has experienced cognitive confirmation and therefore manifests cognitive consonance regarding medical care (D_1), the existence of a relatively abstract personality disposition (B) results in an increased capacity to negate the union as the source of confirmation.

Situational Dispositions and Cognitive Structure

Situational dispositions are viewed as a function of two factors: union interaction and social support.

Union Interaction

Union interaction is an index of the amount of communication or communicative interaction, and the importance of such interaction that occurs between the individual and the group. Although it is impossible to measure this directly, three variables seem relevant: the length of time the individual was a union member, the frequency of interaction, and the degree of involvement with the union organization. The joint effect of these three variables reflects the quality and quantity of the interaction and ranges on a continuum

from high to low. Operationally, the continuum is dichotomized into high and low interaction. Symbolically, this is designated as IH and IL.

Festinger, in dealing with a more simple configuration states that, "The open expression of disagreement in a group leads to the existence of cognitive dissonance in the members."[31] He goes on to state that, "The magnitude of the dissonance introduced by disagreement from others increases with the increase in the attractiveness of those voicing disagreement."[32]

Thus, in terms of the conceptual configuration, one may posit that when union interaction is less attractive to the individual, dissonance as a result of disagreement may be less severe resulting in minimal negation. Specifically, the relationship would suggest that:

(1) to the extent that the individual has experienced cognitive refutation and therefore manifests cognitive dissonance regarding medical care (D_4), the existence of low interaction (IL) would suggest that union interaction may be considered to be less significant and results in a decreased tendency to negate the union as the source of refutation.

(2) to the extent that the individual has experienced cognitive

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[31]Festinger, op. cit., p. 261.

[32]Ibid., p. 263.

refutation and therefore manifests cognitive dissonance regarding medical care (D_4), the existence of high interaction (IH) would suggest that union interaction may be considered significant and results in an increased tendency to negate the union as the source of refutation.

Conversely,

(3) to the extent that the individual has experienced cognitive confirmation and therefore manifests cognitive consonance regarding medical care (D_1), the existence of low interaction (IL) would suggest that union interaction may be considered less significant thus resulting in an increased tendency to negate the union as the source of confirmation.

(4) to the extent that the individual has experienced cognitive confirmation and therefore manifests cognitive consonance regarding medical care (D_1), the existence of high interaction (IH) would suggest that union interaction may be considered significant thus resulting in a decreased tendency to negate the union as the source of confirmation.

Social Support

Social support is an index of the amount of social reinforcement for the individual's refuted or confirmed cognitive structure with respect to medical care. Based on the general social

psychological finding[33,34] that individuals tend to be exposed to information that supports or reinforces existing cognitions and relatively unexposed to information that challenges these cognitions two states of support are considered: presence of social support (SP) - the individual manifests social support for either the refuted or confirmed cognitive structure; absence of social support (SN) - the individual does not manifest social support for either the refuted or the confirmed cognitive structure.

The presence or absence of social support generated by the interaction of the individual with various information sources independent of the union, may shape the individual's attitude toward the union as a source of cognitive refutation or confirmation.

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[33]For example see: P. F. Lazarsfeld, B. Berelson and H. Gaudet, The People's Choice (second edition; New York: Columbia University Press, 1948), p. 90; D. Cartwright, "Some Principles of Mass Persuasion: Selected Findings of Research on the Sale of United States War Bonds," Human Relations, 2 (July, 1949), pp. 253-267; S. A. Star and H. M. Hughes, "Report on an Educational Campaign: The Cincinnati Plan for the United Nations," American Journal of Sociology, 55 (January, 1950), p. 398; G. M. Hochbaum, Public Participation in Medical Screening Programs, United States Department of Health, Education, and Welfare, (Washington, D. C.:1958), p. 8; W. Schramm and R. F. Carter, "Effectiveness of a Political Telethon," Public Opinion Quarterly, 23 (Spring, 1959), pp. 121-126; R. E. Wolfinger, et al., "American Radical Right: Politics and Ideology," in Ideology and Discontent, ed., D. Apter (New York: The Free Press of Glencoe, 1964), pp. 263-289.

[34]For an excellent review of whether this finding indicates a general psychological tendency for the individual to prefer supportive information see: J. L. Freedman and D. O. Sears, "Selective Exposure," in Advances in Experimental Social Psychology, Vol. 2, ed., L. Berkowitz (New York: Academic Press, 1965), pp. 57-95.

Some basis for this line of thinking is provided by Asch[35] in which he suggests that the effect of refutation may differ as a function of the number of persons who are expressing the refutation. He showed that yielding increases as the number of persons agreeing upon discrepant information increases. More recent and more relevant to the present problem, Strickland, Jones, and Smith[36] have demonstrated that refutation in an area in which the refuted person holds a favorable or unfavorable attitude resulted in a negative evaluation of the source of refutation. Group support, for the attitude that the refuted person held, resulted in an increase in the negativity of that evaluation.

In terms of the conceptual configuration, the relationship of social support to the individual's cognitive interaction toward the union (negation) depends on the existing state of the individual's cognitive interaction toward medical care. Thus, extending the above findings to the configuration would suggest that:

(1) to the extent that the individual has experienced cognitive refutation and therefore manifests cognitive dissonance regarding medical care (D_4), the presence of social support (SP) for the refuted cognitive structure results in an increased tendency to negate the union as the source of refutation.

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[35] S. E. Asch, "Effects of Group Pressure Upon the Modification and Distortion of Judgements," in Readings in Social Psychology, eds., E. E. Maccoby, T. M. Newcomb and E. L. Hartley (New York: Holt, Rinehart and Winston, Inc., 1958), pp. 174-183.

[36] L. H. Strickland, E. F. Jones and W. P. Smith, "Effects of Group Support on the Evaluation of an Antagonist," Journal of Abnormal and Social Psychology, 61 (July, 1960), pp. 73-81.

(2) to the extent that the individual has experienced cognitive refutation and therefore manifests cognitive dissonance regarding medical care (D_4), the absence of social support (SN) for the refuted cognitive structure results in a decreased tendency to negate the union as the source of refutation.

Conversely,

(3) to the extent that the individual has experienced cognitive confirmation and therefore manifests cognitive consonance regarding medical care (D_1), the presence of social support (SP) for the confirmed cognitive structure results in a decreased tendency to negate the union as the source of confirmation.

(4) to the extent that the individual has experienced cognitive confirmation and therefore manifests cognitive consonance regarding medical care (D_1), the absence of social support (SN) for the confirmed cognitive structure results in an increased tendency to negate the union as the source of confirmation.

CHAPTER IV

SYNTHESIS: THE INTERACTION OF DESCRIPTIVE AND ANALYTIC LEVELS OF ANALYSIS

I. SUMMARY

Thus far two levels of analysis have been presented: descriptive and analytic. At the descriptive level, three sets of interactions have been defined: first, second, and third order interactions. In terms of the third order interaction a conjunctive - disjunctive relationship was defined between the individual's cognitive interaction toward medical care and cognitive interaction toward the union. This relationship was designated the dependent variable, where, cognitive interaction toward medical care (D) was defined as the relationship between the individual's cognitive structure with respect to medical care organization and the respective innovative norms advocated by the union with respect to medical care. Two states were defined: consonance and dissonance. Cognitive interaction toward the union (D') was defined as the relationship between the individual and the union and was expressed as the individual's evaluation of the union as a source of innovative norms with respect to medical care. Four states were defined: no negation, minimal negation, moderate negation, and maximal negation.

Balance between the two sets of cognitive interactions was conjunctively defined. To the extent that the disjunctive relationships exist, the configuration was imbalanced.

At the analytical level, situational and personality dispositions were presented. The personality disposition was viewed in terms

of a system of ordering that serves as a mediating link between the input side (stimuli) and the output side (response) of which the concrete - abstract dimension was the most important structural characteristic. The dimension was dichotomized into System A (A) and System B (B), with the former designating a concrete orientation and the latter an abstract orientation to conflict situations. Situational dispositions were defined to have two components: union interaction and social support. Union interaction was considered an index of the amount of communication or communicative interaction and the importance of this interaction to the individual. Two states were defined: high (IH) and low (IL) union interaction. Social support was considered an index of the amount of social reinforcement the individual manifests for a confirmed or refuted cognitive structure. Two states were defined: presence of social support (SP), and absence of social support (SN). The relationship of the respective dispositions to the individual's cognitive interaction toward the union (negation) was defined as a function of the state of the individual's cognitive interaction toward medical care (consonance - dissonance).

In Chapter III the above dispositions were related individually to the third order interaction. The concern, in this chapter, will be to hypothesize the simultaneous relationships between states of the personality and situational dispositions relative to the states of the third order interaction. This is termed the dispositional balance model.

II. HYPOTHESES

Hypothesis 1: Balance State - Consonance

Given consonance between the individual's cognitive structure with respect to medical care and the union's innovative norms, the individual's negation of the union will be nonexistent if and only if ($\leftrightarrow$) all of the following three dispositions are present:

(a) the individual's personality disposition is characterized as manifesting a System A orientation (A)

(b) the individual manifests high interaction with the union (IH)

(c) the individual manifests social support (SP)

Expressed symbolically:

$$D_1' \leftrightarrow (A \cdot IH \cdot SP) \mid D_1$$

This hypothesis would hold, for example, if the following should occur. The individual in the choice situation finds that his attitude toward medical care is in agreement with that presented by the union (D_1). His evaluation of the union relative to its position regarding medical care depends on the state of the individual's personality and situational dispositions. Thus, if the particular individual is characterized by a relatively concrete personality orientation (A), is highly involved in union activities (IH), and his attitudes are supported by other relevant parties (SP), he will tend to express a relatively favorable attitude toward the union's role in medical care (D_1').

Hypothesis 2: Imbalance - Consonance

Given consonance between the individual's cognitive structure with respect to medical care and the union's innovative norms, the individual's negation of the union will be minimal if and only if two of the three dispositions are in the state posited by hypothesis 1.

Expressed symbolically:

$$D_2' \longleftrightarrow (A \cdot IH \cdot SN) \mid D_1$$
$$U\ (A \cdot IL \cdot SP) \mid D_1$$
$$U\ (B \cdot IH \cdot SP) \mid D_1$$

This hypothesis would hold, for example, if the following should occur. If the individual experiences agreement with the union's norms, as above, but is characterized by only two of the above dispositions, he will tend to express a less favorable attitude toward the union's role in medical care.

Hypothesis 3: Imbalance - Consonance

Given consonance between the individual's cognitive structure with respect to medical care and the union's innovative norms, the individual's negation of the union will be moderate if and only if one of the three dispositions are in the state posited by hypothesis 1.

Expressed symbolically:

$$D_3' \longleftrightarrow (A \cdot IL \cdot SN) \mid D_1$$
$$U\ (B \cdot IH \cdot SN) \mid D_1$$
$$U\ (B \cdot IL \cdot SP) \mid D_1$$

This hypothesis would hold, for example, if the following should occur. The previous example suggested the conditions under which the individual may form a less favorable attitude toward the union's role

in medical care. If that individual is characterized by only one of the described dispositions the attitude of the individual toward the union's role in medical care increases in negativity (D_3').

Hypothesis 4: Imbalance - Consonance

Given consonance between the individual's cognitive structure with respect to medical care and the union's innovative norms, the individual's negation of the union will be maximal if and only if none of the dispositions are in the state posited by hypothesis 1.

Expressed symbolically:

$$D_4' \leftrightarrow (B \cdot IL \cdot SN) \mid D_1$$

This hypothesis would hold, for example, if the following should occur. If the individual finds himself in agreement with the union's norms relative to medical care, as was referred to in the previous examples, but is characterized by none of the described dispositions, i.e., the individual is characterized by a relatively abstract personality orientation (B), is not highly involved in union activities (IL), and his attitudes are not supported by other relevant parties (SN), he will tend to express maximal negativity of the union's role in medical care (D_4').

Hypothesis 5: Imbalance - Dissonance

Given dissonance between the individual's cognitive structure with respect to medical care and the union's innovative norms, the individual's negation of the union will be nonexistent if and only if all of the following dispositions are present.

(a) the individual's personality disposition is characterized as manifesting a System B orientation (B).

(b) the individual manifests low interaction with the union (IL)

(c) the individual manifests no social support (SN)

Expressed symbolically:

$$D_1' \longleftrightarrow (B \cdot IL \cdot SN) \mid D_4$$

This hypothesis would hold, for example, if the following should occur. The individual in the choice situation finds that his attitude toward medical care is in conflict with the position presented by the union (D_4). As in the previous examples, the individual's evaluation of the union relative to its position regarding medical care depends on the state of his personality and situational dispositions. Thus, if this particular individual is characterized by a relatively abstract personality orientation (B), is not highly involved in union activities (IL), and has no social support for refuted attitudes (SN), there exists a tendency for the individual to express a relatively favorable attitude toward the union's role in medical care (D_4').

Hypothesis 6: Imbalance - Dissonance

Given dissonance between the individual's cognitive structure with respect to medical care and the union's innovative norms, the individual's negation of the union will be minimal if and only if two of the dispositions are in the positive state posited by hypothesis 5.

Expressed symbolically:

$$D_2' \longleftrightarrow (B \cdot IL \cdot SP) \mid D_4$$
$$U\ (B \cdot IH \cdot SN) \mid D_4$$
$$U\ (A \cdot IL \cdot SN) \mid D_4$$

This hypothesis would hold, for example, if the following should occur. The previous example suggests the conditions under which one might expect the individual to manifest a favorable attitude toward the union's role in medical care, despite conflict between the individual's attitude and the union's norms relative to medical care. If, however, this person is characterized by only two of the above dispositions the attitude of the individual toward the union's role in medical care would become less favorable (D_2').

Hypothesis 7: Imbalance - Dissonance

Given dissonance between the individual's cognitive structure with respect to medical care and the union's innovative norms, the individual's negation of the union will be moderate if and only if one of the dispositions are in the positive state posited by hypothesis 5.

Expressed symbolically:

$$D_3' \leftrightarrow (B \cdot IH \cdot SP) \mid D_4$$
$$U\ (A \cdot IL \cdot SP) \mid D_4$$
$$U\ (A \cdot IH \cdot SN) \mid D_4$$

This hypothesis would hold, for example, if the following should occur. As in the above case the individual experiences conflict; however, if the individual is characterized by only one of the above dispositions (hypothesis 5) this conflict tends to result in increased negation of the union (D_3').

Hypothesis 8: Balance - Dissonance

Given dissonance between the individual's cognitive structure with respect to medical care and the union's innovative norms the

individual's negation of the union will be nonexistent if and only if none of the dispositions are in a positive state as posited by hypothesis 5.

Expressed symbolically:

$$D_4' \longleftrightarrow (A \cdot IH \cdot SP) \mid D_4$$

This hypothesis would, for example, hold if the following should occur. If the individual experiences conflict with the union's norms (D_4), but is characterized by a relatively concrete personality orientation (A), is highly involved in the union's activities (IH), and has social support for the refuted attitudes (SP), there exists a tendency for the individual to express maximal negation for the union's role in medical care (D_4').

CHAPTER V

STUDY DESIGN

In order to evaluate the above hypotheses two analyses have been conducted. They differ from each other only in terms of the conditions governing the existence of consonance and dissonance with union norms. In that the second analysis is an attempted refinement of the first, general procedures, cognitive and dispositional measures, cluster analysis, and statistical procedures are the same for both and are described in this chapter. Variations, specific hypotheses, and results are reported in the chapters corresponding to the respective analyses.

Data for both analyses were derived from the Study of Choice or Rejection of Group Practice Prepayment Plans.[37] This study consists of two systematic probability samples of UAW members employed by Chrysler, Ford, and General Motors living within the Greater Metropolitan Detroit Area. The first sample (N = 815) is derived from a union listing composed of both Blue Cross-Blue Shield and CHA members in proportion to their actual membership in the universe population. Because the number of CHA members was small relative to the number of Blue Cross-Blue Shield members a second sample (N = 386) was selected from a listing of CHA members.

In that the purpose of the current study was to predict the differences between characteristics of people, rather than attempting

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[37] C. A. Metzner and R. L. Bashshur, Study of Choice or Rejection of Group Practice Prepayment Plans, (on-going research, Department of Medical Care Organization, School of Public Health, University of Michigan, 1967).

to generalize to the UAW population, the two samples were combined (N = 1201) to represent the study population with no consideration given to their differential weighting. However, in that the conceptual model requires that the individual be aware of the elements in the choice situation, therefore, requiring that the individual not only be structurally part of the situation but functionally involved, individuals unaware that a choice existed between CHA and Blue Cross-Blue Shield, and those who failed to make an unequivocal statement as to the union's role in medical care were eliminated from the study population, reducing the final total to 853 persons. Thus, prediction is to any population meeting the conditions of functional participation in a choice situation and having the hypothesized personality and situational dispositions; although, the actual test is made within a particular working class population in a particular industry and city.

I. MEASURE OF COGNITIVE INTERACTION TOWARD MEDICAL CARE

This second order interaction (D) was defined as the relationship (R_{20}) existing between the individual's attitude toward medical care (R_{10}) and the union's norms with respect to medical care (R_{1N}).

Symbolically, the relationship was designated as:

$$D = R_{20} = R_{10} \cdot R \cdot R_{1N}$$

and was differentiated into dichotomous states; consonance (D_1) and dissonance (D_4).

The following questions are used to provide a measure of the individual's cognitive orientation toward the structural elements of a medical care program. Categories coded (1) indicate a consonant state, whereas categories coded (3) indicate a dissonant state.[38]

(A) Do you think it makes a difference in a doctors treatment of you if he is on a salary or if he is paid for each visit?

(1) Strongly in favor or in favor of doctors on salary
(2) Indifferent
(3) Strongly in favor or in favor of doctors on fee for service

(B) Some people think that it is important that family doctors and specialists work together in the same place as a group, while others think that family doctors can handle most illnesses by themselves and don't need to work in the same place with specialists. Which would you rather have?

(1) Strongly in favor or in favor of family doctors and specialists as a group.
(2) Indifferent
(3) Strongly in favor or in favor of family doctors and specialists by themselves

(C) Would you like a say in how your health insurance plan is run? If yes, how important would you say this was?

(1) Yes, very important or somewhat important
(2) Yes, but not important
(3) No

(D) Some health insurance plans cover more kinds of care than others. Do you think they should cover all kinds of care, or are there some things they don't have to?

(1) All kinds
(2) Not sure
(3) Not all

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[38] Don't know and not ascertained responses for this and all subsequent questions, were assigned the weighted mean value of the respective question.

II. MEASURE OF COGNITIVE INTERACTION TOWARD THE UNION; NEGATION

This second order interaction (D^1) was defined as the relationship (R_{2U}) existing between the individual's attitude toward the union (R_{1U}) and the union as a source of norms with respect to medical care (R_{1N}).

Symbolically, the relationship was designated as:

$$D^1 = R_{2U} = R_{1U} \cdot R \cdot R_{1N}$$

and was differentiated into four states: no negation, minimal negation, moderate negation, and maximal negation. These states are represented by the following question:

> Do you think your union should have an important job to do in arranging for your medical care, or should they stay out of things like this? If important, how important is it to you that the union arranges for your health insurance?

(1) Very important	(no negation - D^1_1)
(2) Somewhat important	(minimal negation - D^1_2)
(3) Not important	(moderate negation - D^1_3)
(4) Stay out	(maximal negation - D^1_4)

III. MEASURES OF PERSONALITY AND SITUATIONAL DISPOSITIONS

Personality Disposition

The individual's personality disposition has been described as a system for ordering, an intervening medium, or program through which impinging stimuli are coded, passed, or evaluated on their way to response evocation. This disposition was characterized by an abstract - concrete dimension of which two states were differentiated: System A

and System B. To provide a measure of the degree of abstractness - concreteness of an individual's personality disposition and thus, permit an operational distinction between System A and System B, Harvey, Hunt, and Schroeder[39] suggest that one possible approach[40] is to determine the functional characteristics of the individual's disposition. Thus, for example, a more abstract orientation is characterized by greater stress tolerance, a more internal conception of causality, greater creativity, a less absolutistic handling of external control, and a more interdependent handling of dependency problems than is a more concrete orientation.

The following questions provide a functional basis for inferring whether an individual's personality disposition may be characterized as System A or System B. Categories coded (1) indicate a more abstract orientation, whereas categories coded (3) indicate a more concrete orientation.

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[39]Harvey, Hunt, Schroeder, op. cit., pp. 257, 331-332.

[40]Harvey, Hunt, and Schroeder also suggest that the degree of concreteness - abstractness may be measured by the structural properties of the dimension, such as the degree of cognitive differentiation and integration the individual manifests toward the stimulus object. Essentially this approach attempts to determine the number of ways an individual can perceive the stimulus object and whether these perceptions manifest a conjunctive or a disjunctive relationship. The inference being, that the more differentiated and conjunctive the system relative to the stimulus object the more abstract the personality disposition.

Ideally, the assessment of the abstract - concrete dimension occurs through the convergence of the structural and functional approaches. However, due to the limitations of the data relative to this particular conceptualization of personality, the study is limited to the more functional approach.

(A) What about mixing socially with people of another race, does this bother you?

(1) Does not mind mixing socially with another race and thinks people should mix, or don't know if they should mix
(2) Does not mind mixing socially with other races but doesn't think races should mix
(3) Minds mixing socially with another race

(B) People feel differently about making changes in the way our country is run. In order to keep America great, which of these statements do you think is best?

(1) We must constantly make changes in the way our country is run
(2) We should feel free to make changes in the way our country is run
(3) We should be very cautious in making changes or rarely make changes in the way our country is run

(C) As long as people get along, the saying "Every man for himself" is a good slogan for our country - Do you

(1) Strongly disagree
(2) Disagree
(3) Agree or strongly agree

Situational Dispositions

Union Interaction

Union interaction was considered an index of the amount of communication or communicative interaction, and the importance of such interaction occurring between the individual and the union. The following three questions provide a measure of this disposition. Categories coded (1) suggest a low state of interaction, whereas categories coded (3) suggest a high state of interaction.

(A) How long have you been a union member? Counting any other local that you have been in before.

(1) Less than 10 years
(2) 10-19 years
(3) 20 years or more

(B) How often do you go to union meetings?

(1) Rarely if ever or a few meetings
(2) Some meetings
(3) Most meetings or all meetings

(C) Have you held an office or membership on union committees during the last five years? If yes, what was that?

(1) Not in office or committee
(2) Held office for three years or less
(3) Held office for more than three years

Social Support

Social support was considered an index of the amount of social reinforcement there exists for the individual's refuted or confirmed cognitive structure with respect to medical care. Although the following questions do not provide an exact measure of this disposition, they do provide a basis for inferring the presence or absence of social support. Categories coded (1) suggest the presence of social support, whereas categories coded (3) indicate the absence of social support.

(A) Do you receive any of the following publications? How often do you read it?

Company Publications

(1) Read it regularly
(2) Read it occasionally or rarely
(3) Does not receive company publications

Bulletins from Physician

(1) Read it regularly
(2) Read it occasionally or rarely
(3) Does not receive bulletins from physicians

Health Insurance Bulletins

(1) Read it regularly
(2) Read it occasionally or rarely
(3) Does not receive health insurance publications

(B) Apart from church services and union meetings, about how often have you attended meetings of any of these groups, i.e., charitable and welfare organizations, clubs, neighborhood improvement association, parent-teacher associations, business or civic groups, veteran organizations, fraternal organizations or lodge, in the last three months?

(1) Attend one or more meetings
(2) Belongs but does not attend
(3) Does not belong

IV. CLUSTER ANALYSIS

To provide a basis for the inference of cognitive interaction toward medical care and the respective personality and situational dispositions, the selected questions were scored over individuals and then assessed relative to each individual in the form of response patterns. To insure that the set of scores maximally reflects the major intent of a set of questions and minimizes the effects of extraneous variation due to differences between questions, the model designates dichotomous states relative to the above cognition and dispositions. Thus, the respective response patterns are partitioned into two relatively homogeneous clusters (termed subpopulations in cognitive interaction toward medical care). Each individual's response pattern is identified with one of the response clusters, such that, one set of response patterns characterize a set of individuals manifesting one state of the disposition or cognition and the other set of response patterns characterizing individuals manifesting the complementary state.

The partitioning of the respective response patterns representing cognitive interaction toward medical care, personality and situational

dispositions into dichotomous clusters was accomplished through a multivariate analysis of contingencies.[41] This analysis, as performed by an IBM 7090 computer program,[42] maps the respective response patterns into an Euclidean space with minimal dimensionality and produces levels of cluster analysis, such that, it insures the maximum separation between clusters containing the maximum number of subjects (response patterns) for a given level, the minimal distance within clusters, and minimal number of clusters.

In that the primary intent of the study design was to create dichotomous clusters, that level of analysis was selected that maximized the distance between clusters containing polar response patterns while simultaneously minimizing the distance within these clusters. Remaining clusters were partitioned on the basis of the distance of their response patterns to the response patterns contained in the original set of dichotomous clusters. The mean distance from the origin and variance was calculated for individuals comprising the dichotomous states of cognitive interaction toward medical care and the respective personality and situational dispositions. To determine the efficiency of the respective partitions the mean interpoint distance between cluster centroids was calculated and evaluated by a t statistic based on a pooled

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[41] For a more detailed exposition of the statistical analysis and a description of the computer program, see J. C. Lingoes, "Multivariate Analysis of Contingencies: An IBM 7090 Program for Analyzing Metric/Nonmetric or Linear/Nonlinear Data," Computation Report, University of Michigan Computing Center, No. 2, August 15, 1966.

[42] Program operated under restriction of N≤100. In that the study population was considerably larger (N=853), it was necessary to base the cluster analysis on a sample of the study population. For procedure see, Appendix A.

estimate of intracluster variance (See Appendices B, C, D, E, and F). Moreover, to insure that the clusters were representative of the concepts involved, they were empirically evaluated relative to pattern and meaning.

V. STATISTICAL TESTS

From the conceptual configuration which defined the personality and situational dispositions associated with the existence of various states of balance and imbalance, the following are derived as testable hypotheses of this conceptualization.

Consonant Subpopulation

Hypothesis 1: that in that subpopulation whose cognitive interaction toward medical care is consonant (D_1), the proportion of individuals characterized as (A•IH•SP) manifesting cognitive interaction toward the union in the form of no negation, relative to all individuals manifesting no negation (D_1'), is greater than the proportion of all individuals characterized as (A•IH•SP) in the entire subpopulation (D_1).

The null form of this hypothesis and all subsequent consonant content hypotheses is expressed as:

Hypothesis 0: that there is no difference in the proportion of individuals characterized as (A•IH•SP) manifesting cognitive interaction toward the union in the form of no negation, relative to all individuals manifesting no negation (D_1'), and in the proportion of all individuals characterized as (A•IH•SP) in the entire subpopulation (D_1).

Hypothesis 2: that in that subpopulation whose cognitive interaction toward medical care is consonant (D_1), the proportion of individuals characterized as $(A \cdot IH \cdot SN) \cup (A \cdot IL \cdot SP) \cup (B \cdot IH \cdot SP)$ manifesting cognitive interaction toward the union in the form of minimal negation, relative to all individuals manifesting minimal negation (D_2'), is greater than the proportion of all individuals characterized as $(A \cdot IH \cdot SN) \cup (A \cdot IL \cdot SP) \cup (B \cdot IH \cdot SP)$ in the entire subpopulation (D_1).

Hypothesis 3: that in that subpopulation whose cognitive interaction toward medical care is consonant (D_1), the proportion of individuals characterized as $(A \cdot IL \cdot SN) \cup (B \cdot IH \cdot SN) \cup (B \cdot IL \cdot SP)$ manifesting cognitive interaction toward the union in the form of moderate negation, relative to all individuals manifesting moderate negation (D_3'), is greater than the proportion of all individuals characterized as $(A \cdot IL \cdot SN) \cup (B \cdot IH \cdot SN) \cup (B \cdot IL \cdot SP)$ in the entire subpopulation (D_1).

Hypothesis 4: that in that subpopulation whose cognitive interaction toward medical care is consonant (D_1), the proportion of individuals characterized as $(B \cdot IL \cdot SN)$ manifesting cognitive interaction toward the union in the form of maximal negation, relative to all individuals manifesting maximal negation (D_4'), is greater than the proportion of all individuals characterized as $(B \cdot IL \cdot SN)$ in the entire subpopulation (D_1).

Dissonant Subpopulation

Hypothesis 5: that in that subpopulation whose cognitive interaction toward medical care is dissonant (D_4), the proportion of individuals characterized as $(B \cdot IL \cdot SN)$ manifesting cognitive interaction toward the union in the form of no negation, relative to all individuals manifesting no negation (D_1'), is greater than the proportion of all individuals characterized as $(B \cdot IL \cdot SN)$ in the entire subpopulation (D_4).

The null form of this hypothesis, i.e., hypothesis 5, and all subsequent dissonant content hypotheses is expressed as:

Hypothesis 0: that there is no difference in the proportion of individuals characterized as (B•IL•SN) manifesting cognitive interaction toward the union in the form of no negation (D_1'), relative to all individuals manifesting no negation (D_1'), and in the proportion of all individuals characterized as (B•IL•SN) in the entire subpopulation (D_4).

Hypothesis 6: that in that subpopulation whose cognitive interaction toward medical care is dissonant (D_4), the proportion of individuals characterized as (B•IL•SP)U(B•IH•SN)U(A•IL•SN) manifesting cognitive interaction toward the union in the form of minimal negation, relative to all individuals manifesting minimal negation (D_2'), is greater than the proportion of all individuals characterized as (B•IL•SP)U(B•IH•SN)U(A•IL•SN) in the entire subpopulation (D_4).

Hypothesis 7: that in that subpopulation whose cognitive interaction toward medical care is dissonant (D_4), the proportion of individuals characterized as (B•IH•SP)U(A•IL•SP)U(A•IH•SN) manifesting cognitive interaction toward the union in the form of moderate negation, relative to all individuals manifesting moderate negation (D_3'), is greater than the proportion of all individuals characterized as (B•IH•SP)U(A•IL•SP)U(A•IH•SN) in the entire subpopulation (D_4).

Hypothesis 8: that in that subpopulation whose cognitive interaction toward medical care is dissonant (D_4), the proportion of individuals characterized as (A•IH•SP) manifesting cognitive interaction toward the union in the form of maximal negation, relative to all individuals manifesting maximal negation (D_4'), is greater than the proportion of all individuals characterized as (A•IH•SP) in the entire subpopulation (D_4).

To provide a means for evaluating the hypotheses the total study population is divided into two subpopulations: that subpopulation where individuals manifest consonance toward union norms (D_1), and that subpopulation where individuals manifest dissonance toward union norms (D_4). Within each of these subpopulations, the four hypothesized states of negation are arranged in a 4 x 4 matrix, such that the diagonal of the matrix represents the respective content hypotheses. This arrangement permits the general hypothesis that:

$$H_1: \left(\frac{p_{ij}}{p_{.j}} > \frac{p_{i.}}{p_{..}}\right) \rightarrow \left(\frac{p_{ij}}{p_{.j}} > p_{i.}\right) \qquad i = j$$

$$H_0: \left(\frac{p_{ij}}{p_{.j}} = \frac{p_{i.}}{p_{..}}\right) \rightarrow \left(\frac{p_{ij}}{p_{.j}} = p_{i.}\right)$$

where,

$$\hat{p}_{ij} = \frac{n_{ij}}{n_{..}}$$

$$\hat{p}_{.j} = \frac{n_{.j}}{n_{..}}$$

$$\hat{p}_{i.} = \frac{n_{i.}}{n_{..}}$$

$$\hat{p}_{..} = \frac{n_{..}}{n_{..}} = 1$$

The above hypothesis operates under the restrictions that both the column and row probabilities add to one $\sum_{j=1}^{4} p_{.j} = 1$, $\sum_{i=1}^{4} p_{i.} = 1$, and that the sum of the cell probabilities in the respective columns and rows equals the probability of that column and row in the matrix $\sum_{j=1}^{4} p_{ij} = p_{.j}$, $\sum_{i=1}^{4} p_{ij} = p_{i.}$. Although not a precise test of this general hypothesis, data in the respective matrices are tested for departures from total independence and evaluated by chi square.[43]

To the extent that the chi square value is significant, and the departures of the observed values from the expected values for the respective diagonal cells are positive and consistent suggest that the model is supported by the data. Conversely, if the chi square value is not significant or the departures for the respective diagonal cells are not positive and consistent, suggest that the model is not supported by the data.

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[43]This and all subsequent chi square values except those corrected for continuity (Tables VII-20 through VII-25), are calculated using the general equation developed by, J. L. Bresnahan and M. M. Shapiro, "A General Equation and Technique for the Exact Partitioning of Chi Square Contingency Tables," Psychological Bulletin, 66 (October, 1966), pp. 252-262.

CHAPTER VI

MAJOR ANALYSIS: FIT OF DISPOSITIONAL BALANCE MODEL TO DATA

The present chapter presents the results of fitting the model to the population functionally involved in the choice situation. These results are first presented in purely descriptive terms to determine the state of the dependent variable. In order to impute meaning to these findings, results from the analytical level of analysis are presented. Finally, there is a general discussion of both sets of findings and considerations which led to the subsidiary analysis.

I. DESCRIPTIVE LEVEL OF ANALYSIS

The descriptive level of the study was concerned with the relationship between cognitive interaction toward medical care and cognitive interaction toward the union. This relationship was termed the dependent variable and was dealt with in a conjunctive - disjunctive balance matrix.

In the matrix, balance between the two cognitive interactions (D and D') was conjunctively defined, i.e., where, ith state equals jth state for D_i and D'_j. Concomitantly, imbalance was disjunctively defined, i.e., where, ith state does not equal the jth state for D_i and D'_j (Figure III-2, page 21).

Tables VI-1, VI-2, and VI-3 present the distribution of the two cognitive interaction variables as a percentage of the total study population, as a percentage of cognitive interaction toward medical care, and as a percentage of cognitive interaction toward the union, respectively.

In terms of Table VI-1, data are presented as a percentage of the total study population.[44] Considering cognitive interaction toward medical care as a percentage of this total, the data indicate that the study population may generally be characterized as being consonant with union norms. As can be seen, approximately 62 percent of the population is considered to be consonant with union norms toward medical care. This compares with 38 percent which are considered dissonant. Moreover, when cognitive interaction toward the union is viewed as a percentage of the total population, the data indicate that more than one half of the population (58.7 percent) feels that the union has a role in medical care.

TABLE VI-1

DISTRIBUTION OF COGNITIVE INTERACTION VARIABLES AS A PERCENTAGE OF THE TOTAL STUDY POPULATION

Cognitive Interaction Toward Medical Care	Cognitive Interaction Toward the Union — States of Negation: (D'_1) None		(D'_2) Minimal		(D'_3) Moderate		(D'_4) Maximal		Total	
	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N
Consonance (D_1)	39.4	336*	8.8	75	0.5	4	13.1	112	61.8	527
Dissonance (D_4)	19.3	165	5.4	46	0.2	2	13.3	113*	38.2	326
Total	58.7	501	14.2	121	0.7	6	26.4	225	100	853

* Indicates balance states

[44] It should be recalled that the population is not the UAW, nor even the restricted portion having active choice of medical care plans who indicated an unequivocal statement as to the union's role in medical care, but an artificial population representing choice differences since CHA members were sampled at higher rates than BC-BS members.

Table VI-2 shows that within the respective subpopulations, the percentage of individuals manifesting no negation is larger in the consonant than in the dissonant subpopulation (63.8 percent in the consonant subpopulation as compared to 50.6 percent in the dissonant group). Conversely, the percentage of individuals manifesting maximal negation is larger in the dissonant than in the consonant subpopulation (34.7 percent in dissonant subpopulation as compared to 21.3 percent in consonant subpopulation). Percentage distribution of minimal (D_2') and moderate (D_3') negation is approximately the same for the two subpopulations.

TABLE VI-2

DISTRIBUTION OF COGNITIVE INTERACTION TOWARD THE UNION AS A PERCENTAGE OF COGNITIVE INTERACTION TOWARD MEDICAL CARE

Cognitive Interaction Toward Medical Care	Cognitive Interaction Toward the Union — States of Negation: (D_1') None		(D_2') Minimal		(D_3') Moderate		(D_4') Maximal		Total	
	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N
Consonance (D_1)	63.8	336*	14.2	75	0.8	4	21.3	112	100	527
Dissonance (D_4)	50.6	165	14.1	46	0.6	2	34.7	113*	100	326
Total	58.7	501	14.2	121	0.7	6	26.4	225	100	853

* Indicates balance states

As might be expected, due to the predominance of consonant cognitive interaction toward medical care, Table VI-3 shows that the percentage distribution of consonant and dissonant individuals over the respective states of negation (D') is generally skewed in the direction of consonance. However, in the state of maximal negation the percentage distribution of cognitive interaction toward medical care is approximately equal (49.8 percent of those manifesting maximal negation are consonant, while 50.2 percent are dissonant). This in conjunction with the findings of Table VI-2, page 61, suggests an association between the two cognitive interaction variables in the direction of balance; although, as seen in Table VI-2, page 61 a balanced state occurs in only 52 percent of the total population.

TABLE VI-3

DISTRIBUTION OF COGNITIVE INTERACTION TOWARD MEDICAL CARE AS A PERCENTAGE OF COGNITIVE INTERACTION TOWARD THE UNION

Cognitive Interaction Toward Medical Care	Cognitive Interaction Toward the Union States of Negation									
	(D'_1) None		(D'_2) Minimal		(D'_3) Moderate		(D'_4) Maximal		Total	
	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N
Consonance (D_1)	67.1	336*	62.0	75	66.7	4	49.8	112	61.8	527
Dissonance (D_4)	32.9	165	38.0	46	33.3	2	50.2	113*	38.2	326
Total	100	501	100	121	100	6	100	225	100	853

* Indicates balance states

To determine whether there is association between the two cognitive interaction variables and whether this association can be attributed to the one degree of freedom corresponding to the hypothesized balance states, bivariate frequencies are recorded in the cognitive interaction matrix and evaluated by chi square and measured by the phi-coefficient.[45] Because of the low expected values associated with moderate negation ($D_3^!$), this category is combined with that adjacent category to which it is most closely associated, i.e., minimal negation category ($D_2^!$). This procedure is followed not only in the evaluation of the cognitive interaction matrix, but in the evaluation of all subsequent tables except those corresponding to the dispositional balance model.

Results for the collapsed interaction matrix are shown in Table VI-4. The overall chi square with two degrees of freedom and corresponding phi-coefficient indicate the presence of a significant but relatively weak association between the two cognitive interactions. However, the departures from the expected values under the null hypothesis of independence, suggest a tendency toward balance. To evaluate this tendency, the matrix is partitioned to abstract the one degree of freedom associated with the balance states. The corresponding chi square shows a significant association between the states, indicating a tendency toward balance.

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[45] Although the phi-coefficient (ϕ) provides an indication of the strength of the association it can attain a value considerably larger than unity in the general r x c table and thus should not be interpreted as a correlation coefficient. H. H. Blalock, Social Statistics, (New York: McGraw-Hill, 1960), pp. 229-230.

TABLE VI-4

COLLAPSED INTERACTION MATRIX

Cognitive Interaction Toward Medical Care	Cognitive Interaction Toward the Union States of Negation (D_1') None	(D_2', D_3') Minimal-Moderate	(D_4') Maximal	Total
Consonance (D_1')	336* (309.5)	79 (78.5)	112 (139)	527
Dissonance (D_4')	165 (191.5)	48 (48.5)	113* (86)	326
Total	501	127	225	853

$X^2 = 19.665$, d.f. = 2, $p < .001$, $\phi = .152$
$X^2 = 19.655$, d.f. = 1, $p < .001$, $\phi = .164$

* Indicates balance states
( ) Indicates expected values under independence

II. ANALYTICAL LEVEL OF ANALYSIS

The analytical level of the study was concerned with explaining the conditions under which the above states of balance and imbalance exist within the triad. Personality and situational dispositions were termed the independent variables and combined to form a dispositional balance model as an explanatory system for the relations existing between the two cognitive interaction variables. Within this model, various states of personality and situational dispositions were hypothesized to be associated with various states of cognitive balance and imbalance. These hypothesized states were represented by the

diagonal of each matrix thus permitting the general content hypothesis that:

$$\frac{p_{ij}}{p_{.j}} > \frac{p_{i.}}{p_{..}} \qquad i = j$$

The results of fitting the model to the data are presented in Tables VI-5 and VI-6. Table VI-5 presents the results of that subpopulation where cognitive interaction toward medical care is consonant (D_1) with union norms. Although the data indicate a

TABLE VI-5

NUMBER OF INDIVIDUALS MANIFESTING A PARTICULAR SET OF SITUATIONAL AND PERSONALITY DISPOSITIONS RELATIVE TO THEIR STATE OF COGNITIVE INTERACTION TOWARD THE UNION WITHIN THE CONSONANT SUBPOPULATION

Cognitive Interaction Toward Medical Care	Cognitive Interaction Toward the Union				
Consonance (D_1)	States of Negation (D')				
Hypothesized States of Situational and Personality Dispositions**	(D'_1) None	(D'_2) Minimal	(D'_3) Moderate	(D'_4) Maximal	Total
1.(A•IH•SP)	7* (7.7)	1 (1.7)	0 (0.1)	4 (2.6)	12
2.(A•IH•SN)U(A•IL•SP)U(B•IH•SP)	69 (53.6)	9* (11.9)	0 (0.6)	6 (17.9)	84
3.(A•IL•SN)U(B•IH•SN)U(B•IL•SP)	100 (118.6)	31 (26.5)	3* (1.4)	52 (39.5)	186
4.(B•IL•SN)	160 (156.2)	34 (34.9)	1 (1.9)	50* (52.1)	245
Total	336	75	4	112	527

$X^2 = 24.957$, d.f. = 9, $p < .01$

* Indicates the cells pertinent to the specific hypothesized relationships.

** For description see Chapter IV, pages 39-44.

( ) Indicates expected values under independence

significant departure from independence, the departures from the diagonal are small and inconsistent and thus fail to support the predictions of the model in the consonant subpopulation.

The results of fitting the model to the dissonant subpopulation (D_4) are presented in Table VI-6. As can be seen, the departures from total independence are not significant. Thus, as in Table VI-5, the results also fail to support the predictions in the dissonant subpopulation.

TABLE VI-6

NUMBER OF INDIVIDUALS MANIFESTING A PARTICULAR SET OF SITUATIONAL AND PERSONALITY DISPOSITIONS RELATIVE TO THEIR STATE OF COGNITIVE INTERACTION TOWARD THE UNION WITHIN THE DISSONANT SUBPOPULATION

Cognitive Interaction Toward Medical Care Dissonance (D_4)	Cognitive Interaction Toward the Union States of Negation (D')				
Hypothesized States of Situational and Personality Dispositions**	(D'_1) None	(D'_2) Minimal	(D'_3) Moderate	(D'_4) Maximal	Total
5. (B•IL•SN)	80* (76.9)	21 (21.4)	1 (1.0)	50 (52.7)	152
6. (B•IL•SP)U(B•IH•SN)U(A•IL•SN)	65 (72.4)	19* (20.2)	1 (1.0)	58 (49.6)	143
7. (B•IH•SP)U(A•IL•SP)U(A•IH•SN)	20 (15.7)	6 (4.4)	0* (0.0)	5 (10.7)	31
8. (A•IH•SP)	0 (0.0)	0 (0.0)	0 (0.0)	0* (0.0)	0
Total	165	46	2	113	326

$X^2 = 7.596$, d.f. = 9, $p < .70$

* Indicates the cells pertinent to the specific hypothesized relationships

** For description see Chapter IV, pages 39-44

( ) Indicates expected values under independence

One way to account for the negative results or at least to provide some insight into the interactions of the model is to consider the respective dispositions relative to the dependent variable. To the extent that the dispositions failed to interact with the cognitive interaction variables in the hypothesized direction (pages 26-36) may provide insight as to why the model is not supported by the data.

Personality Disposition and Cognitive Structure

Under this disposition it was expected that individuals manifesting a relatively concrete orientation (A) when experiencing dissonance with union norms would tolerate minimal cognitive discrepancy, and thus, tend to negate the union as a source of this dissonance. Conversely, individuals manifesting a relatively abstract orientation (B) would tolerate maximal discrepancy without tending to negate the union. The reverse would be expected in a consonant situation. That is, concrete individuals (A) would tend not to negate the union when being consonant with union norms in that they are only able to tolerate minimal cognitive discrepancies. Conversely, abstract individuals (B) would negate the union in a consonant situation in that they are able to perceive events in multiple and relativistic terms and tend to tolerate more cognitive discrepancies.

Results corresponding to the above predictions are shown in Table VI-7. As can be seen, these predictions are partially supported by the data. Evaluating the association between the personality disposition and cognitive interaction toward the union for the respective subpopulations indicates a significant association

in the consonant subpopulation and a somewhat less significant association in the dissonant subpopulation. When the chi square corresponding to the dissonant group is partitioned to abstract the one degree of freedom associated with the specific personality hypothesis, association in the predicted direction is significant.

TABLE VI-7

NUMBER OF INDIVIDUALS MANIFESTING STATES OF PERSONALITY DISPOSITION RELATIVE TO THEIR STATES OF COGNITIVE INTERACTION TOWARD THE UNION WITHIN CONSONANT AND DISSONANT SUBPOPULATIONS

Cognitive Interaction Toward the Union	Cognitive Interaction Toward Medical Care					
	Consonance (D_1)			Dissonance (D_4)		
	Personality Disposition					
States of Negation (D')	Concrete (A)	Abstract (B)	Total	Concrete (A)	Abstract (B)	Total
(D'_1) None	107* (126.2)	229 (209.8)	336	65 (72.4)	100* (92.6)	165
(D'_2) Minimal – (D'_3) Moderate	35 (29.7)	44 (49.3)	79	20 (21.1)	28 (26.9)	48
(D'_4) Maximal	56 (42.1)	56* (69.9)	112	58* (49.5)	55 (63.5)	113
Total	198	329	527	143	183	326
	$X^2 = 13.546$, d.f. = 2 $p < .01$, $\Phi = .160$			$X^2 = 4.055$, d.f. = 2 $p < .20$, $\Phi = .111$		
	$X^2 = 11.764$, d.f. = 1 $p < .001$, $\Phi = .162$			$X^2 = 3.926$, d.f. = 1 $p < .05$, $\Phi = .119$		

* Indicates the cells pertinent to the polar directionality of the dispositional hypothesis

( ) Indicates expected values under independence

When the chi square is partitioned in the consonant subpopulation the prediction is not supported by the data. In fact, association is significantly opposite from that predicted.

Situational Dispositions and Cognitive Structure

Union Interaction

Under this disposition it was expected that individuals having low interaction (IL) with the union while experiencing dissonance with its norms toward medical care would tend not to negate the union as a source of this dissonance. Conversely, individuals having high union interaction (IH) would tend to negate the union. On the other hand, one would expect the reverse among individuals experiencing consonance with union norms. Thus, individuals having low union interaction (IL) would tend to negate the union. Conversely, individuals having high interaction (IH) would tend not to negate the union.

The data presented in Table VI-8 suggest that the predictions are partially supported. In the consonant subpopulation there exists a significant association between union interaction and cognitive interaction toward the union. Moreover, when the chi square is partitioned to abstract the one degree of freedom associated with the specific interaction hypothesis, the association is significant in the predicted direction.

The predictions in the dissonant subpopulation are not supported. Although not quite significant, the association is opposite from that predicted.

TABLE VI-8

NUMBER OF INDIVIDUALS MANIFESTING STATES OF UNION INTERACTION RELATIVE TO THEIR STATE OF COGNITIVE INTERACTION TOWARD THE UNION WITHIN CONSONANT AND DISSONANT SUBPOPULATIONS

Cognitive Interaction Toward the Union	Cognitive Interaction Toward Medical Care					
	Consonance (D_1)			Dissonance (D_4)		
	Union Interaction					
States of Negation (D')	Low (IL)	High (IH)	Total	Low (IL)	High (IH)	Total
(D'_1) None	254 (267.8)	82* (68.2)	336	141* (147.3)	24 (17.7)	165
(D'_2) Minimal – (D'_3) Moderate	68 (63)	11 (16)	79	46 (42.8)	2 (5.2)	48
(D'_4) Maximal	98* (89.2)	14 (22.8)	112	104 (100.9)	9* (12.1)	113
Total	420	107	527	291	35	326
	$X^2 = 9.727$, d.f. = 2 $p < .01$, $\Phi = .136$			$X^2 = 5.608$, d.f. = 2 $p < .10$, $\Phi = .131$		
	$X^2 = 7.423$, d.f. = 1 $p < .01$, $\Phi = .128$			$X^2 = 3.015$, d.f. = 1 $p < .10$, $\Phi = .104$		

* Indicates the cells pertinent to the polar directionality of the dispositional hypothesis

( ) Indicates expected values under independence

Social Support

Under this disposition it was expected that individuals having no social support (SN) for cognitions which are dissonant with union norms would tend not to negate the union as a source of this dissonance. Conversely, individuals having social support (SP) would tend to negate the union. The reverse would be expected in a consonant situation. That is, individuals having social support (SP)

for a cognitive structure which was confirmed by the union would tend not to negate the union. Conversely, individuals lacking social support (SN) would tend to negate the union.

The data presented in Table VI-9 suggest that the predictions are partially supported. In the consonant subpopulation there

TABLE VI-9

NUMBER OF INDIVIDUALS MANIFESTING STATES OF SOCIAL SUPPORT RELATIVE TO THEIR STATE OF COGNITIVE INTERACTION TOWARD THE UNION WITHIN CONSONANT AND DISSONANT SUBPOPULATIONS

Cognitive Interaction Toward the Union	Cognitive Interaction Toward Medical Care					
	Consonance (D_1)			Dissonance (D_4)		
	Social Support					
States of Negation (D')	Absence (SN)	Presence (SP)	Total	Absence (SN)	Presence (SP)	Total
(D'_1) None	294 (302.2)	42* (33.8)	336	157* (158.4)	8 (6.6)	165
(D'_2) Minimal - (D'_3) Moderate	74 (71.1)	5 (7.9)	79	44 (46.1)	4 (1.9)	48
(D'_4) Maximal	106* (100.7)	6 (11.3)	112	112 (108.5)	1* (4.5)	113
Total	474	53	527	313	13	326
	$X^2 = 6.160$, d.f. = 2 $p < .05$, $\Phi = .108$			$X^2 = 5.558$, d.f. = 2 $p < .10$, $\Phi = .130$		
	$X^2 = 4.770$, d.f. = 1 $p < .05$, $\Phi = .103$			$X^2 = 2.527$, d.f. = 1 $p < .20$, $\Phi = .095$		

* Indicates the cells pertinent to the polar directionality of the dispositional hypothesis

( ) Indicates expected values under independence

exists a significant association between social support and cognitive interaction toward the union. Moreover, when the overall chi square is partitioned into one degree of freedom to permit the evaluation of the specific social support hypothesis the data support the prediction.

Association between social support and cognitive interaction toward the union in the dissonant subpopulation is not significant. Thus, predictions in this subpopulation are not supported by the data.

III. DISCUSSION

One way to account for the negative results is to argue that the individuals, although functionally participating in a choice situation, failed to experience meaningful consonance or dissonance between cognitions toward medical care and union norms. If this were true, then there would be no difference in the direction of the respective dispositional hypotheses in the consonant and dissonant subpopulations. Do the data support this argument?

Table VI-10 presents a summary of the chi square and phi-coefficient evaluations for the three hypotheses. As can be seen, the table indicates that the predicted reversals between individuals consonant or dissonant with union norms did not occur. Instead, departures from independence for the respective dispositions were the same for individuals experiencing consonance or dissonance.

TABLE VI-10

SUMMARY MEASURES OF ASSOCIATION FOR DISPOSITIONAL HYPOTHESES

Disposition	Cognitive Interaction - Medical Care	Hypothesis	d.f.	X^2	Significant Level	Φ	Hypothesis	d.f.	X^2	Significant Level	Φ
Personality	Consonance	Independence	2	13.546	$p < .01$	.160	Direction	1	11.764	$p < .001$	.162
	Dissonance	Independence	2	4.055	$p < .20$	.111	Direction	1	3.926	$p < .05$*	.119
Union Interaction	Consonance	Independence	2	9.727	$p < .01$	.136	Direction	1	7.423	$p < .01$*	.128
	Dissonance	Independence	2	5.608	$p < .10$	.131	Direction	1	3.015	$p < .10$	.104
Social Support	Consonance	Independence	2	6.160	$p < .05$	.108	Direction	1	4.770	$p < .05$*	.103
	Dissonance	Independence	2	5.558	$p < .10$	.130	Direction	1	2.527	$p < .20$	.095

* Indicates that departure from independence was in hypothesized direction

This suggests that individuals, although empirically designated as cognitively consonant or dissonant with union norms had in fact failed to react in terms of this distinction, and thus the general consonance - dissonance processes were not operative in this situation.

Two reasons for the failure of the consonance - dissonance processes to be operative may be suggested. First, one may posit the existence of an incomplete triad. Under this explanation, the individual would have failed for some reason to perceive the relationship between the union and medical care. If this were true, then no balance effect would have occurred between cognitive interaction toward medical care and cognitive interaction toward the union. The findings presented in Table VI-4, page 64, at the descriptive level of analysis show the existence of balance between the two cognitive interaction variables, and thus reject this explanation.

Secondly, although the individual perceived the relationship between the union, the choice object, and himself, the condition of cognitive relevance as operationalized by functional participation in the choice situation may not have been sufficient to generate unequivocal consonance - dissonance processes. Thus, one may interpret the existence of balance as resulting not from the motivational strain generated by consonant - dissonant cognitions, but from the nonmotivational consequences of normal evaluational processes.[46]

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[46] J. W. Brehm and A. R. Cohen, Explorations in Cognitive Dissonance, (New York: John Wiley and Sons, Inc., 1962), pp. 105-106.

From this point of view, one may consider the individual as being exposed to the union's position with respect to medical care, and in so doing, processing the incoming bits of information by making some compromise judgement between the information and his existing cognitions.

Although it is not possible to come to any firm conclusions regarding this point, it does suggest an approach in designing a subsidiary analysis. Thus, in the next chapter an attempt is made to control conditions, such that within the confines of the available data, the model is evaluated in that subset of the population where consonance - dissonance is operational or at least theoretically optimal.

CHAPTER VII

SUBSIDIARY ANALYSIS

The purpose of this analysis is to test the dispositional balance model on that subset of the total population functionally involved in the choice situation in such a manner as to maximize the existence of consonance and dissonance. This chapter will first present the conditions of consonance and dissonance and their operational measures, then the results of both descriptive and analytic levels of analysis, and finally a discussion of their relationship to the major analysis.

I. CONDITIONS OF CONSONANCE AND DISSONANCE

In the major analysis (Chapter VI), it was postulated that functional participation in the choice situation was sufficient to insure cognitive relevance, thus inducing meaningful consonance and dissonance between union norms and cognitions toward medical care.[47] However, in that this proved insufficient, the subsidiary analysis will attempt to evaluate the dispositional balance model on those members of the population who are both vulnerable to health needs, and who have made a choice of a health care plan consistent with their cognitions toward medical care.

Vulnerability[48] represents an operational refinement of

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[47] This is the original form of the theoretical analysis. Evidence against this derives from the fact that approximately one-third of those having made the choice knew nothing of the innovative alternative (CHA).

[48] Term developed by R. L. Bashshur in the parent study, Choice or Rejection of Group Practice Prepayment Plans.

functional participation to insure the condition of cognitive relevance. Specifically, it is defined as that condition in which the individual is likely to need health care. In terms of this study, it is viewed as inducing a motivational state within which one would expect the choice situation to have maximal relevance.

Analysis from the parent study tends to support this view. In dealing with patterns of influence it finds that the spread of information about CHA was not a random process. Instead, there existed a general tendency for individuals considered vulnerable to have heard more about the CHA plan than nonvulnerable individuals. Specifically, it found that persons over 40 and having dependent children under 18 years of age were highly informed about choice.

Following closely from these findings, vulnerability is operationalized by using family life cycle stages. Two states are defined depending on the relationship of the cycle stage with the utilization of medical care:

Vulnerable
- married individuals, no children and 40 years or older
- married individuals with children, youngest under 18 years old
- married individuals with children, youngest over 18 years old
- widowed, separated or divorced individuals with children youngest under 18 years old.

Nonvulnerable
- single individuals, under 40 years old
- married individuals 40 years or older
- married individuals with no children and under 40 years old
- widowed, separated or divorced individuals with no children under 18 years old

Choice of health care plans consistent with one's cognitions toward medical care is used to insure that there is commitment to one's cognitive position. This may be considered a condition for the existence of consonance - dissonance, in that under some forms of balance theory it is thought that once commitment occurs, the individual cannot process information and make compromise judgements; he must accomodate his cognitions to his commitment.[49] In effect, one pole of the inconsistency becomes fixed. Thus, for example, if the individual is dissonant toward the union's norms and has made a commitment by selecting Blue Cross-Blue Shield he would be expected to defend this position to which he is committed by negating the union's role in medical care.[50] Conversely, an individual consonant with the union who has made a commitment by selecting CHA would be expected to defend his position by supporting the union's role in medical care.

Particular difficulty was found in treating data where individuals are consonant with union norms but select Blue Cross-Blue Shield, or where dissonant but select CHA. These individuals are termed uncommitted and although dealt with in terms of the descriptive level of analysis (Tables VII-5 through VII-16), and in the analysis of the respective dispositional hypotheses (Tables VII-20 through

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[49]This general concept as a necessary condition for the operation of consonance - dissonance processes is presented under various names; e.g., (commitment) Brehm and Cohen, op.cit., p. 106; (overt compliance) Festinger, op.cit., pp. 84-122.

[50]The individual may also reduce dissonance by uncommiting himself, i.e., by saying he was wrong and selecting CHA. However, individuals in the process of change from Blue Cross-Blue Shield to CHA or vice versa, are not included in the study population.

VII-25), they are excluded from the dispositional balance model in that they fall beyond the scope of its current application.

II. DESCRIPTIVE LEVEL OF ANALYSIS

Results of the relationship between cognitive interaction toward medical care and cognitive interaction toward the union are presented for various subsets of the study population, as controlled by vulnerability and commitment. For each subset, the distribution of the two cognitive interaction variables is presented as a percentage of the respective subset population, as a percentage of cognitive interaction toward medical care, and as a percentage of cognitive interaction toward the union. Concomitant to each subset, is the corresponding collapsed interaction matrix evaluated by chi square and measured by the phi-coefficient.

The following three tables present the cognitive interaction distributions for that subset of the population who are vulnerable and committed. Table VII-1 shows the distribution of the cognitive interaction variables as a percentage of the total subset population. As can be ascertained from the table, about 57 percent of the total population is considered balanced. This is an increase from that presented in Table VI-1, page 60, of the major analysis.

Considering cognitive interaction toward medical care as a percentage of the subset total, the data reveal a slight tendency toward consonant cognitive interaction toward medical care. Approximately 53 percent of the subset is considered consonant with union norms and committed to this position by their selection of CHA.

This compares with 46 percent who are dissonant and accordingly selected Blue Cross-Blue Shield.

When compared to Table VI-1, page 60, in the major analysis the data indicate that the subset shows a decrease in the percentage of consonant individuals relative to the total population (Table VI-1, 61.8 percent of the total population were considered consonant with union norms and 38.2 percent dissonant). Thus, although a substantial segment of the population are consonant with union norms, these disparities suggest a lack of relationship between cognitions toward medical care and corresponding choice behavior.

TABLE VII-1

DISTRIBUTION OF COGNITIVE INTERACTION VARIABLES AS A PERCENTAGE OF THE TOTAL SUBSET POPULATION (VULNERABLE - COMMITTED SUBSET)

Cognitive Interaction Toward Medical Care	Cognitive Interaction Toward the Union States of Negation (D'_1) None		(D'_2) Minimal		(D'_3) Moderate		(D'_4) Maximal		Total	
	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N
Consonance (D_1)	37.8	151*	7.0	28	0.5	2	8.0	32	53.3	213
Dissonance (D_4)	21.6	86	5.8	23	0.3	1	19.0	76*	46.7	186
Total	59.4	237	12.8	51	0.8	3	27.0	108	100	399

* Indicates balance states

In subsequent discussions this lack of relationship is termed slippage.

Considering cognitive interaction toward the union as a percentage of the subset total, Table VII-1 indicates that slightly more than one half of the subset is positive toward the union's role in medical care (59.4 percent indicate no negation). This is similar to the finding presented in Table VI-1, page 60, of the major analysis (Table VI-1, 58.7 percent indicate no negation).

Table VII-2 presents the distribution of cognitive interaction toward the union as a percentage of cognitive interaction toward medical care. As might be expected, the percentage of individuals manifesting no negation is larger in the consonant than in the dissonant subpopulation (70.9 percent as compared to 46.2 percent in the dissonant group). Conversely, the percentage of individuals manifesting maximal negation is larger in the dissonant than in the consonant subpopulation (40.9 percent as compared to 15.0 percent in the consonant group). Minimal and moderate negation are approximately equal in the respective groups. Similar findings were found in Table VI-2, page 61, in the major analysis. However, the tendency of consonant individuals to indicate no negation and dissonant individuals maximal negation was not as great (Table VI-2, 63.8 percent of consonant subpopulation indicated no negation and 34.7 percent of the dissonant group indicated maximal negation).

TABLE VII-2

DISTRIBUTION OF COGNITIVE INTERACTION TOWARD THE UNION AS A PERCENTAGE OF COGNITIVE INTERACTION TOWARD MEDICAL CARE (VULNERABLE - COMMITTED SUBSET)

Cognitive Interaction Toward Medical Care	Cognitive Interaction Toward the Union States of Negation									
	(D_1') None		(D_2') Minimal		(D_3') Moderate		(D_4') Maximal		Total	
	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N
Consonance (D_1)	70.9	151*	13.1	28	0.6	2	15.0	32	100	213
Dissonance (D_4)	46.2	86	12.4	23	0.5	1	40.9	76*	100	186
Total	59.4	237	12.8	51	0.8	3	27.1	108	100	399

* Indicates balance states

When cognitive interaction toward medical care is considered as a percentage of the respective negation states, Table VII-3 shows the predominance of consonance in all states except maximal negation. Here, the data indicate a reversal in that 70 percent of the individuals manifesting maximal negation are dissonant while only 30 percent are consonant with union norms. When compared to Table VI-3, page 62, of the major analysis the data indicate a similar tendency except in the maximal negation state. Here the data were more equally distributed between the two subpopulations (Table VI-3, 49.8 percent consonant and 50.2 percent dissonant).

TABLE VII-3

DISTRIBUTION OF COGNITIVE INTERACTION TOWARD MEDICAL CARE AS A PERCENTAGE OF COGNITIVE INTERACTION TOWARD THE UNION (VULNERABLE - COMMITTED SUBSET)

Cognitive Interaction Toward Medical Care	Cognitive Interaction Toward the Union States of Negation									
	(D'_1) None		(D'_2) Minimal		(D'_3) Moderate		(D'_4) Maximal		Total	
	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N
Consonance (D_1)	63.7	151*	54.9	28	66.7	2	29.6	32	53.3	213
Dissonance (D_4)	36.3	86	45.1	23	33.3	1	70.4	76*	46.7	186
Total	100	237	100	51	100	3	100	108	100	399

* Indicates balance states

To determine whether there is association between the two cognitive interaction variables and whether this association can be attributed to the one degree of freedom corresponding to the hypothesized balance states, data for the vulnerable - committed subset are recorded in the cognitive interaction matrix and evaluated by chi square and measured by the phi-coefficient. Results for the collapsed interaction matrix are shown in Table VII-4. The total chi square and corresponding phi-coefficient indicate the presence of a significant relationship between the two cognitive interactions. When this chi square is partitioned to abstract the one degree of freedom associated with the balance states, the data show a significant balance relationship.

TABLE VII-4

COLLAPSED INTERACTION MATRIX
(VULNERABLE - COMMITTED SUBSET)

Cognitive Interaction Toward Medical Care	Cognitive Interaction Toward the Union States of Negation			
	(D_1') None	(D_2', D_3') Minimal - Moderate	(D_4') Maximal	Total
Consonance (D_1')	151* (126.5)	30 (28.8)	32 (57.7)	213
Dissonance (D_4')	86 (110.5)	24 (25.2)	76* (51.3)	186
Total	237	54	108	399

$X^2 = 34.862, d.f. = 2, p < .001, \Phi = .295$

$X^2 = 34.739, d.f. = 1, p < .001, \Phi = .316$

* Indicates balance states

( ) Indicates expected values under independence

Tables VII-5, VII-6, and VII-7 present the cognitive interaction distribution for the vulnerable and uncommitted subset of the population. In Table VII-5, data are presented as a percentage of the total subset. As can be seen from the table, less than one half (44.5 percent) of the subset is considered balanced. When compared to Table VI-1, page 60, of the major analysis and Table VII-1, page 80 for the vulnerable - committed subset, this represents a decrease in the percentage of individuals in the balanced states.

Considering cognitive interaction toward medical care as a percentage of the subset total, the data indicate a general tendency (74.4 percent) toward consonant cognitive interaction toward medical

care. However, in that this subset is composed of individuals who are uncommitted, i.e., those who are consonant, but selected Blue Cross-Blue Shield and those who are dissonant, but selected CHA, the data represent slippage between cognitions toward medical care and choice of health care plans. Moreover, when slippage is viewed as a percentage of all vulnerable individuals, it indicates that the largest amount (27.8 percent) occurs among consonant individuals as compared to dissonant individuals (9.5 percent). Thus, although cognitions consonant with union norms seem pervasive among individuals dependent on health care, the above findings suggest considerable slippage between consonant cognitions and choice behavior.

TABLE VII-5

DISTRIBUTION OF COGNITIVE INTERACTION VARIABLES AS A PERCENTAGE OF THE TOTAL SUBSET POPULATION (VULNERABLE - UNCOMMITTED SUBSET)

Cognitive Interaction Toward Medical Care	Cognitive Interaction Toward the Union States of Negation									
	(D'_1) None		(D'_2) Minimal		(D'_3) Moderate		(D'_4) Maximal		Total	
	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N
Consonance (D_1)	39.1	93*	10.9	26	0.0	0	24.4	58	74.4	177
Dissonance (D_4)	16.0	38	3.8	9	0.4	1	5.4	13	25.6	61
Total	55.1	131	14.7	35	0.4	1	29.8	71	100	238

* Indicates balance states

Within the respective subpopulations, Table VII-6 shows that the percentage of individuals manifesting no negation is larger in the dissonant than in the consonant subpopulation (62.3 percent as compared to 52.5 percent). Conversely, the percentage of individuals manifesting maximal negation is larger in the consonant than in the dissonant subpopulation (32.8 percent as compared to 21.3 percent). This is a reversal from the direction of the distribution in Table VII-2, page 82, for the vulnerable - committed subset and Table VI-2, page 61, for the total population.

TABLE VII-6

DISTRIBUTION OF COGNITIVE INTERACTION TOWARD THE UNION AS A PERCENTAGE OF COGNITIVE INTERACTION TOWARD MEDICAL CARE (VULNERABLE - UNCOMMITTED SUBSET)

Cognitive Interaction Toward Medical Care	Cognitive Interaction Toward the Union — States of Negation									
	(D'_1) None		(D'_2) Minimal		(D'_3) Moderate		(D'_4) Maximal		Total	
	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N
Consonance (D_1)	52.5	93*	14.7	26	0.0	0	32.8	58	100	177
Dissonance (D_4)	62.3	38	14.8	9	0.2	1	21.3	13*	100	61
Total	55.0	131	14.7	35	0.4	1	29.9	71	100	238

* Indicates balance states

Viewing consonance and dissonance as a percentage of the respective negation states, Table VII-7 shows that the percentage distribution of consonant and dissonant individuals is skewed in the direction of consonance for all states of negation. Comparison with Table VII-3, page 83, for the vulnerable - committed subset, indicates a similar skewness in the direction of consonance except for maximal negation where the distribution is reversed (Table VII-3, 29.6 percent are consonant and 70.4 percent dissonant). This in conjunction with the percentage distribution of negation relative to cognitive interaction toward medical care presented in Table VII-6, page 86, and the findings presented in Table VII-5, page 85, suggest

TABLE VII-7

DISTRIBUTION OF COGNITIVE INTERACTION TOWARD MEDICAL CARE AS A PERCENTAGE OF COGNITIVE INTERACTION TOWARD THE UNION (VULNERABLE - UNCOMMITTED SUBSET)

Cognitive Interaction Toward Medical Care	Cognitive Interaction Toward the Union States of Negation									
	(D_1') None		(D_2') Minimal		(D_3') Moderate		(D_4') Maximal		Total	
	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N
Consonance (D_1)	71.0	93*	74.3	26	0.0	0	81.7	58	74.4	177
Dissonance (D_4)	29.0	38	25.7	9	100	1	18.3	13*	25.6	61
Total	100	131	100	35	100	1	100	71	100	238

* Indicates balance states

an association between the two cognitive interactions in the opposite direction from that found in the total population or in the vulnerable - committed subset.

To determine whether there is association between the two cognitive interaction variables, data for the vulnerable - uncommitted subset are evaluated in the cognitive interaction matrix and presented in Table VII-8. As can be seen, the total chi square and corresponding phi-coefficient indicate a significant association between the two cognitive interaction variables. When the chi square is partitioned to abstract the one degree of freedom associated with the balance states, the data show a significant balance relationship.

However, as suggested by Tables VII-5, VII-6, and VII-7 and confirmed in Table VII-8 by the direction of the departures from the expected values under independence balance is in the opposite direction from that predicted. That is, that in this subset those who are consonant have in fact selected Blue Cross-Blue Shield and are thus tending toward maximal negation of the union's role in medical care in accord with this choice and not in terms of cognitions consonant with union norms. Conversely, those who are dissonant have in fact selected CHA and tend toward minimal negation in accord with this choice. This finding, not only supports the above finding of slippage between cognitive interaction toward medical care and choice of health plans, but suggests that negation is a function of choice not of cognitions toward medical care relative to union norms.

TABLE VII-8

COLLAPSED INTERACTION MATRIX
(VULNERABLE - UNCOMMITTED SUBSET)

Cognitive Interaction Toward Medical Care	Cognitive Interaction Toward the Union States of Negation			
	(D_1')	(D_2', D_3')	(D_4')	
	None	Minimal - Moderate	Maximal	Total
Consonance (D_1')	93* (97.4)	26 (26.8)	58 (52.8)	177
Dissonance (D_4')	38 (33.6)	10 (9.2)	13* (18.2)	61
Total	131	36	71	238

$X^2 = 9.264$, d.f.=2, $p < .01$, $\Phi = .197$

$X^2 = 9.116$, d.f.=1, $p < .01$, $\Phi = .212$

* Indicates balance states
( ) Indicates expected value under independence

Tables VII-9, VII-10, and VII-11 present the cognitive interaction distribution for that subset of the population who are nonvulnerable and committed. Table VII-9 shows the distribution of the cognitive interaction variables as a percentage of the total subset. As can be seen from the table, a balanced state occurs in approximately 55 percent of the subset. This is similar to that presented in Table VI-1, page 60, of the major analysis and Table VII-1, page 80, for the vulnerable - committed subset.

Considering cognitive interaction toward medical care as a percentage of the subset, the data indicate an equal percentage of

consonant and dissonant individuals (49.6 percent of the individuals are consonant with union norms and 50.4 percent dissonant). When compared with Table VI-1, page 60, of the major analysis, the data again indicate slippage, in that 62 percent of the total study population was considered consonant with union norms and 38 percent dissonant. Relative to the vulnerable - committed subset presented in Table VII-1, page 80, Table VII-9 shows a slight decrease in the percentage considered consonant and concomitant increase in the percentage considered dissonant with union norms (Table VII-1, 53.4 percent consonant and 46.7 percent dissonant). In that both subsets consist of committed individuals, i.e., individuals who selected health care plans in accordance with their cognitive structure

TABLE VII-9

DISTRIBUTION OF COGNITIVE INTERACTION VARIABLES AS A PERCENTAGE OF THE TOTAL SUBSET POPULATION (NONVULNERABLE - COMMITTED SUBSET)

Cognitive Interaction Toward Medical Care	Cognitive Interaction Toward the Union States of Negation: (D'_1) None		(D'_2) Minimal		(D'_3) Moderate		(D'_4) Maximal		Total	
	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N
Consonance (D_1)	38.2	50*	7.6	10	0.0	0	3.8	5	49.6	65
Dissonance (D_4)	24.4	32	9.2	12	0.0	0	16.8	22*	50.4	66
Total	62.6	82	16.8	22	0.0	0	20.6	27	100	131

* Indicates balance states

toward medical care, the comparison suggests that the difference may be attributed to vulnerability. That is, that vulnerable individuals in being relatively dependent on health care tend not only to be more receptive to union norms, but tend to act in accordance with these norms.

Within the respective subpopulations, Table VII-10 shows that the percentage of individuals manifesting no negation is larger in the consonant than the dissonant subpopulation (76.9 percent as compared to 48.5 percent in the dissonant group). Conversely, the percentage of individuals manifesting maximal negation is larger in the dissonant than the consonant subpopulation (7.7 percent consonant as compared to 33.3 percent dissonant). Minimal and moderate negation as percentage of consonance and dissonance are approximately equal in the two groups.

When compared with Table VI-2, page 61, of the major analysis, the subset data show an increase in no negation and a decrease in maximal negation in the consonant subpopulation (Table VI-2, 63.8 percent of the consonant subpopulation indicate no negation and 21.3 percent maximal negation). The percentage distribution of negation for the dissonant subpopulation is similar between the subset and the total population.

When the subset is compared with Table VII-2, page 82, for the vulnerable - committed subset data in Table VII-10 show an increase in no negation for both the consonant and dissonant subpopulations (Table VII-2, 70.9 percent of those consonant indicate no negation and 46.2 percent of those dissonant indicate no negation).

Conversely, there is a decrease in maximal negation for both subpopulations relative to the vulnerable committed set (Table VII-2, 15.0 percent of those consonant indicate maximal negation and 40.9 percent of those dissonant indicate maximal negation).

Although lacking firm documentation, this finding can be interpreted as a function of vulnerability. Two possibilities are suggested. First, that vulnerable individuals, because of their relative dependency on health care, are motivated to meet this need and thus tend to be more critical of the union's role in medical care. On the other hand, one may posit that vulnerable individuals because of their dependency on health care have established satisfactory relations within the existing medical care system, and thus tend to

TABLE VII-10

DISTRIBUTION OF COGNITIVE INTERACTION TOWARD THE UNION AS A PERCENTAGE OF COGNITIVE INTERACTION TOWARD MEDICAL CARE (NONVULNERABLE - COMMITTED SUBSET)

Cognitive Interaction Toward Medical Care	Cognitive Interaction Toward the Union States of Negation									
	(D_1') None		(D_2') Minimal		(D_3') Moderate		(D_4') Maximal		Total	
	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N
Consonance (D_1)	76.9	50*	15.4	10	0.0	0	7.7	5	100	65
Dissonance (D_4)	48.5	32	18.2	12	0.0	0	33.3	22*	100	66
Total	62.6	82	16.8	22	0.0	0	20.6	27	100	131

* Indicates balance states

reject the union's role in medical care. Although the data do not permit differentiation between the two explanations, the former appears applicable to individuals consonant with norms and the latter to the dissonant group.

Table VII-11 presents cognitive interaction toward medical care as a percentage of cognitive interaction toward the union. As can be seen from the data, consonance is predominant in all states of negation except in the maximal state. This is relatively consistent with findings presented in Table VII-3, page 83, for the vulnerable - committed subset. However, it is of interest to note that the reversal in the maximal negation state for the vulnerable subset is not as great as in the nonvulnerable set. This again suggests the

TABLE VII-11

DISTRIBUTION OF COGNITIVE INTERACTION TOWARD MEDICAL CARE AS A PERCENTAGE OF COGNITIVE INTERACTION TOWARD THE UNION (NONVULNERABLE - COMMITTED SUBSET)

Cognitive Interaction Toward Medical Care	Cognitive Interaction Toward the Union States of Negation									
	(D'_1) None		(D'_2) Minimal		(D'_3) Moderate		(D'_4) Maximal		Total	
	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N
Consonance (D_1)	61.0	50*	45.5	10	0.0	0	10.5	5	49.6	65
Dissonance (D_4)	39.0	32	54.5	12	0.0	0	81.5	22*	50.4	66
Total	100	82	100	22	0.0	0	100	27	100	131

* Indicates balance states

affect of vulnerability in that vulnerable individuals are more consonant with union norms and thus tend to dominate all states of negation.

Table VII-12 presents the collapsed interaction matrix for this subset of the population evaluated by the chi square and measured by the phi-coefficient. The total chi square and phi-coefficient indicate the presence of a significant relationship between the two cognitive interaction variables. When this chi square is partitioned to evaluate the tendency toward balance, the data indicate a significant balance relationship.

TABLE VII-12

COLLAPSED INTERACTION MATRIX
(NONVULNERABLE — COMMITTED SUBSET)

Cognitive Interaction Toward Medical Care	Cognitive Interaction Toward the Union States of Negation			
	(D_1')	(D_2', D_3')	(D_4')	
	None	Minimal - Moderate	Maximal	Total
Consonance (D_1')	50* (40.7)	10 (10.9)	5 (13.4)	65
Dissonance (D_4')	32 (41.3)	12 (11.1)	22* (13.6)	66
Total	82	22	27	131

$X^2 = 13.591$, d.f. = 2, $p < .01$, $\phi = .322$

$X^2 = 13.414$, d.f. = 1, $p < .001$, $\phi = .350$

* Indicates balance states

( ) Indicates expected values under independence

The following tables present the cognitive interaction distribution for the nonvulnerable - uncommitted subset. Table VII-13 shows the distribution of the cognitive interaction variables as a percentage of the total subset. As can be seen from the table, approximately one half (51.8 percent) of the subset population is considered balanced. This is similar to that found in the total population, although slightly less than that found in the committed subsets.

Considering cognitive interaction toward medical care as a percentage of the subset, the data indicate a general tendency (84.7 percent) toward consonance with union norms. However, in that this subset is composed of individuals classified as uncommitted the data again reflect slippage between cognitive structure and choice of health care programs. When slippage is viewed as a percentage of all nonvulnerable individuals, the data indicate that the largest amount of slippage (33.3 percent) occurs among consonant individuals as compared to those dissonant with union norms (6.1 percent). Although similar to data presented for the vulnerable subsets, it is of interest to note that consonant slippage is slightly higher among nonvulnerable individuals. Although the difference is not great, it does suggest that among those relatively dependent on health care there is a slight tendency toward consonance with union norms and choice of CHA.

TABLE VII-13

DISTRIBUTION OF COGNITIVE INTERACTION VARIABLES AS A PERCENTAGE OF THE TOTAL SUBSET POPULATION (NONVULNERABLE - UNCOMMITTED SUBSET)

Cognitive Interaction Toward Medical Care	Cognitive Interaction Toward the Union States of Negation									
	(D_1') None		(D_2') Minimal		(D_3') Moderate		(D_4') Maximal		Total	
	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N
Consonance (D_1)	49.4	42*	12.9	11	2.4	2	20.0	17	84.7	72
Dissonance (D_4)	10.6	9	2.4	2	0.0	0	2.4	2*	15.3	13
Total	60.0	51	15.3	13	2.4	2	22.4	19	100	85

* Indicates balance states

Within the respective subpopulations, Table VII-14 shows that the percentage of individuals manifesting no negation is higher in the dissonant subpopulation than in the consonant group (69.2 percent as compared to 58.3 percent). Conversely, the percentage of individuals manifesting maximal negation is higher in the consonant population than in the dissonant group (23.6 percent as compared with 15.4 percent). This is consistent with the finding of Table VII-6, page 86, in the vulnerable - uncommitted subset.

TABLE VII-14

DISTRIBUTION OF COGNITIVE INTERACTION TOWARD THE UNION AS A PERCENTAGE OF COGNITIVE INTERACTION TOWARD MEDICAL CARE (NONVULNERABLE - UNCOMMITTED SUBSET)

Cognitive Interaction Toward Medical Care	Cognitive Interaction Toward the Union States of Negation									
	(D'_1) None		(D'_2) Minimal		(D'_3) Moderate		(D'_4) Maximal		Total	
	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N
Consonance (D_1)	58.3	42*	15.3	11	2.8	2	23.6	17	100	72
Dissonance (D_4)	69.2	9	15.4	2	0.0	0	15.4	2*	100	13
Total	60.0	51	15.3	13	2.4	2	22.4	19	100	85

* Indicates balance states

Viewing consonance and dissonance as a percentage of cognitive interaction toward the union, Table VII-15 shows that the percentage distribution of consonant and dissonant individuals is skewed in the direction of consonance for all states of negation. Although similar to the distribution found in Table VII-7, page 87, for the vulnerable - uncommitted subset, it is of interest to note that the distribution in the nonvulnerable subset indicates a greater percentage of consonance for all states of negation. As previously suggested, this may be attributed to differential slippage between the vulnerable and nonvulnerable subsets.

TABLE VII-15

DISTRIBUTION OF COGNITIVE INTERACTION TOWARD MEDICAL CARE AS A PERCENTAGE OF COGNITIVE INTERACTION TOWARD THE UNION (NONVULNERABLE - UNCOMMITTED SUBSET)

Cognitive Interaction Toward Medical Care	Cognitive Interaction Toward the Union States of Negation									
	(D_1') None		(D_2') Minimal		(D_3') Moderate		(D_4') Maximal		Total	
	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent	N
Consonance (D_1)	82.4	42*	84.6	11	100	2	89.5	17	84.7	72
Dissonance (D_4)	17.6	9	15.4	2	0.0	0	10.5	2*	15.3	13
Total	100	51	100	13	100	2	100	19	100	85

* Indicates balance states

Table VII-16 presents the collapsed interaction matrix for the nonvulnerable - uncommitted subset evaluated by chi square and measured by the phi-coefficient. The total chi square with two degrees of freedom and corresponding phi-coefficient indicate no significant relationship between the two cognitive interaction variables. The partition to abstract the one degree of freedom associated with the balance states is also not significant. This lack of relationship may be attributed to the characteristics of the subset. In that the subset is composed of individuals who are uncommitted and not dependent on health care suggests that the motivational state necessary for the choice situation to be relevant may not be present.

TABLE VII-16

COLLAPSED INTERACTION MATRIX
(NONVULNERABLE - UNCOMMITTED SUBSET)

Cognitive Interaction Toward Medical Care	Cognitive Interaction Toward the Union States of Negation			
	(D_1')	(D_2', D_3')	(D_4')	
	None	Minimal - Moderate	Maximal	Total
Consonance (D_1')	42 (43.2)	13 (12.7)	17 (16.1)	72
Dissonance (D_4')	9 (7.8)	2 (2.3)	2* (2.9)	13
Total	51	15	19	85

$X^2 = .592, d.f. = 2, p < .80, \Phi = .026$

$X^2 = .538, d.f. = 1, p < .70, \Phi = .087$

* Indicates balance states
( ) Indicates expected values under independence

The findings presented in Tables VII-1 through VII-16 tend to support the introduction of vulnerability and commitment as control variables. The data indicated that commitment is the primary determinant of balance, with vulnerability affecting the distribution of negation in the respective consonant and dissonant subpopulations.

Table VII-17 presents a summary of the measures of association for the collapsed interaction matrices corresponding to the total population and the respective subsets. Although not providing firm documentation for the operation of unequivocal consonance - dissonance processes, the existence of significant and strong

TABLE VII-17

SUMMARY OF MEASURES OF ASSOCIATION FOR COLLAPSED INTERACTION MATRICES

Population	Hypothesis	d.f.	X^2	Significant Level	ϕ	Hypothesis	d.f.	X^2	Significant Level	ϕ
Total	Independence	2	19.665	$p<.001$	.152	Balance	1	19.655	$p<.001$*	.164
Vulnerable Committed Subset	Independence	2	34.862	$p<.001$	.295	Balance	1	34.739	$p<.001$*	.316
Vulnerable Uncommitted Subset	Independence	2	9.264	$p<.01$	.197	Balance	1	9.116	$p<.001$	.212
Nonvulnerable Committed Subset	Independence	2	13.591	$p<.01$	.322	Balance	1	13.414	$p<.001$*	.350
Nonvulnerable Uncommitted Subset	Independence	2	.592	$p<.80$	.026	Balance	1	.538	$p<.70$	.087

* Indicates that departure from independence was in the predicted direction

balance relationships in the vulnerable and nonvulnerable committed subsets relative to the total population, suggest that if consonance - dissonance is operational it would be operational in one of these two subsets. In that the vulnerable subset tends toward maximal negation, and secondly, has a relatively large sample size (N = 399) it is used as the population base for the dispositional balance model in the subsidiary analysis.

III. ANALYTICAL LEVEL OF ANALYSIS

Results of fitting the dispositional balance model to the data are presented in Tables VII-18 and VII-19. As in the major analysis, data in both tables are evaluated for departures from total independence.

Table VII-18 presents the results of that subset of the population whose members are vulnerable and committed and manifest a consonant cognitive interaction toward medical care (D_1). As can be seen from the table, the data indicate a significant departure from independence. However, as found in Table VI-5, page 65, of the major analysis, the departures from the diagonal are small and inconsistent and thus fail to support the predictions of the model in the consonant subpopulation.

TABLE VII-18

NUMBER OF INDIVIDUALS MANIFESTING A PARTICULAR SET OF SITUATIONAL AND PERSONALITY DISPOSITIONS RELATIVE TO THEIR STATE OF COGNITIVE INTERACTION TOWARD THE UNION AMONG INDIVIDUALS CONSIDERED VULNERABLE AND COMMITTED WITHIN THE CONSONANT SUBPOPULATION

Cognitive Interaction Toward Medical Care Consonance (D_1)	Cognitive Interaction Toward the Union States of Negation (D')				
Hypothesized States of Situational and Personality Dispositions**	(D'_1) None	(D'_2) Minimal	(D'_3) Moderate	(D'_4) Maximal	Total
1.(A·IH·SP)	4* (5.7)	0 (1.1)	0 (0.1)	4 (1.2)	8
2.(A·IH·SN)U(A·IL·SP)U(B·IH·SP)	49 (41.8)	6* (7.8)	0 (0.5)	4 (8.9)	59
3.(A·IL·SN)U(B·IH·SN)U(B·IL·SP)	31 (38.9)	11 (7.2)	2* (0.5)	11 (8.3)	55
4.(B·IL·SN)	67 (64.5)	11 (11.9)	0 (0.9)	13* (13.7)	91
Total	151	28	2	32	213

$X^2 = 22.817$, d.f. = 9, $p < .01$

* Indicates the cells pertinent to the specific hypothesized relationships

** For description see Chapter IV, pages 39-44.

( ) Indicates expected values under independence

The results of fitting the model to the vulnerable - committed subset whose members are dissonant with union norms (D_4) are presented in Table VII-19. As can be seen, the departures from total independence are not significant. Thus, as in Table VI-6, page 66, of the major analysis, the results fail to support the predictions of the model in the dissonant subpopulation.

TABLE VII-19

NUMBER OF INDIVIDUALS MANIFESTING A PARTICULAR SET OF SITUATIONAL AND PERSONALITY DISPOSITIONS RELATIVE TO THEIR STATE OF COGNITIVE INTERACTION TOWARD THE UNION AMONG INDIVIDUALS CONSIDERED VULNERABLE AND COMMITTED WITHIN THE DISSONANT SUBPOPULATION

Cognitive Interaction Toward Medical Care Dissonance (D_4)	Cognitive Interaction Toward the Union States of Negation (D^1)				
Hypothesized States of Situational and Personality Dispositions**	(D^1_1) None	(D^1_2) Minimal	(D^1_3) Moderate	(D^1_4) Maximal	Total
5.(B•IL•SN)	39* (38.4)	13 (10.3)	0* (0.4)	31 (33.9)	83
6.(B•IL•SP)U(B•IH•SN)U(A•IL•SN)	35 (40.2)	9* (10.8)	1 (0.4)	42 (35.5)	87
7.(B•IH•SP)U(A•IL•SP)U(A•IH•SN)	12 (7.4)	1 (1.9)	0* (0.1)	3 (6.5)	16
8.(A•IH•SP)	0 (0.0)	0 (0.0)	0 (0.0)	0* (0.0)	0 (0.0)
Total	86	23	1	76	186

$X^2 = 9.526$, d.f. = 9, $p < .50$

* Indicates the cells pertinent to the specific hypothesized relationships

** For description see Chapter IV, pages 39-44.

( ) Indicates expected values under independence

In order to understand these results more fully, it is necessary to consider the respective dispositional variables relative to the dependent variable not only within the subset designated as vulnerable and committed, but for all remaining subsets. Moreover, these findings are discussed relative to those of the major analysis.

However, in that the various subsets show small expected values associated with minimal-moderate, and maximal negation categories these categories are combined to form a dichotomous negation variable: no negation (D_1') and negation (D_4'). Thus, the respective dispositional variables relative to cognitive interaction toward the union are presented in 2 x 2 contingency tables, evaluated by chi square, corrected for continuity,[51] and measured by the phi-coefficient.

Personality Disposition and Cognitive Structure

Table VII-20 presents the relationship between the personality disposition and cognitive interaction toward the union for the consonant subpopulation controlled by vulnerability and commitment. The data show that in no subset are the departures from independence in the predicted direction. However, the data indicate significant results in the opposite direction in the vulnerable - committed subset. Departures from independence in the remaining subsets are not significant.

When compared with the findings of the major analysis, the data for the vulnerable - committed subset indicate that departures from independence were consistent, although stronger than that recorded in Table VI-10, page 73, for the consonant group of the total population (Table VI-10, $X^2 = 11.764$, d.f. = 1, $p < .001$, $\phi = .162$).[52]

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[51] Blalock, op.cit., pp. 220-221.

[52] Although this and subsequent comparisons are presented the measures of association are not directly comparable in that the calculation of chi square and phi-coefficient in the subsidiary analysis is based on collapsed data.

TABLE VII-20

NUMBER OF CONSONANT INDIVIDUALS MANIFESTING STATES OF PERSONALITY DISPOSITION RELATIVE TO THEIR STATE OF COGNITIVE INTERACTION TOWARD THE UNION WITHIN STATES OF COMMITMENT AND VULNERABILITY

Cognitive Interaction Toward the Union	Vulnerability: Vulnerable; Commitment: Committed; Personality: Concrete (A)	Abstract (B)	Total	Vulnerability: Vulnerable; Commitment: Uncommitted; Personality: Concrete (A)	Abstract (B)	Total	Vulnerability: Nonvulnerable; Commitment: Committed; Personality: Concrete (A)	Abstract (B)	Total	Vulnerability: Nonvulnerable; Commitment: Uncommitted; Personality: Concrete (A)	Abstract (B)	Total
No Negation (D_1')	35* (44.6)	116 (106.4)	151	45* (45.7)	48 (47.3)	93	9* (11.5)	41 (38.5)	50	18* (19.3)	24 (22.7)	42
Negation (D_4')	28 (18.4)	34* (43.6)	62	42 (41.3)	42* (42.7)	84	6 (5.5)	9* (9.5)	15	15 (13.7)	15* (16.3)	30
Total	63	150	213	87	90	177	15	50	65	33	39	72
	$X^2 = 9.164$ d.f. = 1 $p < .01$ $\Phi = .207$			$X^2 = .008$ d.f. = 1 $p < .80$ $\Phi = .006$			$X^2 = 2.013$ d.f. = 1 $p < .20$ $\Phi = .176$			$X^2 = .013$ d.f. = 1 $p < .80$ $\Phi = .013$		

* Indicates the cells pertinent to the directionality of the dispositional hypothesis

( ) Indicates expected values under independence

Table VII-21 shows the results of the personality disposition among individuals dissonant with union norms controlled by vulnerability and commitment. Although the relationship in the vulnerable - committed subset is not quite significant, the departures from expected values under independence are in the hypothesized direction. The relationship in all remaining subsets is not significant.

The direction of the above departures from independence is the same as that presented in Table VI-10, page 73, for the dissonant subpopulation in the major analysis. However, the departures in the major analysis were slightly more significant (Table VI-10, $X^2 = 3.926$, d.f. = 1, $p < .05$, $\Phi = .119$).

TABLE VII-21

NUMBER OF DISSONANT INDIVIDUALS MANIFESTING STATES OF PERSONALITY DISPOSITION RELATIVE TO THEIR STATE OF COGNITIVE INTERACTION TOWARD THE UNION WITHIN STATES OF COMMITMENT AND VULNERABILITY

Cognitive Interaction Toward the Union	Vulnerability: Vulnerable — Commitment: Committed — Personality: Concrete (A)	Abstract (B)	Total	Vulnerable — Uncommitted — Concrete (A)	Abstract (B)	Total	Nonvulnerable — Committed — Concrete (A)	Abstract (B)	Total	Nonvulnerable — Uncommitted — Concrete (A)	Abstract (B)	Total
No Negation (D_1')	35 (40.2)	51* (45.8)	86	11 (13.1)	27* (24.9)	38	16 (15.0)	16* (17.0)	32	3 (2.7)	6* (6.3)	9
Negation (D_4')	52* (46.8)	48 (53.2)	100	10* (7.9)	13 (15.1)	23	15* (16.0)	19 (18.0)	34	1* (1.3)	3 (2.7)	4
Total	87	99	186	21	40	61	31	35	66	4	9	13
	$X^2 = 1.940$ d.f. = 1 $p < .20$ $\Phi = .101$			$X^2 = .766$ d.f. = 1 $p < .50$ $\Phi = .111$			$X^2 = .054$ d.f. = 1 $p < .80$ $\Phi = .028$			$X^2 = .123$ d.f. = 1 $p < .70$ $\Phi = .097$		

* Indicates the cells pertinent to the directionality of the dispositional hypothesis

( ) Indicates expected values under independence

Situational Dispositions and Cognitive Structure

Union Interaction

Table VII-22 presents the relationship between union interaction as a situational disposition and cognitive interaction toward the union among consonant individuals controlled by vulnerability and commitment. Although not quite significant, the departures from independence are in the hypothesized direction for individuals considered vulnerable regardless of commitment. Relationships in nonvulnerable subsets are not significant. Apparently commitment is not a factor in the directionality of the disposition relative to negation.

When compared with the findings presented in Table VI-10, page 73, the above data indicate that departures from independence are in the same direction, although weaker and less significant from that recorded by the consonant subpopulation in the major analysis (Table VI-10, $X^2 = 7.423$, d.f. = 1, $p < .01$, $\phi = .128$).

TABLE VII-22

NUMBER OF CONSONANT INDIVIDUALS MANIFESTING STATES OF UNION INTERACTION RELATIVE TO THEIR STATE OF COGNITIVE INTERACTION TOWARD THE UNION WITHIN STATES OF COMMITMENT AND VULNERABILITY

Cognitive Interaction Toward the Union	Vulnerability: Vulnerable / Commitment: Committed / Union Interaction: Low (IL)	Vulnerability: Vulnerable / Commitment: Committed / Union Interaction: High (IH)	Vulnerability: Vulnerable / Commitment: Committed / Total	Vulnerability: Vulnerable / Commitment: Uncommitted / Union Interaction: Low (IL)	Vulnerability: Vulnerable / Commitment: Uncommitted / Union Interaction: High (IH)	Vulnerability: Vulnerable / Commitment: Uncommitted / Total	Vulnerability: Nonvulnerable / Commitment: Committed / Union Interaction: Low (IL)	Vulnerability: Nonvulnerable / Commitment: Committed / Union Interaction: High (IH)	Vulnerability: Nonvulnerable / Commitment: Committed / Total	Vulnerability: Nonvulnerable / Commitment: Uncommitted / Union Interaction: Low (IL)	Vulnerability: Nonvulnerable / Commitment: Uncommitted / Union Interaction: High (IH)	Vulnerability: Nonvulnerable / Commitment: Uncommitted / Total
No Negation ($D_1^!$)	100 (104.9)	51* (46.1)	151	78 (81.4)	15* (11.6)	93	37 (37.7)	13* (12.3)	50	39 (39.7)	3* (2.3)	42
Negation ($D_4^!$)	48* (43.1)	14 (18.9)	62	77* (73.6)	7 (10.4)	84	12* (11.3)	3 (3.7)	15	29* (28.3)	1 (1.7)	30
Total	148	65	213	155	22	177	49	16	65	68	4	72
	$X^2 = 2.094$ d.f. = 1 $p < .20$ $\phi = .099$			$X^2 = 1.797$ d.f. = 1 $p < .20$ $\phi = .111$			$X^2 = .016$ d.f. = 1 $p < .90$ $\phi = .016$			$X^2 = .030$ d.f. = 1 $p < .90$ $\phi = .020$		

*Indicates the cells pertinent to the directionality of the dispositional hypothesis

( )Indicates expected values under independence

Results of union interaction among individuals dissonant with union norms are presented in Table VII-23. As in the previous table there exists no significant relationship between union interaction and cognitive interaction toward the union in the nonvulnerable subsets. However, in the vulnerable subsets a significant although opposite relationship from that hypothesized is recorded.

Unlike the findings presented in Table VII-22, the above not only indicate the effect of vulnerability but that of commitment. Comparing the two vulnerable subsets, the data indicate a more significant and stronger relationship among those individuals designated as uncommitted. In that this group is composed of individuals dissonant with union norms, but who in fact selected CHA, it points to the role of choice regardless of cognitive structure in relation to the negation variable. Moreover, when this is compared with slippage in the consonant subpopulation, i.e., those cognitively consonant with union norms selecting Blue Cross-Blue Shield, the strength of the above relationships suggest that direction of slippage is an important determinant of the negation variable relative to union interaction.

The direction of the above departures from independence is consistent with that found among dissonant individuals in the total population. However, the relationship in the vulnerable - uncommitted subset is stronger than that presented in Table VI-10, page 73, of the major analysis (Table VI-10, $X^2 = 3.015$, d.f. = 1, $p < .10$, $\Phi = .104$).

TABLE VII-23

NUMBER OF DISSONANT INDIVIDUALS MANIFESTING STATES OF UNION INTERACTION RELATIVE TO THEIR STATE OF COGNITIVE INTERACTION TOWARD THE UNION WITHIN STATES OF VULNERABILITY AND COMMITMENT

Cognitive Interaction Toward the Union	Vulnerability: Vulnerable — Commitment: Committed — Union Interaction: Low (IL)	High (IH)	Total	Vulnerable — Uncommitted — Low (IL)	High (IH)	Total	Nonvulnerable — Committed — Low (IL)	High (IH)	Total	Nonvulnerable — Uncommitted — Low (IL)	High (IH)	Total
No Negation (D_1')	72* (76.4)	14 (9.6)	86	29* (32.4)	9 (5.6)	38	32* (31.5)	1 (1.5)	33	8* (7.6)	1 (1.4)	9
Negation (D_4')	93 (88.6)	7* (11.4)	100	23 (19.6)	0* (3.4)	23	31 (31.5)	2* (1.5)	33	3 (3.4)	1* (0.6)	4
Total	165	21	186	52	9	61	63	3	66	11	2	13
	$X^2 = 3.102$ d.f. = 1 $p < .10$ $\Phi = .129$			$X^2 = 4.614$ d.f. = 1 $p < .05$ $\Phi = .275$			$X^2 = .000$ d.f. = 1 $p < .99$ $\Phi = .000$			$X^2 = .036$ d.f. = 1 $p < .70$ $\Phi = .052$		

* Indicates the cells pertinent to the directionality of the dispositional hypothesis

( ) Indicates expected values under independence

Social Support

Table VII-24 and VII-25 present the relationship between social support as a situational disposition and cognitive interaction toward the union for the respective subpopulations as controlled by vulnerability and commitment. In terms of the consonant subpopulation, Table VII-24 shows that of all subsets only that designated as vulnerable and committed indicates a significant relationship in the predicted direction. The relationship presented in the remaining subsets is not significant. When the findings for the vulnerable - committed subset are compared with Table VI-10, page 73, the data show similar findings for the consonant subpopulation in the major analysis (Table VI-10, $X^2 = 4.770$, d.f. = 1, $p < .05$, $\phi = .103$).

Table VII-25 presents the results of the social support disposition among individuals dissonant with union norms for all subsets of the population. The data indicate that in no subset is the relationship between social support and cognitive interaction toward the union significant. These results are similar to that presented in Table VI-10, page 73, for the dissonant subpopulation in the major analysis (Table VI-10, $X^2 = 2.527$, d.f. = 1, $p < .20$, $\phi = .095$).

TABLE VII-24

NUMBER OF CONSONANT INDIVIDUALS MANIFESTING STATES OF SOCIAL SUPPORT RELATIVE TO THEIR STATE OF COGNITIVE INTERACTION TOWARD THE UNION WITHIN STATES OF VULNERABILITY AND COMMITMENT

Cognitive Interaction Toward the Union	Vulnerability: Vulnerable / Commitment: Committed / Social Support: Absence (SN)	Vulnerability: Vulnerable / Commitment: Committed / Social Support: Presence (SP)	Vulnerability: Vulnerable / Commitment: Committed / Total	Vulnerability: Vulnerable / Commitment: Uncommitted / Social Support: Absence (SN)	Vulnerability: Vulnerable / Commitment: Uncommitted / Social Support: Presence (SP)	Vulnerability: Vulnerable / Commitment: Uncommitted / Total	Vulnerability: Nonvulnerable / Commitment: Committed / Social Support: Absence (SN)	Vulnerability: Nonvulnerable / Commitment: Committed / Social Support: Presence (SP)	Vulnerability: Nonvulnerable / Commitment: Committed / Total	Vulnerability: Nonvulnerable / Commitment: Uncommitted / Social Support: Absence (SN)	Vulnerability: Nonvulnerable / Commitment: Uncommitted / Social Support: Presence (SP)	Vulnerability: Nonvulnerable / Commitment: Uncommitted / Total
No Negation (D_1')	118 (123.4)	33* (27.6)	151	91 (90.9)	2* (2.1)	93	43 (42.3)	7* (7.7)	50	42 (42.0)	0* (0.0)	42
Negation (D_4')	56* (50.6)	6 (11.4)	62	82* (82.1)	2 (1.9)	84	12* (12.7)	3 (2.3)	15	30* (30.0)	0 (0.0)	30
Total	174	39	213	173	4	177	55	10	65	72	0	72
	$X^2 = 3.578$ d.f. = 1 $p < .10$ $\Phi = .129$			$X^2 = .165$ d.f. = 1 $p < .70$ $\Phi = .015$			$X^2 = .044$ d.f. = 1 $p < .90$ $\Phi = .026$			$X^2 = .000$ d.f. = 1 $p < .99$ $\Phi = .000$		

* Indicates the cells are pertinent to the directionality of the dispositional hypothesis

( ) Indicates expected values under independence

TABLE VII-25

NUMBER OF DISSONANT INDIVIDUALS MANIFESTING STATES OF SOCIAL SUPPORT RELATIVE TO THEIR STATE OF COGNITIVE INTERACTION TOWARD THE UNION WITHIN STATES OF VULNERABILITY AND COMMITMENT

Cognitive Interaction Toward the Union	Vulnerability: Vulnerable / Commitment: Committed / Social Support: Absence (SN)	Vulnerability: Vulnerable / Commitment: Committed / Social Support: Presence (SP)	Vulnerability: Vulnerable / Commitment: Committed / Total	Vulnerability: Vulnerable / Commitment: Uncommitted / Social Support: Absence (SN)	Vulnerability: Vulnerable / Commitment: Uncommitted / Social Support: Presence (SP)	Vulnerability: Vulnerable / Commitment: Uncommitted / Total	Vulnerability: Nonvulnerable / Commitment: Committed / Social Support: Absence (SN)	Vulnerability: Nonvulnerable / Commitment: Committed / Social Support: Presence (SP)	Vulnerability: Nonvulnerable / Commitment: Committed / Total	Vulnerability: Nonvulnerable / Commitment: Uncommitted / Social Support: Absence (SN)	Vulnerability: Nonvulnerable / Commitment: Uncommitted / Social Support: Presence (SP)	Vulnerability: Nonvulnerable / Commitment: Uncommitted / Total
No Negation (D_1')	83* (84.2)	3 (1.8)	86	34* (33.6)	4 (4.4)	38	32* (32.5)	1 (0.5)	33	8* (8.3)	1 (0.7)	9
Negation (D_4')	99 (97.8)	1* (2.2)	100	20 (20.4)	3* (2.6)	23	33 (32.5)	0* (0.5)	33	4 (3.7)	0* (0.3)	4
Total	182	4	186	54	7	61	65	1	66	12	1	13
	$X^2 = .435$ d.f. = 1 $p < .50$ $\Phi = .048$			$X^2 = .015$ d.f. = 1 $p < .95$ $\Phi = .015$			$X^2 = .000$ d.f. = 1 $p < .99$ $\Phi = .000$			$X^2 = .185$ d.f. = 1 $p < .70$ $\Phi = .120$		

* Indicates the cells pertinent to the directionality of the dispositional hypothesis

( ) Indicates expected values under independence

IV. DISCUSSION

Comparison of the major and subsidiary analyses indicates the failure of the model to fit the data even with the introduction of vulnerability and commitment as control variables. Although the use of these variables at the descriptive level of analysis have increased the strength of the balance relationship in the committed subsets relative to that found in the total population, the findings at the analytical level again failed to support the predicted reversals of the respective dispositional hypotheses. This tends to give credibility to the previous notion that balance in this situation may not be a function of the motivational strain generated by consonant - dissonant cognitions, but simply a function of non-motivational consequences of normal evaluational processes.[53] The point being, that it need not be balance pressures which determine the individual's attitude toward the union's role in medical care, but simply an assessment of cognitions toward the union's role in medical care and cognitions toward medical care (or choice in uncommitted subsets) and a resultant compromise solution.

The subsidiary finding that there is considerable slippage between cognitions consonant with union norms and choice behavior

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[53] Some evidence for the existence of these processes is indicated by the reasonable success of the choice algorism embodied in the parent study. For a brief description see; C. A. Metzner and R. L. Bashshur, "Factors Associated With Choice of Medical Care Plans," (paper read at the Annual Meeting of the American Public Health Association, Chicago, Illinois, October 20, 1965), p. 8.

provide some insight into the above phenomenon. Although falling beyond the scope of the present study, one explanation is presented that has direct content and methodological implications for the failure to generate unequivocal consonance - dissonance processes.[54]

The existence of consonant slippage, as indicated in the subsidiary analysis, may be explained in terms of the appropriateness of the cognitive measures relative to the choice of health care plans. Thus, for example, the measures of cognitions relative to medical care which were assumed related to specific components of the respective health care plans may be only partially or wholly unrelated to the individual's behavior relative to these plans. However, in that the intent of this study was not to predict choice behavior from cognitive structure this in and of itself is not of concern. What is of concern is the content implications of this explanation. That is, that individuals although consonant with union norms do not select health care plans on the basis of components traditionally considered to be of concern in the study of medical care. Although this tendency was mitigated in the vulnerable subset, the immediate implication to the dispositional balance model is with respect to the motivational significance of the components themselves. Thus, to the extent that the structural components in medical care have minimal significance as the stimulus object in the triad, limits the possibility of generating unequivocal

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[54] For a general discussion of the problems involved in predicting behavior from attitudes, see; M. Fishbein, "The Relationship Between Beliefs, Attitudes and Behavior," in S. Feldman ed., op.cit., pp. 220-222, and D. Katz and E. Stotland, op.cit., pp. 453-456.

consonance - dissonance processes.

However, in that the model also failed in the vulnerable - committed subset where cognitions toward medical care did relate with corresponding choice behavior, thus implying motivational significance of medical care, suggests that other factors were operative. One consideration would be to broaden and extend the above argument to the union as a unit in the triad. Although post facto in its origin, one may posit that the study failed to differentiate between the motivational significance of the relationship between cognitive units and the motivational significance of the units themselves. Both the conditions of cognitive relevance, as expressed by functional participation in the choice situation, and the introduction of vulnerability, as an operational refinement of this condition, involved manipulation of the importance of the entire problem by which it was assumed that all relevant cognitive units were simultaneously affected. No direct attempt was made to maximize the motivational aspects of the union as a cognitive unit in the triad.

Although data of the study do not permit documentation, analysis from other sources would ascribe limited motivational significance to the union. Aside from the general tapering off and apparent arrest of growth which some observers see as the decline of the labor movement[55,56] one may point to the general character of

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[55]S. Barkin, "The Decline of the Labor Movement," Report to the Center for the Study of Democratic Institutions, (Santa Barbara, California, 1961), cited by A. S. Tannenbaum, "Unions," in Handbook of Organizations, ed., J. G. March (Chicago: Rand McNally and Company, 1965), p. 713.

[56]D. Bell, "Union Growth and Structural Cycles - Discussion," in Labor and Trade Unionism, ed., W. Galenson and S.M. Lipset (New York: John Wiley and Sons, Inc., 1960), pp. 89-93.

the union relative to its membership. As Tannenbaum[57] suggests, "Members (now) regard their union largely in instrumental terms, rarely as an object in its own right." He goes on to state that, "its function for most members is that of bargaining with management, and to the extent that it does this successfully without the effort of members, so much the better." This general decline of the union as an object, i.e., cognitive unit in the triad, may be attributed to both the activities of the union and to the union members themselves. In terms of the first, one may point to the changing locus of bargaining from the local to the national level, and secondly, the relative success of the union at this level of activity. The implication of both being to reduce the immediacy of the union relative to the individual. In terms of the individual, one may point to the increasing role of the nuclear family and increasing leisure time being taken up by friends, commercial entertainment and other personal rewarding recreational activities.[58]

Thus, to the extent that the above factors have limited the perception of the union to an instrumentality rather than a social object, suggests that the union as a cognitive unit in the triad may have only limited motivational significance. If this in fact is true, it would provide a possible explanation for the failure to generate unequivocal consonance - dissonance processes.

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[57] A. S. Tannenbaum, op.cit., p. 746.

[58] B. Barber, "Participation and Mass Apathy in Associations," in Studies in Leadership, ed., A. W. Gouldner (New York: Harper and Brothers, 1950), pp. 486-487, 501.

However, even if the union and medical care were motivationally significant among individuals relatively dependent on health care (vulnerable) the failure to produce unequivocal consonance - dissonance processes may be viewed as a function of motivational decay. That is, that to the extent that the motivational significance of medical care and the union is not all pervasive within the individual's overall cognitive system, one may posit that they are significant only at certain times when the issues of health are particularly salient. During times that these issues are not salient would suggest that their motivational significance decays, resulting in a loss in their ability to generate unequivocal consonance - dissonance processes. Unfortunately, the data do not permit documentation of these explanations.

Another factor that may be contributing to the failure of the dispositional balance model to fit the data in both analyses may be attributed to what J. Singer[59] terms "cognitive flooding." Simply put, this explanation postulates that the motivating effects of inconsistency and thus the generation of unequivocal consonance - dissonance processes may be vitiated by increasing the amount of information that the individual must process.

Extending this line of reasoning to the present study suggests that the failure of the model to fit the data, and more specifically the failure to achieve reversals as predicted by the respective dispositional hypotheses, may be a function of the amount of information

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[59] J. E. Singer, "Motivation for Consistency," in S. Feldman, op.cit., p. 70.

the individual must process concerning medical care and the union. Although the study situation is confined to a triad, the union and medical care as units of the triad are relatively complex. This complexity relative to the individuals processing capacity might have mitigated the tendency to perceive balance or imbalance, and thus the degree of balance - imbalance bears less relationship to the consonance - dissonance processes. To the extent that this occurred, the situation failed to generate the unequivocal consonance - dissonance processes that were expected.

CHAPTER VIII

POSSIBLE LIMITING FACTORS

I. FACTORS INTRINSIC TO THE MODEL

Assuming that units in the triad were motivationally significant and the extrinsic factors of motivational decay and/or cognitive flooding did not occur, there are other factors that are intrinsic to the model itself that might have resulted in its failure to fit the data. Four factors that appear most crucial will be considered. Although all are highly interrelated, the first two focus on methodological limitations within the context of the model. The last two concern general limitations of the model itself.

In the first place, one may raise the general question concerning the validity of the measures used in the study. This is especially pertinent to measures of cognitions toward medical care and the respective personality and situational dispositions, in that it was assumed that scoring individuals over a set of questions corresponding to the respective cognitions and dispositions would provide a relatively precise indication of the state of the variables within the individual. Although the data did not permit testing the validity of these measures, the inferential nature of the data with respect to the cognitions and dispositions in conjunction with the homogeneity of the study population tends to limit the credibility of this assumption.

The above question may have more significance for the results of the study in light of the second limiting factor. That is, that

in order to apply the logical operations of the model to the data i.e., joint assertion (•) as defined by the calculus of propositions, the study implicitly assumed the existence of a class structure to which clusters provided a useful approximation. This assumption may or may not be ontologically correct. To the extent that classes do exist raises the methodological question concerning the ability of these clusters to approximate the classes relative to the operations of the model. Conversely, to the extent that the data are typlified by a dynamic continuous process raises an important epistomological question, which although dealt with briefly, falls beyond the scope of the study.

Thus, on the one hand, if the data can be represented by a class structure, the failure of the model to fit the data may be interpreted as the relative vagueness incorporated in the clusters relative to the precision of the logical operations dictated by the model. Although the clusters are significantly different, the fact that the model assumes that individuals are either in one class or another, whereas in reality individuals have membership to some degree in both classes suggests a reformulation of the operations by which the model combines clusters.

This line of reasoning suggests a potentially fruitful direction for further research. In order to take account of this inability to achieve certitude as to class membership of empirical cases, one might introduce the notion of degree to which an individual does or does not belong to a given class into the operations of the model.

Thus, the model instead of assuming certainty of class membership as approximated by the respective clusters, posits membership in probabilistic terms and considers these probabilities when combining clusters. In these terms, the model is better able to accomodate the vagueness of the empirical data.

If, on the other hand a class structure does not exist the present model is of little use. In this situation, clusters are unable to encompass the phenomenon, and thus, no classification system in the strict sense of the term would be adequate except as a limited approximation having considerable residual variance and low power.

Lastly, one may posit that although it was conceptually possible for the model to encompass the situation, its inability to predict may be a function of its oversimplification. This suggests that not only the dimensionality of the model is restricted, but that the interaction between the dispositions may not be that assumed by the model. Both limitations suggest fruitful directions for future research. In the latter case, future analysis should be based on triple interaction analysis to determine the exact interaction patterns among the dispositions relative to cognitive interaction toward the union and cognitive interaction toward medical care.

A second consideration corresponding to the dimensionality of the model is to provide for its extention in the form of additional variables, such that the model will better encompass the phenomenon. The comparison of the major and subsidiary analysis suggests several possibilities. One is to provide some indication of the motivational

significance of the units in the triad. This may be considered a situational disposition and dealt with either within the confines of the model or as a control variable for the model. Another consideration might be the manner in which the individual fills in or adds to his cognitive structure. This may be considered a refinement of the personality disposition or as suggested in Chapter VII a situational factor, i.e., amount of information processed.

Several other possibilities may be suggested: extent of exposure to union norms, extent of individuals initial position with respect to medical care relative to these norms, size of union group with which individual interacts. However, in the absence of further data the above considerations of dimensionality are purely speculative. Although worthy of attention in designing future analysis, their exact relation to the model must here remain problematic.

II. ASSESSMENT OF LIMITING FACTORS

The available evidence does not permit any firm conclusions to be drawn as to whether the failure of the model to fit the data is a function of factors intrinsic to the model or whether failure may be attributed to the phenomenon itself, i.e., factors extrinsic to the model as discussed in Chapter VII. However, the data did permit adequate cluster separation (Appendices C, D, E, F) among variables that appear to be sufficiently well represented by the questions and whose interpretation was reasonable with the meaning of the model.

Thus, while the data are not likely to be optimal, it is also not likely that the data are invalid as a test of the model. The implication being, that the limiting factors of question validity, class structure of the data, and its approximation by the cluster analysis, would seem to have only minimal affect on the operations of the model relative to the factors involved in the phenomenon itself.

CHAPTER IX

SUMMARY AND CONCLUSIONS

I. THE PROBLEM

When a union takes an innovative position toward medical care relative to its constituency, and this is made manifest in a choice situation, one may posit that a connection is formed between the union and medical care relative to the individual. This may be considered a cognitive system composed of the following relationships: the individual's attitude toward medical care relative to the union's position toward medical care (termed cognitive interaction toward medical care), and secondly, the individual's attitude toward the union relative to the union's position toward medical care (termed cognitive interaction toward the union). The relationship between these two interactions was treated as the dependent variable and presented in a conjunctive - disjunctive balance matrix which according to Heider and others tends toward balance. Within this matrix, balance is defined in terms of the conjunctive relationship between cognitive interaction toward medical care and cognitive interaction toward the union. Conversely, imbalance is the disjunctive relationship between these cognitive interactions. This was termed the descriptive level of analysis.

In order to explain the conditions under which the various states of balance and imbalance exist in a field situation, the problem was approached at an analytical level. The following personality and situational dispositions were hypothesized as

independent variables that affect the conjunctive - disjunctive states of balance and imbalance. The personality disposition was viewed in terms of a system of ordering that serves as a mediating link between the input side (stimuli) and the output side (response) of which the concrete - abstract dimension is the most important structural characteristic. The dimension was dichotomized into System A (A) and System B (B) with the former designating a concrete orientation and the latter an abstract orientation. Situational dispositions were defined to have two components. The first is union interaction, which was considered an index of the amount of communication or communicative interaction between the individual and the union and the importance of this interaction to the individual. Two states were defined: high (IH) and low (IL) union interaction. The second is social support, which was considered an index of the amount of social reinforcement the individual manifests for a confirmed or refuted cognitive structure. Two states were defined: presence of social support (SP), and absence of social support (SN).

The relationship of the respective dispositions to the individual's cognitive interaction toward the union was defined as a function of the state of the individual's cognitive interaction toward medical care (consonance - dissonance). Within the respective states of consonance and dissonance, the dispositions were combined by joint assertion forming a deterministic system for all states of cognitive interaction toward the union. This system was termed the dispositional balance model.

II. STUDY DESIGN

In order to evaluate the dispositional balance model, two analyses were conducted. The data for both were derived from the Study of Choice or Rejection of Group Practice Prepayment Plans which was based on a sample of 1201 members of the UAW employed by Chrysler, Ford, and General Motors living within the Greater Metropolitan Detroit Area who were offered a choice of two health care plans. The first analysis was conducted on that portion (353 persons) of the sample who were aware that a choice existed between CHA and Blue Cross-Blue Shield, and who made an unequivocal statement as to the union's role in medical care (functional involvement). This was designated the study population and was the population base for the major analysis. The second analysis represents a refinement of the first and was termed the subsidiary analysis. Here the model was evaluated on that subset of the population (399 persons) who were relatively dependent on health care (vulnerability), and who had selected a health care plan in accord with their cognitive structure toward medical care (commitment).

Measures for the dependent and independent variables were derived from questions incorporated in the parent study. Cognitive interaction toward medical care and the respective dispositions were measured by the individual's response to a set of questions thought to be associated with these concepts. In order to maximally reflect the major intent of the questions and minimize extraneous variations due to differences between questions, response patterns were

partitioned into dichotomous states according to relationships along the major axis of agreement. The measure of cognitive interaction toward the union was based on a single question with four response categories.

In order to obtain evidence of the relationship between cognitive interaction toward the union and cognitive interaction toward medical care for both the study population and the respective subsets, data were presented at the descriptive level of analysis. Discussion was based on cognitive interaction distributions as a percentage of the total study population and the respective subset totals. Further analysis was conducted by considering the respective distributions as a percentage of the row total, i.e., cognitive interaction toward the union as a percentage of cognitive interaction toward medical care, and as a percentage of the column total, i.e., cognitive interaction toward medical care as a percentage of cognitive interaction toward the union. To determine whether there was a tendency toward balance between the two cognitive interaction variables, bivariate frequencies were recorded in the cognitive interaction matrix for the total population and the respective subsets. Each was evaluated by chi square and measured by the phi-coefficient.

To determine the conditions under which states of balance and imbalance exist, for both the total study population and the vulnerable - committed subset, data were presented at the analytical level. Here the dispositional balance model was presented in a 4 x 4 matrix, such that the diagonal of the matrix represents the

respective content hypotheses of the model. To gain insight into the operation of the model, the respective dispositions were evaluated by chi square and the phi-coefficient relative to cognitive interaction toward medical care and cognitive interaction toward the union.

III. RESULTS

In the major analysis, it was assumed that functional participation in the choice situation would generate meaningful consonance and dissonance processes within the cognitive system composed of the union and medical care as two separate cognitive units. This assumption permitted the analysis of the relationship existing between cognitions toward medical care relative to union norms (cognitive interaction toward medical care), and cognitions toward the union relative to these norms (cognitive interaction toward the union). The relationship was dealt with at the descriptive level of analysis and indicated a tendency toward balance.

At the analytical level of analysis, the dispositional balance model was applied to the population as an explanatory system for the various states of balance and imbalance. Results indicated that the model failed to fit the data. To provide some indication for this failure, further analysis was made by considering the respective dispositions relative to the relationship between cognitive interaction toward medical care and cognitive interaction toward the union. It was hypothesized that the relationship of the

respective dispositions to cognitive interaction toward the union was a function of the individual's cognitive interaction toward medical care. Thus, the study expected a reversal in the direction of the departures from independence for the respective dispositions relative to whether the individual was either consonant or dissonant with union norms. Although the data indicated significant departures from independence, there was no difference in the direction of the departures for either individuals consonant or dissonant with union norms. It was suggested, that the failure to obtain the predicted departures was due to the failure of the study to generate unequivocal consonance and dissonance processes. Thus, it was thought that the original method of maximizing cognitive relevance was not sufficient, and that the major analysis did not provide an adequate test of the dispositional balance model.

In the subsidiary analysis, cognitive relevance was maximized by introducing vulnerability and commitment as control variables. The model was analyzed on that subset of the study population whose members were relatively dependent on health care, and who had selected a health care plan in accord with their cognitive structure toward medical care. It was thought that in this subset cognitive relevance would be maximal.

Results at the descriptive level of analysis indicated a stronger tendency toward balance among committed subsets relative to that recorded in the total population. Moreover, when subsidiary findings were compared with findings of the major analysis the data

indicated considerable slippage between cognitions consonant with union norms and choice behavior. This was slightly more prevelant among the nonvulnerable individuals. Among uncommitted individuals a tendency toward balance was also present. However, its direction was opposite of that found among committed individuals suggesting that the relationship between cognitive interaction toward medical care and cognitive interaction toward the union was a function of choice behavior and not cognitions toward medical care. Finally, the results indicated a greater tendency toward maximal negation among the vulnerable committed subset as compared with the non-vulnerable set.

At the analytical level of analysis the dispositional balance model was applied to the vulnerable - committed subset and again the model failed to fit the data. Further analysis was made by considering the respective dispositions relative to their relationship between cognitive interaction toward medical care and toward the union. As in the major analysis, there was no difference in the direction of the departures from independence for individuals either consonant or dissonant with union norms. Moreover, when the dispositional relationships were evaluated in subsets other than the vulnerable - committed subset, the data not only failed to differentiate the direction of the departures from independence, but several subsets recorded insignificant relationships relative to the particular disposition.

IV. CONCLUSIONS

The basic premise underlying this investigation was that balance theory to be applicable in a field situation must take into account personality and situational dispositions that affect the balance - imbalance relationships. To some extent the results have indicated that this is correct, but not in the way hypothesized. First, the main predictions involved in the dispositional balance model itself were not supported by the data. However, the prediction of the respective dispositions relative to cognitive interaction toward medical care and cognitive interaction toward the union were partially supported. Although the data failed to support the predicted reversals in the direction of the association relative to whether the individuals were consonant or dissonant with union norms, significant relationships were found between the respective dispositions and the cognitive interaction variables.

What conclusions can be drawn with respect to the major and subsidiary analyses, and secondly, what are the implications to the field of medical care? On the one hand, the model cannot be entirely rejected since there was a relatively strong tendency toward balance and since the respective dispositions recorded significant relationships with the cognitive interaction variables. On the other hand, it is clear that the model does not hold as originally stated or at least under the conditions present in this analysis.

The major conclusion that one may draw from this study is that individuals as members of an organization (UAW) do not tend to

perceive influence attempts by that organization in such a way that it generates unequivocal consonance or dissonance processes. As indicated in previous discussions this may be due either to the methodological limitations of the study or in the nature of the phenomenon itself. If the first is true, it would mean that the main hypotheses of the model and the respective dispositional hypotheses were essentially correct, but that the current investigation failed to provide an adequate test for them. If on the other hand, the second is true, it would mean the limited applicability of balance theory not only to cope with the present situation, but with field situations in general.

However, if one assumes that the methodological limitations of the model were not too great (as suggested in Chapter VIII), the failure of the model to fit the present situation is expressed in terms of the phenomenon itself, and thus, has implications to the field of medical care. As previously suggested, the failure to generate unequivocal consonance and dissonance processes even among individuals relatively dependent on health care (vulnerable) may be expressed either as a specific motivational problem of the cognitive units or as a more general motivational problem based on cognitive flooding or motivational decay. To the extent that the former exists, it suggests that cognitions toward medical care may be relatively unimportant to the individual.

This is relatively consistent with an early study by Koos,[60]

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[60] E. L. Koos, "Metropolis' - What City People Think of Their Medical Services," American Journal of Public Health, 45 (December, 1955), pp. 1551-1557.

in which he has shown that on the whole individuals are not much concerned with medical care problems except as they relate to immediate treatment needs. The implication of this is that individuals tend not to perceive medical care as an institutional system, but rather in highly personalistic terms with little or no generalization. Moreover, when this is considered in terms of the additional finding that there is considerable slippage between choice of health care plans and cognitive structure with respect to medical care, it suggests that the perceived difference between CHA and Blue Cross-Blue Shield may be slight. Thus, the more basic implication may be that not only does the individual fail to perceive medical care as an institutional system, but that he may be perceiving the elements within the existing system as being relatively adequate.

Secondly, to the extent that the failure to generate unequivocal consonance - dissonance processes is based on a more general motivational problem points to the limitation of balance theory to cope with the complexity of any field situation. In these terms the problem is not restricted to the motivational state of the particular elements in the study situation, but to the general cognitive processes applicable to any field situation. Thus, the failure to generate unequivocal consonance - dissonance processes may be attributed to the nonpervasive nature of cognitions through time, i.e., motivational decay, and/or the tendency in complex situations for the states of balance or imbalance to bear less relationship to

consonance - dissonance processes, i.e., cognitive flooding.

A secondary conclusion derived from the findings of the subsidiary analysis is that the union's position may not be as innovative as we originally thought. The finding that approximately 60 percent of the study population had cognitions toward medical care which were consonant with union norms, suggests that either the union has been very effective in presenting its position to the membership or that these are the prevailing norms for this population. In that there was considerable slippage between cognitions consonant with union norms toward medical care and accompanying choice behavior suggests that the latter seems the more credible view.

Although beyond the scope of the model, the fact that these relatively innovative cognitions are so pervasive among this population has implications to the field of medical care. This is especially pertinent when considered in terms of the slow growth of group practice prepayment plans as documented by Weinerman[61] and Donabedian.[62]

First, the pervasive nature of cognitions in accord with prepaid group practice suggest that not only have the influence attempts made by various organizations representing a more traditional

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[61] R. E. Weinerman, "An Appraisal of Medical Care Group Health Centers," American Journal of Public Health, 46 (March, 1956), pp. 300-309.

[62] A. Donabedian, A Review of Some Experience With Prepaid Group Practice, Bureau of Public Health Economics, University of Michigan, Research Series No. 12 (Ann Arbor, 1956), pp. 4-6.

view of medical care been relatively ineffective, but that this segment of the population represents a more progressive view than that represented by these various groups. Secondly, although this progressive view is pervasive, the slow growth of this form of medical care indicates that there has not been an effective transmission of cognitive structure into corresponding behavior. This, therefore, suggests that the union's most effective role in promoting prepaid group practice is not in attempting to influence cognitive structure, but to create a situation in which this structure is in control of behavior in a choice situation.

APPENDIX A

SAMPLE DESIGN USED IN CLUSTER ANALYSIS

In that the IBM 7090 computer program is limited to 100 subjects the population (N = 853) was stratified into response patterns by permuting all item categories and within each strata further permuting categories to take account of category order within the respective patterns. These permuted response patterns were sampled to meet the following criteria: (1) the program requirement that the lowest expected frequency for any pair of variables is not less than half and preferably is equal or greater than unity, where the expected frequency is calculated by $\frac{n_i n_j}{n_s}$, i.e., the number of subjects who fall in category i of one variable and j of another divided by sample size; (2) that all response patterns be subject to analysis and assigned to a cluster; (3) that the sample permit generalization back to the universe of response patterns. To meet these criteria, a two stage sample was designed such that in the first stage all elements (response patterns) with less than a probability of selection of $\frac{n}{N}$ under proportionate sampling were disproportionately selected with an assigned probability of $1/N_a$, where, N_a is the number of response patterns in a permuted strata having a probability of selection of less than $\frac{n}{N}$. In the second stage, the remaining response patterns were sampled proportionately based on an adjusted sampling fraction $\frac{n - n_A}{N - N_A}$, where, n_A - is the number selected in the first stage, and, N_A - is the number having a probability of selection in the first stage.

APPENDIX B

PROCEDURE USED IN ESTIMATING PARAMETERS IN CLUSTER ANALYSIS*

In order to estimate the parameters corresponding to the dichotomous clusters of cognitive interaction toward medical care and the respective dispositions it was first necessary to normalize the unit length vectors (V) to the length of their respective etas (η). Thus the unit length vectors (scores) $V_1, V_2, \ldots\ldots V_m$ form

$$\sqrt{\eta_j}\, V_{ij}$$

where,

$\eta_j \equiv$ eta corresponding to the j vector

$V_{ij} \equiv$ jth unit length vector (scores) for individuals (i = 1, 2,....N)

Since the 7090 program has scaled individual score vectors by 10^3 and then rescaled for programed clustering all elements of normalized V were multiplied by 10^{-3} for estimating the parameters of the dichotomous clusters.

The centroid for the dichotomous clusters is the average of V_{ij} ($i = 1,2,\ldots N_K$) for vector j, where there are N_K subjects in the cluster. This was done for each vector separately thus providing the co-ordinates for the centroid of the cluster in m dimensions. Using these average co-ordinates the Euclidean distance between centroid cluster points is determined by using the standard distance equation;

$$(1)\quad d_{ij} = \left[\sum_{a=1}^{m} (V_{ia} - V_{ja})^2\right]^{\frac{1}{2}}$$

* James C. Lingoes, Personal Communications, October, 1966.

where,

V_{ia} ≡ average co-ordinate of the ith cluster on the ath dimension

V_{ja} ≡ average co-ordinate of the jth cluster on the ath dimension

The mean distance of the respective clusters from the origin of the space ($\bar{d}_c$) was determined by using the following equation;

$$(2)\quad \bar{d}_c = \left[\sum_{j=1}^{N_K}\left(\sum_{a=1}^{m} V_{ja}^2\right)^{\frac{1}{2}}\right] / N_K$$

where,

V_{ja} ≡ individual vector score on the ath dimension

N_K ≡ number of individuals composing the cluster

The variance of the respective clusters was determined as follows:

$$(3)\quad S_c^2 = \frac{N_K \sum_{j=1}^{N_K}\left(\sum_{a=1}^{m} V_{ja}^2\right) - \left[\sum_{j=1}^{N_K}\left(\sum_{a=1}^{m} V_{ja}^2\right)^{\frac{1}{2}}\right]^2}{N_K\,(N_K - 1)}$$

A t statistic between cluster i and j, where there are N_i subjects in cluster i and N_j subjects in cluster j was based on a pooled estimate of cluster variance (S^2). The following equation was used to determine t_{ij} for $N_i + N_j - 2$ degrees of freedom;

where,

$$t_{ij} = \frac{d_{ij}}{z}$$

where,

d_{ij} ≡ distance between the centroids of cluster i and j (see equation (1)

$$z = \left[\frac{y}{N_i} + \frac{y}{N_j}\right]^{\frac{1}{2}}$$

where,

$$y = \frac{S_i^2\,(N_i - 1) + S_j^2\,(N_j - 1)}{N_i + N_j - 2}$$

APPENDIX C

COGNITIVE INTERACTION TOWARD MEDICAL CARE

TABLE C-1: CONSONANT SUBPOPULATION; RESPONSE PATTERN FREQUENCIES

Response Pattern Identification*	Response Pattern (answer on item) A	B	C	D	Population Frequency	Sample Frequency
0101	1	1	1	1	55	5
0201	2	1	1	1	211	19
0202	1	1	2	1	3	1
0301	3	1	1	1	51	5
0302	1	3	1	1	8	1
0303	1	1	3	1	16	2
0304	1	1	1	3	6	1
0402	2	1	2	1	9	1
0403	2	1	1	2	7	1
0504	2	1	3	1	124	11
0505	2	1	1	3	29	3
0604	1	3	3	1	5	1
0605	1	1	3	3	3	1
					$N_{D_1} = \overline{527}$	$n_{D_1} = \overline{52}$

* First two digits indicate response pattern strata based on permuting observed categories, with the last two digits indicating the order of the observed categories within the strata. This applies to all subsequent response pattern identifications.

APPENDIX C

COGNITIVE INTERACTION TOWARD MEDICAL CARE

TABLE C-2: DISSONANT SUBPOPULATION; RESPONSE PATTERN FREQUENCIES

Response Pattern Identification	Response Pattern (answer on item)				Population Frequency	Sample Frequency
	A	B	C	D		
0401	2	2	1	1	11	1
0501	3	2	1	1	7	1
0502	2	3	1	1	58	5
0503	3	1	2	1	3	1
0504	1	2	3	1	1	1
0601	3	3	1	1	27	2
0602	3	1	3	1	35	3
0603	3	1	1	3	5	1
0701	2	2	2	1	4	1
0702	2	2	1	2	1	1
0801	2	3	2	1	4	1
0802	2	2	3	1	10	1
0803	2	3	1	2	1	1
0804	2	2	1	3	2	1
0805	2	1	3	2	6	1
0806	2	1	2	3	2	1
0901	2	2	3	2	1	1
1001	3	3	2	1	1	1
1002	3	2	3	1	4	1
1003	2	3	3	1	41	5
1004	3	3	1	2	1	1
1005	3	2	1	3	2	1
1006	2	3	1	3	8	1
1007	3	1	3	2	3	1
1008	2	1	3	3	25	2
1101	2	2	3	3	4	1
1102	2	3	2	3	1	1
1103	2	3	3	2	2	1
1201	3	3	3	1	19	2
1202	3	3	1	3	9	1
1203	3	1	3	3	9	1

Response Pattern Identification	Response Pattern (answer on item) A	B	C	D	Population Frequency	Sample Frequency
1301	2	3	3	3	14	1
1302	3	2	3	3	1	1
1303	3	3	3	2	1	1
1401	3	3	3	3	2	1
					$N_{D_4} = \overline{326}$	$n_{D_4} = \overline{48}$

APPENDIX C

COGNITIVE INTERACTION TOWARD MEDICAL CARE

TABLE C-3: PARAMETER ESTIMATES

Subpopulation	Mean Distance From Origin $\bar{d}$	Cluster Variance s^2	Mean Interpoint Distance d	t
D_1 Consonant	.0333	.00110	.04690	19.142
D_4 Dissonant	.0398	.00157		

APPENDIX D

PERSONALITY DISPOSITION

TABLE D-1: ABSTRACT CLUSTER; RESPONSE PATTERN FREQUENCIES

Response Pattern Identification	Response Pattern (answer on item) A	B	C	Population Frequency	Sample Frequency
0101	1	1	1	63	7
0201	2	1	1	23	3
0202	1	2	1	104	12
0203	1	1	2	37	4
0301	3	1	1	20	3
0302	1	3	1	86	10
0303	1	1	3	4	1
0402	2	1	2	6	1
0403	1	2	2	83	10
0502	1	3	2	70	8
0503	3	1	2	16	2
				$N_B = \overline{512}$	$n_B = \overline{61}$

APPENDIX D

PERSONALITY DISPOSITION

TABLE D-2: CONCRETE CLUSTER; RESPONSE PATTERN FREQUENCIES

Response Pattern Identification	Response Pattern (answer on item)			Population Frequency	Sample Frequency
	A	B	C		
0401	2	2	1	23	3
0501	1	2	3	18	2
0504	3	2	1	42	4
0505	2	1	3	3	1
0506	2	3	1	32	4
0601	2	2	2	19	2
0701	2	2	3	5	1
0702	2	3	2	32	3
0703	3	2	2	26	3
0801	1	3	3	18	2
0802	3	1	3	3	1
0803	3	3	1	53	6
0901	2	3	3	8	1
0902	3	2	3	9	1
0903	3	3	2	39	4
1001	3	3	3	11	1
				$N_A = \overline{341}$	$n_A = \overline{39}$

APPENDIX D

PERSONALITY DISPOSITION

TABLE D-3: PARAMETER ESTIMATES

Cluster	Mean Distance From Origin $\bar{d}$	Cluster Variance s^2	Mean Interpoint Distance d	t
Abstract	.0299	.00069	.04898	22.900
Concrete	.0337	.00122		

APPENDIX E

SITUATIONAL DISPOSITION - UNION INTERACTION

TABLE E-1: LOW INTERACTION CLUSTER; RESPONSE PATTERN FREQUENCIES

Response Pattern Identification	Response Pattern (answer on item)			Population Frequency	Sample Frequency
	A	B	C		
0101	1	1	1	108	12
0201	2	1	1	114	14
0202	1	2	1	22	3
0301	3	1	1	210	23
0302	1	3	1	9	1
0303	1	1	3	1	1
0401	2	2	1	72	7
0402	2	1	2	5	1
0403	1	2	2	1	1
0502	3	1	2	7	1
0503	3	2	1	109	12
0504	2	3	1	46	5
0601	2	2	2	4	1
0702	3	2	2	3	1
				$N_{IL} = \overline{711}$	$n_{IL} = \overline{83}$

APPENDIX E

SITUATIONAL DISPOSITION - UNION INTERACTION

TABLE E-2: HIGH INTERACTION CLUSTER; RESPONSE PATTERN FREQUENCIES

Response Pattern Identification	Response Pattern (answer on item)			Population Frequency	Sample Frequency
	A	B	C		
0501	1	3	2	1	1
0701	2	3	2	13	1
0801	1	3	3	1	1
0802	3	1	3	3	1
0803	3	3	1	64	6
0901	2	3	3	14	1
0902	3	2	3	2	1
0903	3	3	2	16	2
1001	3	3	3	28	3
				$N_{IH} = 142$	$n_{IH} = 17$

APPENDIX E

SITUATIONAL DISPOSITION - UNION INTERACTION

TABLE E-3: PARAMETER ESTIMATES

Cluster	Mean Distance From Origin $\bar{d}$	Cluster Variance s^2	Mean Interpoint Distance d	t
Low	.0456	.00181	.0558	4.2246
High	.09127	.00826		

APPENDIX F

SITUATIONAL DISPOSITION - SOCIAL SUPPORT

TABLE F-1: PRESENCE OF SOCIAL SUPPORT; RESPONSE PATTERN FREQUENCIES

Response Pattern Identification	Response Pattern (answer on item)				Population Frequency	Sample Frequency
	A	B	C	D		
0101	1	1	1	1	1	1
0201	1	1	2	1	1	1
0202	1	1	1	2	1	1
0301	3	1	1	1	1	1
0302	1	3	1	1	19	2
0303	1	1	1	3	5	1
0401	2	3	1	1	5	1
0403	1	3	2	1	2	1
0404	1	3	1	2	11	1
0405	1	2	1	3	1	1
0406	1	1	2	3	3	1
0501	2	2	2	1	1	1
0601	2	3	2	1	1	1
0602	2	2	3	1	1	1
0603	2	3	1	2	1	1
0604	1	3	2	2	1	1
0605	1	2	2	3	1	1
0704	1	1	3	3	5	1
					$N_{SP} = \overline{66}$	$n_{SP} = \overline{19}$

APPENDIX F

SITUATIONAL DISPOSITION - SOCIAL SUPPORT

TABLE F-2: ABSENCE OF SOCIAL SUPPORT: RESPONSE PATTERN FREQUENCIES

Response Pattern Identification	Response Pattern (answer on item)				Population Frequency	Sample Frequency
	A	B	C	D		
0701	3	3	1	1	3	1
0702	1	3	3	1	18	2
0703	1	3	1	3	85	8
0801	2	2	2	3	4	1
0802	2	3	2	2	1	1
0901	3	3	2	1	1	1
0902	2	3	3	1	5	1
0903	3	2	1	3	1	1
0904	2	3	1	3	4	1
0905	2	1	3	3	20	2
0906	1	3	3	2	5	1
0907	1	3	2	3	22	2
1001	2	3	2	3	34	3
1002	2	3	3	2	1	1
1003	3	2	2	3	4	1
1101	3	3	3	1	12	1
1102	3	3	1	3	17	2
1103	3	1	3	3	3	1
1104	1	3	3	3	254	20
1201	2	3	3	3	133	13
1202	3	2	3	3	3	1
1203	3	3	2	3	16	2
1204	3	3	3	2	2	1
1301	3	3	3	3	140	13
					$N_{SN} = \overline{787}$	$n_{SN} = \overline{81}$

APPENDIX F

SITUATIONAL DISPOSITION - SOCIAL SUPPORT

TABLE F-3: PARAMETER ESTIMATES

Cluster	Mean Distance From Origin $\bar{d}$	Cluster Variance s^2	Mean Interpoint Distance d	t
Presence	.08325	.00319		
			.080311	8.0300
Absence	.03836	.00127		

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