

SYSTEMIC LINKAGE, INFLUENCE AND CONTROL  
IN A HOSPITAL DECISION-MAKING  
STRUCTURE:  
A CROSS-VALIDATION STUDY

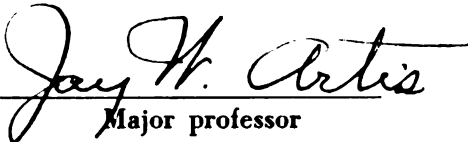
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## ABSTRACT

### SYSTEMIC LINKAGE, INFLUENCE AND CONTROL IN A HOSPITAL DECISION-MAKING STRUCTURE: A CROSS-VALIDATION STUDY

by Robert G. Holloway

This study was concerned with the consequences of systemic linkage of community influentials on the decision-making process of a general hospital. Systemic linkage was operationally defined as the extent of overlapping representation of status occupants in the major decision-making units of the hospital (the board of trustees--the working committees of the board and administration).

The design to assess the consequences of linkage of community influentials in the organization was essentially twofold in nature. First it provides a methodological procedure by which the particular administrative decision-making process of the major units may be analyzed by observation of the interaction concerned with policy making. The design also provides a test of cross-validation of two measurement systems commonly used to identify community power structure and to predict control, the "reputational" and "positional" techniques, by means of a third and completely independent measurement system--Bales' "interaction process analysis." The second aspect of the design is the testing of a central hypothesis at different levels of the hierarchy of decision-making units of the organization. This hypothesis is that community influentials are the most active participants in the decision-making process of the hospital and exert more control over the non-influentials than they in turn exert over the community influentials. A community influential was defined as either a top influential, an economic influential, or both.



Interaction was observed, unitized, and attributized by the author and categorized from electrical recordings of meetings of the major units. Bales' Index of Directiveness of Control was used as the measurement of control. The Appendix contains a critical analysis of the reliability procedures commonly used in profile analysis and recommended by Bales and others in this area, and suggests an alternative statistical procedure for estimating inter-rater reliability.

A 50 year historical analysis of the participation pattern of economic influentials rejected the Schulze hypothesis of "withdrawal" for this organization (by means of the sign test) and gave some support to the Form-Miller hypothesis of increased representation of influentials at strategic intra-organizational levels.

The central hypothesis of influential control over the board was supported. Influentials exerted most control over the administration, less over the non-influential board members, and the least amount among themselves. They were the most active, also. Contrary to the pattern found on the board, at the working committee level, the non-influentials exerted more control activity over the influentials. Antagonism and hostility were readily visible in the attempt to resolve issues at this level. Faced with such conflict, the administrators tended to withdraw from interaction. The influentials were able to direct policy by moving the issue up to higher levels of the organization where they had greater representation, power, and where overt conflict was less likely to occur. Both influentials and the administrators spent much of their time supplying information to their unit. The non-influentials spent most of their time in the emotional areas of interaction.

At the administrative level, the chief of the medical staff directed most of his control efforts toward the hospital director, who in turn was more concerned with control over his entire staff. The director of nursing

expended most of her control efforts toward the chief of staff. Both the physician and nurse spent more of their time in the problem-solving area, whereas the director and his assistants spent most of their time in the emotional areas of behavior.

Comparisons between the administrative conference of a psychiatric hospital, as cited in the literature, and the general hospital were made also.

SYSTEMIC LINKAGE, INFLUENCE AND CONTROL IN A HOSPITAL  
DECISION-MAKING STRUCTURE: A CROSS-VALIDATION STUDY

By  
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\*\*\*\*\*

TO MARGARET

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## CHAPTER I

### INTRODUCTION TO THE PROBLEM AREA

This study was undertaken as part of a project<sup>1</sup> concerned with the ways in which a hospital was structurally linked with the community in which it was situated. Loomis has succinctly phrased an appropriate introduction to this problem area.

To understand a social system it is always necessary to know how it is linked to other systems and to any larger systems of which it may be a part. To understand social change it is necessary to understand how agents of change link themselves to the target systems which are changed.<sup>2</sup>

One aspect of the project was devoted to an analysis of the linkage between external demands (e. g., population increase, the expansion and development of technology, the spread of communication and transportation networks, increased demand for medical service, etc.) upon the community facilities (including the hospital) and the community power structure.<sup>3</sup>

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<sup>1</sup>This project was the Hospital-Community Relations Project under the co-directorship of Jay W. Artis and Walter E. Freeman, Department of Sociology and Anthropology, Michigan State University, and was sponsored by funds from the National Institutes of Health.

<sup>2</sup>Charles P. Loomis, Social Systems: Essays on Their Persistence and Change, D. Van Nostrand Company, Inc., Princeton, 1960, p. 34. In this work systemic linkage is examined primarily in terms of the differentiation of the Gemeinschaft-Gesellschaft dichotomy. For a study of the relationship between systemic linkage and the establishment of norms, see Robert C. Hanson, "The Systemic Linkage Hypothesis and Role Consensus Patterns in Hospital-Community Relations," unpublished manuscript, Department of Sociology, University of Colorado.

<sup>3</sup>Alexander J. Muntean, "Community Change and Hospital Development: A Case Study of Community Power Structure," unpublished Master's thesis, Michigan State University, 1959.

Muntean found, through the analysis of community issues, that the "paternalistic power structure" changed from an "exclusive elite" type to a "fluid influentials" type as the community experienced a transition from a one-industry community to a "commuter's town."<sup>4</sup>

A second aspect of the project was concerned with the linkage effects of external demands on the hospital organization per se.<sup>5</sup> Harkness found that under conditions of increasing external demands on the hospital as a facility in the community, structural differentiation and functional specialization occurred, and as a consequence dissociation between the goals and norms of the three main segments of the hospital was observed.<sup>6</sup> Nevertheless, analysis of the organization demonstrated that its output was independent of the dissociation between the goals and the normative systems of the three major decision-making units of the hospital, and in effect was the consequence of systemic linkage.

### Introduction to the Present Study

A third aspect of the project was the present study which was concerned with the consequences of systemic linkage of community influentials for the decision-making process of the hospital.<sup>7</sup> Systemic linkage

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<sup>4</sup>Ibid., pp. 186-213.

<sup>5</sup>James P. Harkness, "Hospital Organization in Transition: A Sociological Analysis of Interlocking Social Systems," unpublished Ph.D. dissertation, Michigan State University, 1961.

<sup>6</sup>The three main units were the board, the administration, and the medical staff.

<sup>7</sup>Loomis has presented several types of systemic linkage systems. See the appropriate sections on "systemic linkage," op. cit., pp. 32-326. Also, see C. P. Loomis and J. A. Beegle, Rural Sociology--The Strategy of Change, Englewood Cliffs, N. J.: Prentice-Hall, Inc., pp. 231-232 where the process was called "social-cultural linkage"; C. P. Loomis, "Toward A Theory of Systemic Social Change," Rural Sociology in a Changing Society: Proceedings of a North Central Rural Sociology Committee (NCR-5) Seminar, Columbus, Ohio; The Ohio Agricultural Extension Service,

was operationally defined in this study as the extent of overlapping representation of status occupants in the major decision-making units of the hospital.<sup>8</sup> In this case the major decision-making units were operationally defined as the board of trustees of the hospital, the working committees of the board and of the administration. The administrative committee included the chief of the medical staff and the director of nursing, but the decision-making units of the medical and nursing services were not analyzed in this study.

The design to assess the consequences of linkages of community influentials in the organization was essentially twofold in nature. First it provides a methodological procedure by which the particular administrative decision-making process of the board of trustees, its two working committees, and one administrative committee of the hospital may be analyzed. More specifically, it examines the observed dynamics or process of control of community influentials within a specific organization in the community--a non-profit general hospital. The design will allow a test of cross-validation of two commonly used measurement systems for identifying

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November, 1959, pp. 12-48; C. P. Loomis, "Tentative Types of Directed Social Change Involving Systemic Linkage," Rural Sociology, 24 (December, 1959), pp. 54-57; and C. Redekop and C. P. Loomis, "The Development of Status-roles in the Systemic Linkage Process," Journal of Human Relations, 8 (March, 1960), pp. 278-283. For a discussion of several types of linkage systems in organizations see Robert Dubin, "Stability of Human Organizations," in M. Haire (ed.) Modern Organization Theory, New York: John Wiley and Sons, Inc., 1959, pp. 218-253. For a discussion of several mechanisms involving the articulation of the role-set, another form of systemic linkage, see Robert K. Merton, Social Theory and Social Structure, Glencoe: The Free Press, rev. and enlarged ed., 1957, pp. 368-379.

<sup>8</sup>This definition is an operational form of the analytical definition by Loomis, Social Systems, op. cit., p. 32, where it is defined as: ". . . the process whereby one or more of the elements of at least two social systems is articulated in such a manner that the two systems in some ways and on some occasions may be viewed as a single unit."

community power structure and prediction of control in the community-- the "reputational" and the "positional" techniques<sup>9</sup> by means of a third and completely independent measurement system--Bales' "interaction process analysis."<sup>10</sup> The second aspect of the design is represented by the formulation of a central hypothesis that will be examined at different levels of the hierarchy of decision-making units in the hospital, and which in its operational form will allow a test of the validation of the influential and positional techniques. This hypothesis is that community influentials are the most active participants in the decision-making process of the hospital and exert more control over the non-influentials than they in turn exert over the community influentials.<sup>11</sup> A community influential was operationally defined as either a "top influential" (TI), an "economic influential" (EI), or both.<sup>12</sup>

Finally, this study contains a critical analysis of the reliability procedures commonly used in profile analysis and recommended by Bales, his co-workers, and various other researchers in this area, and suggests an alternative statistical procedure for estimating inter-rater reliability. Since this discussion is more technical and does not readily fit into the main text, it is set forth separately in the Appendix.

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<sup>9</sup>A discussion of these techniques will be presented in Chapter III.

<sup>10</sup>Robert F. Bales, Interaction Process Analysis: A Method for the Study of Small Groups, Cambridge, Mass.: Addison-Wesley Press, Inc., 1951.

<sup>11</sup>This hypothesis is an operational form of the analytical hypothesis by Loomis, where it is stated: "The status-roles which control the power in the power centered systems, also control most of the important decision-making for that system," ibid., p. 22.

<sup>12</sup>The identification of community influentials will be discussed in Chapter III.

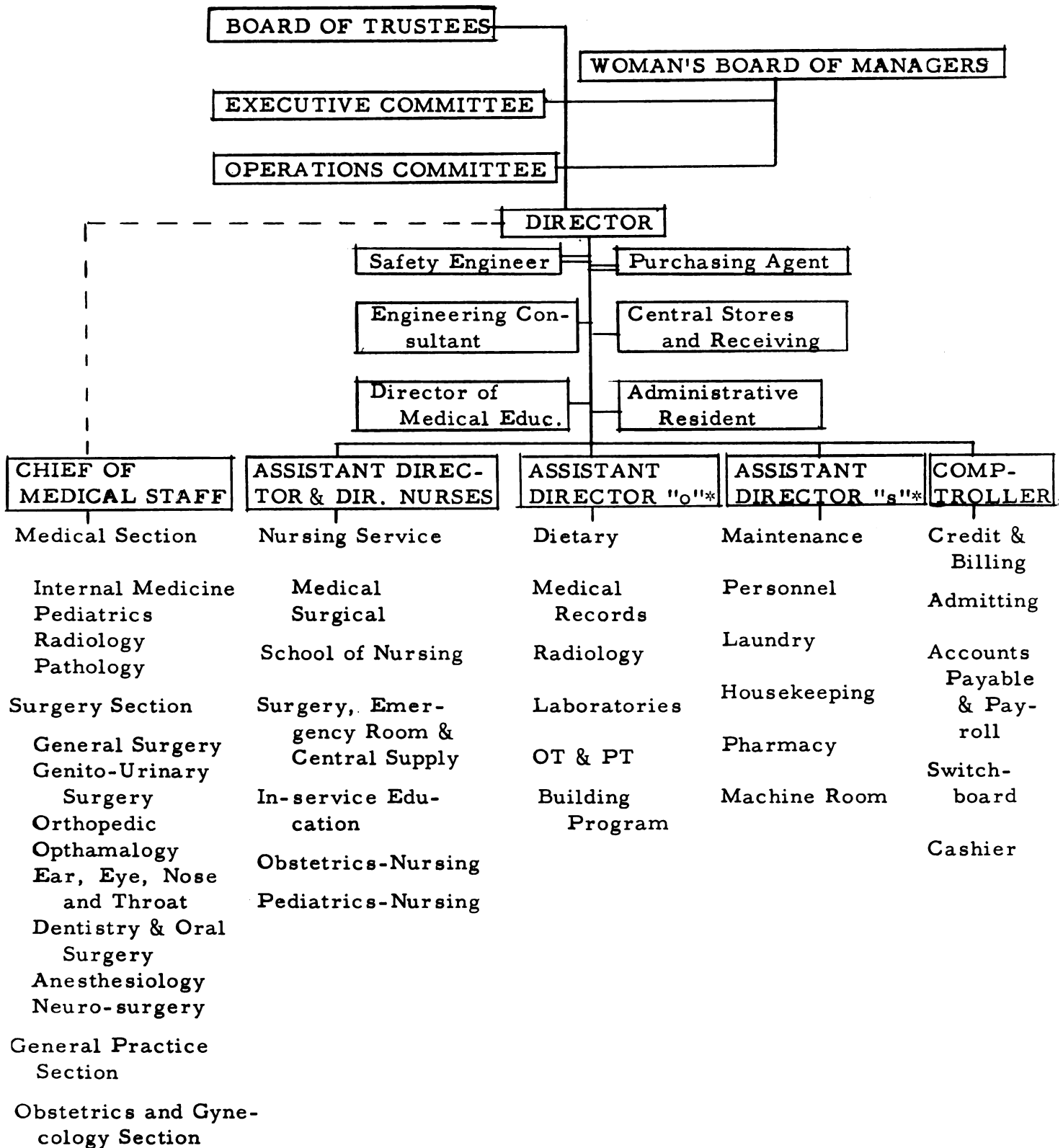
The Hospital Organization and Extent of  
Systemic Linkage

Figure 1 is a schematic diagram of the organization of the hospital, exclusive of the multitude of committees at the lower echelons of the organization. The board of trustees represents the highest controlling unit in the hospital. It is ultimately and legally responsible for the entire operation of the hospital. It appoints the two working committees--the executive committee and the operations committee. Representatives of the woman's board of managers sit on both of these committees. The woman's board of managers is primarily concerned with the operation of the school of nursing, the voluntary auxiliary, housekeeping and dietary, and also the budget. The board of trustees is primarily concerned with the hospital physical plant, expansion, fund raising, operating finances, appointment of the medical staff, and the general operation of the hospital. Within the last four years, however, more and more responsibility and authority have been placed in the two working committees. With the closing of the school of nursing in 1961, the woman's board has been largely confined to the auxiliary, housekeeping, nursing services, student nurses' scholarships, and various philanthropic projects they devise periodically.

The administrator and his staff are directly responsible to the board of trustees, and are responsible for the administration of all aspects of the organization. The chief of the medical staff is not a member of the administrative staff and this is represented by a broken line in the diagram.

The test of the central hypothesis was made at the level of the board of trustees, the executive committee and the operations committee all of which have community influential representation. As an introduction to the central hypothesis, a historical analysis of the 50 year participation pattern of economic influentials on the board since the founding of the

FIGURE 1. SCHEMATIC DIAGRAM OF THE ORGANIZATION OF THE GOVERNING BOARD, ADMINISTRATIVE, AND MEDICAL UNITS OF A COMMUNITY GENERAL HOSPITAL



\* Since these two individuals are not differentiated by title, the code letter that will be used in the analysis is used to differentiate the two.

hospital will be presented in Chapter II. The sub-hypothesis to be tested there is that economic influentials have been withdrawing from the active participation of the decision-making units over the 50 year period.

Chapter III will examine the central hypothesis for the board of trustees. Chapter IV will examine the central hypothesis for the two working committees of the board--the executive committee and the operations committee. Since there were no community influentials participating at the administrative level of the organization, the influence structure of the director, his assistants, the director of nursing, and the chief of the medical staff will be examined. The hypothesis to be tested in Chapter V is: the director and the chief of the medical staff are the most active participants in the decision-making process and exert more control over the nursing and administrative staff than they in turn exert over the two positional influence figures in this unit.

Figure 2 presents the list of individual participants in the major decision-making units analyzed in this study. The capital letter identifies the community influentials and the asterisk denotes the chairman of the unit. It can be seen that four classifications of participants are represented in these units: community influentials and non-influentials on the board, and non-influential representatives of the administration and the woman's board of managers. The extent of status linkages (e.g., overlapping membership) is also presented.

Community influential "B" was a member of 3 units: the board and both working committees. He was also chairman of the board and executive committee. Individual "e" was chairman of the operations committee and was a member of two units as were "C" and "D." Board members "g," "h," and "l," were members of 2, 3 and 1 units respectively. More will be said about the occupational composition of the board and each unit in each chapter. Only the members who were in attendance during the meetings analyzed in this study are recorded in this figure.

FIGURE 2. ATTENDING MEMBERSHIP OF THE MAJOR DECISION-MAKING UNITS OF THE HOSPITAL AND THE EXTENT OF OVERLAPPING STATUS LINKAGES

| Decision-making Unit                                                                   | N Meetings Analyzed | Representatives of the Board of Trustees<br>A** B** C** D** e F** g h l | Representatives of Hospital Administration and Consulting Staff<br>i j k o p q r s t | Representatives of Woman's Board of Managers<br>m n u v w |
|----------------------------------------------------------------------------------------|---------------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Board of Trustees<br>Members<br>Non-voting members                                     | 1                   | X X* X X X X X X                                                        | X X X                                                                                |                                                           |
| Executive Committee<br>Members<br>Non-voting members                                   | 2                   | X* X X X                                                                | X X X                                                                                | X X X                                                     |
| Operations Committee<br>Members<br>Non-voting members                                  | 4                   | X X* X X                                                                | X X X X                                                                              | X X                                                       |
| Daily Administrative<br>Conference<br>Director<br>Chief of medical staff<br>Assistants | 5                   |                                                                         | X* X X X X X                                                                         |                                                           |
| Number of Overlapping<br>Statuses                                                      |                     | 3 2 2 2 3                                                               | 4 3 3 2                                                                              |                                                           |

\* Chairman  
\*\* Community Influential

The director of the hospital, actor "i," attended meetings of all four units, but he was not a voting member of the board nor of the two working committees. Administrative staff members "o," "p," and "q" also attended meetings of more than one unit, but only voted in the administrative conference.

Since the methodological procedure used in this study varies by chapter, discussion of these procedures is presented within each chapter. However, a general critique of the reliability procedure set forth by Bales and the level of reliability in unitization and categorization achieved in this study are presented in the Appendix.

## CHAPTER II

### THE PARTICIPATION PATTERN OF ECONOMIC INFLUENTIALS ON A HOSPITAL BOARD OF TRUSTEES

As Schulze has pointed out,<sup>1</sup> sociologists have commonly assumed that important economic status occupants are also key people in local influence and decision-making structures--an assumption not without empirical support. Also, he notes little attention has been focused on analyses of the absence or presence of historical shifts in the pattern of community participation of specified status categories such as economic influentials,<sup>2</sup> community "top" and "key" influentials, social elites, etc., all of which have relevance for many assumptions made in developing theory for community research.

Schulze has focused on this problem and posits the existence of: (1) a functional interdependence between society, community, and local control structures; (2) a "self-contained" community characterized by "local capitalism," with a pyramidal power structure; (3) power-wielders at the apex who control economic as well as socio-political decisions as reflected by community leadership and participation; (4) the advent of change (urbanization, corporate growth, and absentee-ownership, etc.) where functional relevance of the local community, local organization, and local political influence decline with regard to importance to the survival of the prosperity of the dominant economic units; and (5) the

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<sup>1</sup>Robert O. Schulze, "The Role of Economic Dominants in Community Power Structure," American Sociological Review, (February, 1958), pp. 3-9.

<sup>2</sup>The term, "economic influentials," will be used synonymously with the term, "economic dominants."

bifurcation of the local power structure into those who control the socio-political system and those who control the economic system. Thus he hypothesizes a withdrawal of dominants in local civic and political participation--partly due to declining interest in and functional importance of such activities and partly due to loss of or lack of effective contact between the new corporate managers and the local leaders with longer community tenure.<sup>3</sup> Schulze concluded from his data that:

The historical drift has been characterized by the withdrawal of the economic dominants from active and overt participation in the public life of Cibola...[and]...Consequently, the overt direction of the political and civic life of Cibola has passed almost wholly into the hands of a group of middle-class business and professional men, almost none of whom occupies a position of economic dominance in the community.<sup>4</sup>

A hypothesis complementary to the above hypothesis is put forth by Form and Miller. They suggest that, as community life becomes increasingly bureaucratized, economic influentials only appear to be withdrawing from active community decision-making participation. They withdraw from the more formal and visible statuses such as public offices, but manage to maintain effective community relations by occupying positions in important fiduciary committees, leaving their "second-level" managers and the community businessmen to the more formal offices. This trend, they suggest, is a specific adjunct of a general trend of community participation without community responsibility by top executives of large corporations.<sup>5</sup>

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<sup>3</sup>Ibid., p. 4. The notion of corporate officials (and their families) having minimum contact with local elites has been expressed also by C. W. Mills in The Power Elite, New York: Oxford University Press, 1957, fourth printing; Chapter II, but especially pp. 39 ff.

<sup>4</sup>Schulze, op. cit., pp. 5 and 6.

<sup>5</sup>William H. Form and Delbert C. Miller, Industry, Labor and Community, New York: Harper and Bros., 1960, Chapter 14.

To generalize from Schulze's findings in Cibola which exhibit a definite withdrawal of dominants from political participation (as measured by public office incumbency) and community participation (as measured by Chamber of Commerce office incumbency), one would expect withdrawal<sup>6</sup> from active participation in other community organizations as well. This chapter will examine the historical pattern of economic influentials' participation on the board of trustees of a 345-bed nonprofit community general hospital in a middle-sized midwestern city.<sup>7</sup> The following kinds of evidence of participation will be utilized to examine the hypothesis: (1) membership on the board; (2) board offices held; (3) committee memberships and chairmanships held; and (4) attendance at board meetings. The data were taken from the minutes of 168 meetings of the hospital board covering the time span from its organizational meeting in April, 1910, to November, 1959.<sup>8</sup> From these minutes, a list of board members was

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<sup>6</sup>There are definite limitations to the concept of "withdrawal." For example, with regard to public office holding, to adequately examine the withdrawal hypothesis one would need to examine the selection process for public office--election losers as well as winners--since a decline in influentials might conceivably be due to a rejection by voters. Schulze cites such a case of rejection in the fictitious character called "Cal Lamkin," an economic dominant, who lost an election to the board of directors of the local Chamber of Commerce.

Obviously, the motivational components of "active" participation are unavailable in historical analyses, as is also the possibility of the shift of prestige of specific organizations and political participation within any given community, both of which may be relevant.

<sup>7</sup>This city has a population of about 170,000 in 1960. The automobile and metal manufacturing industries and government provide the economic base to the community. Three other hospitals are located in the city: a Catholic general hospital, an osteopathic hospital, and a county chest hospital.

<sup>8</sup>It seems unnecessary to set forth all of the serious limitations or advantages involved in utilizing institutional data versus sociological field data at this time. Obviously, little can be said about the actual influence or role played by any single individual or category of status occupants by the type of analysis undertaken here. Nevertheless, historical "inventories" of the social composition of community organizations have great relevance to the understanding of community growth and change, and hence for community theory.

constructed tracing each replacement of the 18 founding trustees. One-third (6) of the entire 18-man board was elected each year for a 3-year term. The board was a self-perpetuating board in that nominations were made by a committee within the membership. The stability of membership achieved by this replacement procedure is illustrated by the fact that the average replacement rate was 1 new member per year (out of a possible 6) since the board's founding. Vacancies occurred for various reasons: death, resignations due to ill health or to "pressing personal or business demands"; and on such occasions a new member was elected to fill out an unexpired term. A further index of stability of membership on the board is represented by the length of service of its members. The average length of service per board member was 13.2 years.<sup>9</sup>

In order to rule out the possibility that random variation might account for any differences found, wherever possible, the null hypothesis of "no change" in the participation pattern of economic influentials was assumed for each type of evidence; and the statistical tests were applied to the data. The economic influentials were identified by Clelland, whose criteria were adopted for the analyses.<sup>10</sup>

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<sup>9</sup>Economic influentials had a slightly higher length of service as board members (14.4 years) than non-influentials (12.1 years), but the difference is not statistically significant. The hypothesis tested here was that these two populations (influentials and non-influentials) have the same mean, and it was tested by the t test. In this case,  $t = .87$ , which was not significant at the .05 level and the hypothesis was supported. See Wilfrid J. Dixon and Frank J. Massey, Jr., Introduction to Statistical Analysis. New York: McGraw-Hill Book Company, Inc., 1957, pp. 123-124.

<sup>10</sup>An economic influential was operationally defined by Clelland, following Schulze, as the largest property owners and the top executives (owner, president, and manager) of business units having assessed evaluation of property ranging from \$250,000 to \$750,000 and financial units (banks, savings and loan and insurance companies) with resources ranging from \$1,000,000 to \$6,000,000 over the historical period for which the analysis in this chapter is concerned (1910-1959). Overlapping directorships and number of employees (ranging from 150 to 250) were also utilized. For the complete list of criteria and the specific cutting points of assessed evaluation

### Findings

It can be seen in Table 1 that, from 1910 to 1949, there was an exceptionally uniform representation of economic influentials on the hospital board of trustees ranging from 54% to 58% during this 40-year period. This representation dropped down to 39% for the last decade, 1950-1959. The average percentage of economic influentials over the entire history of the board was 53%. It is quite apparent that, except for the last decade, there was a slight but consistently higher ratio of influentials to non-influentials on the board. In order to test the withdrawal hypothesis, the total time period was divided into two equal time periods of 25 years each (1910-1934 and 1935-1959), and a sign test was performed between periods for each board position per year. One would expect under the hypothesis that the first period would exhibit a greater number of economic influentials on the board (by position per year) than would period two. This hypothesis was not accepted and the null hypothesis was retained (see Table 2).

This decline in the last decade could have merely reflected a general decline in the number of economic influentials in the community for that period. However, Clelland's data, presented in Table 3, show that this was not the case as one might expect for a community where economic expansion has occurred. Clelland's data show a general increase in the

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or capital for each time period used and the complete procedure of identification of economic influentials, see Donald P. Clelland, "The Role of Economic Dominants in the Power Structure of a Midwestern Community," unpublished Master's thesis, Michigan State University, East Lansing, (1961). Such sources as the city directories, directory of the state manufacturers, Dun and Bradstreet's Directory of Million Dollar Companies, city and county histories, newspapers, Poor's Register of Directors and Executives, Moody's Industrials and Investment Guides, Rand McNally International Bankers Directory, annual reports of the state banking department and the commissioner of insurance, the state building and loan association reports, and reports of the largest economic units were utilized by Clelland as sources for identifying the influentials and determining the value of the economic units.

Table 1. Representation of Economic Influentials and Noninfluentials  
on a Community Hospital Board of Trustees from 1910-1959

| Time<br>Period | Possible Board<br>Positions<br>(18 per year) | Positions Occupied by<br>Economic Influentials |                        |
|----------------|----------------------------------------------|------------------------------------------------|------------------------|
|                | N                                            | N                                              | Percent of<br>Possible |
| 1910-19        | 180                                          | 97                                             | 54                     |
| 1920-29        | 180                                          | 105                                            | 58                     |
| 1930-39        | 180                                          | 105                                            | 58                     |
| 1940-49        | 181*                                         | 99                                             | 55                     |
| 1950-59        | 180                                          | 71                                             | 39                     |
| Totals         | 901                                          | 477                                            | 53                     |

\* One additional board member was elected for 1943.

Table 2. Number of Economic Influentials by 25-Year Periods and by Board Positions Per Year

| Board Position | Number of Influentials** |                        | Sign*                                           |
|----------------|--------------------------|------------------------|-------------------------------------------------|
|                | Period I<br>1910-1934    | Period II<br>1935-1959 | If I > II = +<br>If I < II = -<br>If I = II = 0 |
| 1              | 13                       | 0                      | +                                               |
| 2              | 13                       | 0                      | +                                               |
| 3              | 25                       | 25                     | 0                                               |
| 4              | 17                       | 25                     | -                                               |
| 5              | 6                        | 25                     | -                                               |
| 6              | 25                       | 11                     | +                                               |
| 7              | 12                       | 25                     | -                                               |
| 8              | 0                        | 0                      | 0                                               |
| 9              | 13                       | 25                     | -                                               |
| 10             | 24                       | 20                     | +                                               |
| 11             | 17                       | 0                      | +                                               |
| 12             | 7                        | 0                      | +                                               |
| 13             | 0                        | 0                      | 0                                               |
| 14             | 12                       | 0                      | +                                               |
| 15             | 11                       | 21                     | -                                               |
| 16             | 19                       | 13                     | +                                               |
| 17             | 25                       | 9                      | +                                               |
| 18             | 13                       | 25                     | -                                               |
| Totals         | 252                      | 225                    |                                                 |

+ = 9

- = 6 = x

0 = 3

Sign Test: (a)  $H_0: I = II$ (b)  $p(x \leq 4 \text{ or } x \geq 10, N = 15) = .059$ ,  
two-tailed test.(c)  $x = 6$ (d) Accept  $H_0$  since  $p(x) = 6 = .61 > .059$  level  
of significance.

\* A nonparametric sign test was used because assumptions necessary for a parametric test for related samples could not be met. See: Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences, New York: McGraw-Hill, 1956, pp. 68-71, and Table D, p. 250.

\*\* The 50-year period was divided into two equal time periods in order to equalize the number of possible board positions per period. However, since the data in Table 1 indicates a decline only for the last decade, a sign test was computed on the average influential representation for the first 40-year period and the last 10-year period. Again the null hypothesis ( $H_0: I = II$ ) was accepted [ $p(x) = 5 = .30$ , two-tailed test, since  $.30 > .05$  level

Table 3. Number of Economic Influentials in a Midwestern Community and on a Hospital Board of Trustees, 1910-1959

| Time Period <sup>a</sup> | Economic Influentials     |                       |    |
|--------------------------|---------------------------|-----------------------|----|
|                          | In Community <sup>b</sup> | On Board <sup>c</sup> | %  |
|                          | N                         | N                     |    |
| 1910-19                  | 30                        | 14                    | 47 |
| 1920-39                  | 57                        | 24                    | 42 |
| 1940-59                  | 73                        | 18                    | 25 |
| Total                    | 160                       | 56                    | 35 |

<sup>a</sup>There are several cases who were economic influentials and who were tabulated in more than one time period for both the community and the board of trustees.

<sup>b</sup>Data on community influentials were taken from Clelland, op. cit.

<sup>c</sup>Data in Tables 1 and 2 utilize as a unit of analysis the number of influentials per 18 board positions per year. The unit of analysis for this table is the absolute number of actors who are influentials for each specified time period. Hence, the middle period reflects a high turnover of influentials on the board.

number of economic influentials in the community under analysis.<sup>11</sup> There appears to be no corresponding increase in the number of economic influentials on the board but rather a rough bell-shaped distribution was found, with the highest absolute number of influentials represented on the board during the 1920-1939 period (N = 24). There was a steady decline in the percentage of influentials in the community who were board members, from 47% to 25%, but then this might be expected in light of a fixed number of board members and an increasing number of economic influentials in the community.

The second set of evidence with which to examine Schulze's hypothesis is contained in Table 4, which traces the historical pattern of offices on the board, and committee memberships and chairmanships. Both Schulze and Clelland find a general decline in the number of economic influentials serving as executive officers of the organizations and public offices they examined. Like most organizations, the hospital board changed its executive structure over the years. For the first decade, the executive structure had an average of 5 officers: president, first and second vice-presidents, secretary, and treasurer. During the 1920's and 1930's the number was reduced to 3 on the average, and from 1943 to 1959, the average number increased to 7, including a chairman and a vice-chairman--both primarily honorary positions. Inspection of Table 4 shows that for all board offices held, there was a general decline in the percentage of

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<sup>11</sup>Clelland points out that there are no objective standards which one may employ to assess the increase or decrease of economic dominants in the community. Obviously, the number of influentials in any one period will be a reflection of the cutting points of the criteria utilized. These points shift for each time period (decade) to compensate for shifts in increased property evaluation and the growth of industries. It is conceivable that one could set the cutting points to maintain a constant number of influentials for each period. Only on the basis of the limits used by Clelland is an increase demonstrated. It is an open question as to whether utilization of different cutting points would affect the analytical relationship between the number of influentials on the board and in the community, but there are no apparent reasons that would lead one to suspect that different points would affect this relationship.

Table 4. Representation of Economic Influentials as Office Holders, Committee Memberships and Chairmanships on a Hospital Board of Trustees by Positions per Year, 1910-1959

| Time Period | Economic Influentials Holding Office |      |    |               |      |     | Economic Influentials on Committees |      |    |                     |      |    |               |      |    |
|-------------|--------------------------------------|------|----|---------------|------|-----|-------------------------------------|------|----|---------------------|------|----|---------------|------|----|
|             | All Offices                          |      |    | President     |      |     | All Committee Memberships           |      |    | Executive Committee |      |    | Chairmanships |      |    |
|             | N                                    | N    | %  | N             | N    | %   | N                                   | N    | %  | N                   | N    | %  | N             | N    | %  |
|             | Possible Held                        | Held |    | Possible Held | Held |     | Possible Held                       | Held |    | Possible Held       | Held |    | Possible Held | Held |    |
| 1910-19     | 50                                   | 25   | 50 | 10            | 8    | 80  | 55                                  | 28   | 51 | 19                  | 13   | 68 | 16            | 8    | 50 |
| 1920-29     | 33                                   | 14   | 42 | 10            | 3    | 30  | 43                                  | 20   | 47 | 14                  | 8    | 57 | 16            | 6    | 38 |
| 1930-39     | 31                                   | 10   | 32 | 10            | 0    | 00  | 52                                  | 12   | 23 | 28                  | 3    | 11 | 16            | 6    | 38 |
| 1940-49     | 58                                   | 23   | 40 | 10            | 6    | 60  | 48                                  | 30   | 63 | 32                  | 21   | 64 | 15            | 10   | 67 |
| 1950-59     | 70                                   | 22   | 31 | 10            | 10   | 100 | 73                                  | 35   | 48 | 27                  | 20   | 74 | 22            | 13   | 59 |
| Total       | 242                                  | 94   | 39 | 50            | 27   | 54  | 271                                 | 125  | 46 | 120                 | 65   | 54 | 85            | 43   | 51 |

\* Since every position in this table is "filled" annually--either by election or appointment--the analysis is in the form of "position per year." It should be obvious that individual actors will occupy various positions for varying lengths of time. For example, there have only been 9 board presidents over the history of the board, yet there are 50 board president positions--one for each year.

available offices which were held by influentials, although the trend leveled off somewhat after 1930. The percentage of influential representation dropped from 50% for the 1910-1919 period to 31% for the 1950-1959 period with some fluctuation in between.

The data in Table 4 also reveal interesting support for the Form and Miller position that economic influentials are moving to the more strategic organizational positions. For the entire historical period, one can see a rough U-shaped distribution of influential representation for the office of the president of the board, seemingly the most important board position. Six of the 9 men who were presidents of the board were economic influentials. When cast in the form of "position per year" as in Table 4, slightly over half of the offices were occupied through the years by influentials; but for the last 16 years, the president has been an economic influential. The representation of influentials on committees fluctuated from 51% of committee positions for the first decade (1910's) to a low of 23% during the 1930's and back to a high of 63% and 48% for the last two decades. The same fluctuating pattern was found for committee chairmanships, again with the low percentage of influential representation during the 1930's (38%) and higher percentages for both an earlier period (50% in the 1910's) and later periods (67% and 59% in the last two decades). A U-shaped distribution was found for the influential representation on the executive committee, which had power to act in place of the board.

It is interesting to note that for all categories--board president, all committee chairmen and members, executive committee members, and attendance (see Tables 4 and 5)--the decade of the 1930's exhibited the lowest influential representation. Even for all offices held, this period is second lowest in representation, second to the last decade by virtue of 1% difference. It is tempting to suggest that the reason for this lower representation during the depression was a consequence of influentials' concern for the practical affairs of the general economy plus the fact that this period

was marked by a low capital outlay for expansion by the hospital (an area of prime importance and concern to the board). However, wielding Occam's Razor, we must explore more proximate explanations. Since the committee members were generally appointed by the president of the board, it is important to establish that association, if any, exists between the president's status and the status of the committee members he selected. By comparing the number of economic influential presidents by "office per year" for each decade with the number of influentials who were selected as committee members, a definite association was found (particularly for the most powerful of all committees--the executive committee). When the time period was characterized by a high percentage of presidents who were influentials, there was a high percentage of committee members who were influentials (see Table 4). Conversely, when the time period was characterized by a high percentage of presidents who were not economic influentials, a marked reduction in the percentage of committee members who were influentials was found. This association may be accentuated by pointing out that for all those years in which the president of the board was an economic influential, 78% of the executive committee was composed of influentials. Finally, although the balance of influentials to non-influentials has been fairly even on the board, there has been a definite increase in influential representation on the executive committee and committee chairmanships over the last 30 years (see Columns 12 and 15).

Data in Table 5 provide the third set of evidence with which to examine the influential withdrawal hypothesis, and also allow a comparison of attendance of influentials with non-influentials. The attendance of each board member was tabulated up to his time of separation from the board. No evidence of economic influentials declining in participation was found, as measured by attendance (or a decline in interest if attendance can be taken as an index of this attribute). In fact, attendance increased for both economic influentials and non-influentials for the last 30 years. When the

Table 5. Number and Percentage of Hospital Board Meetings Attended by Economic Influentials and Non-influentials, 1910-1959

| Time Period | I<br>Non-influentials |          |                     |   | II<br>Economic Influentials |          |                     |   | Sign |                        |
|-------------|-----------------------|----------|---------------------|---|-----------------------------|----------|---------------------|---|------|------------------------|
|             | <u>Meetings</u>       |          | Percent<br>Attended | N | <u>Meetings</u>             |          | Percent<br>Attended | N | Sign | Between<br>Percentages |
|             | Eligible<br>to Attend | Attended |                     |   | Eligible<br>to Attend       | Attended |                     |   |      |                        |
|             | N                     |          |                     |   | N                           |          |                     |   |      |                        |
| 1910-19     | 315                   | 150      | 48                  |   | 351                         | 191      | 54                  |   | -    |                        |
| 1920-29     | 247                   | 106      | 43                  |   | 324                         | 107      | 33                  |   | +    |                        |
| 1930-39     | 128                   | 72       | 56                  |   | 166                         | 49       | 30                  |   | +    |                        |
| 1940-49     | 304                   | 169      | 56                  |   | 386                         | 149      | 39                  |   | +    |                        |
| 1950-59     | 517                   | 324      | 63                  |   | 322                         | 157      | 49                  |   | +    |                        |
| Totals      | 1,477                 | 821      | 56                  |   | 1,549                       | 653      | 42                  |   |      |                        |

+ = 4

- = 1 = x

0 = 0

N = 5

Sign Test: (a)  $H_0: I \neq II$

(b)  $p(x \leq 0 \text{ or } x \geq 4, N = 5) = .031$ , two-tailed test.

(c)  $x = 1$

(d)  $p(x) = 1 = .38 > .031$  level of significance.

Sign Test: (a)  $H_0: I \neq II$

(b)  $p(x \leq 0 \text{ or } x \geq 4, N = 5) = .031$ , two-tailed test.

(c)  $x = 1$

(d)  $p(x) = 1 = .38 > .031$  level of significance.

+ = 4  
- = 1 = x  
0 = 0  
N = 5

attendance of influentials with non-influentials was compared by means of the sign test, the hypothesis of no difference was accepted, although, on the average, the non-influentials attended 14% more meetings than influentials.

### Summary and Conclusions

This chapter has examined a hypothesis proposed by Schulze that economic influentials are withdrawing from local decision-making participation by means of an analysis of the historical pattern of economic influential representation on a hospital board of trustees over a 50-year period. In the last decade, economic influentials declined slightly in representation on the board of trustees, but the decline was not statistically significant. For the last 30 years, a small but definite decline in influential representation in all board offices combined was noted. Even so, it should be pointed out that these declines in representation were more gradual than for any organizational trend found in Cibola by Schulze as well as by Clelland in the present midwestern city. This pattern suggests that perhaps hospitals, as well as other organizations involved in community service, will remain the last organization of influential participation. In other words, the rate of withdrawal is not uniform for all community organizations, and of course may not be complete for any given community.

By examining other intra-organization statuses such as the office of president, committee chairmanships and memberships, and also attendance patterns, evidence to support the Form and Miller hypothesis of increased participation at the strategic organizational level was found. Similarly, since the representation of influentials on the board has continued to be substantial, this suggests that the hospital organization is a strategic community organization, if Form and Miller are correct. In this light, one might posit several propositions which will need further testing.

(1) Organizations representing community service areas, such as hospital boards, are "strategic" organizations in that they represent both a symbol of prestige in the community and a mechanism by which the economic influential can fulfill his obligations of "community stewardship"--part of which specifies expectations of management of community resources.<sup>12</sup> This proposition has some related, though unsystematic, empirical support. From observation, several board members appeared to take great pride in discussing their role as actors "intervening" on behalf of their friends in the community or of physicians concerning problems revolving around admission of patients, nursing service, parking facilities, etc. Form and Sauer found that the most frequent community "issue" identified by the "top 40" community influentials in this same community was a recent hospital expansion fund campaign (which was headed by the president of the hospital board reported here). Eight of these "top 40" were members of the present board.<sup>13</sup> (2) One might expect that leadership and control of nonprofit community general hospitals shall be in the hands of economic influentials longer than most other community organizations, but that the pattern of "withdrawal" will be a withdrawal to the occupation of strategic statuses within the organizational structure.<sup>14</sup> It is suggested that this is a function of (1) above plus the increasing bureaucratic complexity of the hospital operation and hence an increasing importance of decision-making at the committee level.

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<sup>12</sup>The role of hospitals as significant industrial units should be noted. The present hospital, although not exceptionally large as hospitals run, employs over 800 persons and operates on an annual budget exceeding four million dollars.

<sup>13</sup>William H. Form and Warren L. Sauer, "Business and Labor Images of Community Power Structure: A Comparative Analysis," a paper read before the Fifty-fifth Annual Meeting of the American Sociological Association, August, 1960.

<sup>14</sup>The determination of the scope of generality of these propositions must be solved by further comparative research.

It is suggested that the combination of a concern with economic matters "external" to the community, a period of low capital outlay by the community hospital, and more important, the type of status occupant who controls the selection process of key board positions produced a low representation of economic influentials in board participation. Should these conditions persist, and should the presidency revert to a non-influential, one would expect a lessened participation pattern by economic influentials in the next decade.

What are the implications of such findings for the "dynamics" of the actual decision-making process in the hospital? One might expect that by virtue of the kind of representation on the board (about half are economic elite in a corporation and financial sense), their primary concern would be centered on financial problems. One might also expect that economic influentials would more actively control the top level decisions of the hospital. These problems are examined in the next chapter.

## CHAPTER III

### THE EMPIRICAL MEASUREMENT OF CONTROL OF ECONOMIC INFLUENTIALS AND TOP INFLUENTIALS ON THE HOSPITAL BOARD OF TRUSTEES: A CROSS-VALIDATION ANALYSIS

#### Introduction

This chapter will analyze a meeting of the governing body of the hospital--the board of trustees. Chapter II was concerned with the historical pattern of participation of economic influentials on the board over a 50 year period. However, little may be said about the actual influence or control of community influentials in the current operation of the hospital. This chapter will examine that problem. The hypothesis to be examined is that community influentials<sup>1</sup> are actively involved in the decision-making process of the board and have greater control over the non-influentials and administration of the hospital than they, in turn, have over the community influentials.

There have been several approaches to influence or power structures in the community, and as a consequence, various methodological techniques have been devised to identify the power structure and measure their influence in the community. This chapter will attempt to cross-validate the use of two techniques in current use in sociology: the "reputational technique" and the "positional technique." A brief discussion of these approaches will introduce the data and the analysis.

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<sup>1</sup>A community influential is operationally defined as an EI, TI, or both.

### The Reputational and Positional Approach to Power

For approximately the past 10 years, social scientists have become more and more interested in the phenomenon called "community power structure," after the pioneering study by Hunter.<sup>2</sup> Sociologists have generally followed his approach to the measurement of community power, which, in brief, is based on a sociometric-like procedure of asking individuals to nominate or in some cases rank other individuals whom they feel are influential in the affairs of the community. Generally, nominations are first taken from a panel of "knowledgeables," and the nominees in turn are asked for further nominations until some degree of consensus of overlapping nominations is reached. The technique has come to be known as the "reputational technique for determining community influentials."<sup>3</sup>

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<sup>2</sup>F. Hunter, Community Power Structure: A Study of Decision-Makers, Chapel Hill: The University of North Carolina Press, 1953.

<sup>3</sup>Specific research studies which have relied on this technique are: Hunter, ibid.; F. Hunter, R. C. Schaffer, and C. G. Sheps, Community Organizations, Action and Inaction, Chapel Hill: The University of North Carolina Press, 1956; J. M. Foskett and R. Hohle, "The Measurement of Influence in Community Affairs," Research Studies of the State College of Washington, XXV (1957), 148-154; R. L. Agger and V. Ostrom, "The Political Structure of a Small Community," Public Opinion Quarterly, 20 (1956) 81-89; R. E. Agger, "Power Attributions in the Local Community; Theoretical and Research Considerations," Social Forces, 34 (1956), 322-331; R. O. Schulze and L. U. Blumberg, "The Determination of Local Power Elites," The American Journal of Sociology, 63 (1957), 290-296; D. C. Miller, "Decision-Making Cliques in Community Power Structures: A Comparative Study of an American and an English City," The American Journal of Sociology, 64 (1958), 299-310; D. C. Miller, "Industry and Community Power Structure: A Comparative Study of an American and an English City," American Sociological Review, 23 (1958), 9-15; R. O. Schulze, "Economic Dominants in Community Power Studies," American Sociological Review, 23 (1958), 3-9; R. E. Agger and D. Goldrich, "Community Power Structures and Partisanship," American Sociological Review, 23 (1958), 81-89; E. A. T. Barth and B. Abu-Laban, "Power Structure and the Negro Sub-Community," American Sociological Review, 24 (1959), 69-76; O. E. Klapp and L. V. Padgett, "Power Structure and Decision-Making in a Mexican

The individuals with the highest number of mutual choices are called "top influentials."

Perhaps one of the most promising developments in the reputational method has been the work of Miller<sup>4</sup> and Hanson<sup>5</sup> who have attempted to predict the outcome of community issues based on the type of power structures in the community, the "solidarity of the top influentials," and the degree of involvement of "parts of the institutional power structure."

As has been pointed out in the literature,<sup>6</sup> two other techniques for determining influentials are the "positional method" and the "issue approach" method. The "positional method" operationally defines an influential as such by virtue of the fact that he occupies a seemingly important status in the community (typically in business, finance, civics or politics). This approach is best typified by Schulze, Blumberg<sup>7</sup> and Polsby.<sup>8</sup>

The Schulze and Blumberg technique is of interest because they combine the "reputational" with the "positional" technique. Schulze reports that in Cibola the economic influentials, reputational influentials, and

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Border City, " The American Journal of Sociology, 65 (1960), 400-406; W. H. Form and W. L. Sauer, "Community Influentials in a Middle-sized City, " General Bulletin No. 5 of the Institute for Community Development, Michigan State University, 1960; E. C. Erickson, "The Reputational Technique in a Cross-Community Perspective: Selected Problems of Theory and Measurement, " Unpublished Ph.D. dissertation, Michigan State University, 1961.

<sup>4</sup>D. C. Miller, "The Prediction of Issue Outcome in Community Decision-Making, " Research Studies of the State College of Washington, 25 (1957), 137-147.

<sup>5</sup>R. C. Hanson, "Predicting a Community Decision: A Test of the Miller-Form Theory, " American Sociological Review 24 (1959), 662-671.

<sup>6</sup>See for example: P. H. Rossi, "A Theory of Community Power, " a paper presented to the 1960 Annual Meetings of the American Sociological Association and R. O. Schulze and L. U. Blumberg, op. cit.

<sup>7</sup>Schulze and Blumberg, op. cit.

<sup>8</sup>N. W. Polsby, "Three Problems in the Analysis of Community Power, " American Sociological Review, 24 (1958), 796-803.

heads of voluntary associations were all in essential agreement that "substantially the same set of persons" were "most influential in the affairs of the community."<sup>9</sup> However, there was very little overlap between those individuals who were nominated as "top influentials," and those who occupied the seemingly important economic statuses in the community, the "economic influentials." Schulze concludes that "EI's" are withdrawing from the power structure of the community.

Polsby, in his New Haven study, drew up "pools of leaders" for three issue areas: education, political nominations and urban redevelopment, and assessed the degree of participation of the members in the pool in each of the issue areas. However, contrary to his stated aim of eliminating a priori criteria for determining leadership pools, he chose all the formal status occupants within each issue area. For example, in the area of political nominations he drew 497 names--all the political office holders in the city of New Haven. With such large lists, it is of little surprise that he finds only two per cent of the economic elite participating in the political nomination issue.

In a recent Notre Dame symposium on power, Dahl also criticizes most users of the reputational technique, and their findings that there is a single group of power wielders who are the decision makers in the community.<sup>10</sup> He, Wolfinger,<sup>11</sup> and Polsby<sup>12</sup> maintain that there is no general scope of influence, but rather the American community is made up of a

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<sup>9</sup>Schulze and Blumberg, op. cit., p. 295.

<sup>10</sup>R. A. Dahl, "Equality and Power in American Society," in W. V. D'Antonio and H. J. Ehrlich, eds., Power and Democracy in America, Notre Dame: University of Notre Dame Press, 1961.

<sup>11</sup>R. E. Wolfinger, "Reputation and Reality in the Study of 'Community Power,'" American Sociological Review, 25 (October, 1960), pp. 636-644.

<sup>12</sup>N. Polsby, op. cit.

number of segmented "power structures" and that an individual's influence is limited to certain sectors of the community. The scope of influence is presumably limited to the institutional area within which the influential is identified or in which he presumably has skill. Thus, the critics of the reputational technique have maintained that the technique does not measure influence. Rather, they say it measures things other than influence: e.g., status, money, wealth, formal leadership, personality traits, etc.

One of the best defenses in support of the reputational technique has been made by Erickson, who has attempted to determine the relationship between a general index of influence and several indexes of influence on specific issues using the nominational technique in six communities in the United States and Mexico. He found the general influence index to be closely related to indexes constructed on a specific community issue in all six communities. He also found that the nomination technique was a fairly reliable instrument in identifying influentials in one community on the basis of a three year test period.<sup>13</sup>

It is not the purpose of this chapter to elaborate on the finer points of the arguments, both pro and con, of the "reputational technique" versus the "positional" and "issue-area techniques," however worthwhile that may be. The purpose of this chapter is to present the analysis of data designed to analyze how the hospital is structurally linked to the community in which it operates and determine the extent of control of community influentials in the decision-making process in the hospital.

Since Form and Sauer have identified the key and top influentials by the reputational technique,<sup>14</sup> and Clelland has identified the economic

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<sup>13</sup>E. C. Erickson, op. cit.

<sup>14</sup>W. H. Form and W. L. Sauer, "Community Influentials in a Middle-sized City," General Bulletin No. 5 of the Institute for Community Development, Michigan State University, 1960.

influentials<sup>15</sup> for the community in which we were studying the actual decision-making process of the hospital, the opportunity to validate the relative merits of the "reputational" (e. g. TI) and "positional techniques" (e. g. EI) for measuring influence or control was made possible.

Seven of the 18 men on the board of trustees of the hospital are economic influentials and 8 are top influentials during this 1959 period. Four are both EI's and TI's, but only two of these were present at the meeting analyzed in this chapter. It can be seen in Table 6, that the men on the hospital board share to a greater extent an overlapping EI-TI classification than do their counterparts in the community. On the board 57% of the EI's are also TI's, whereas in the community only 31% overlap. For TI's on the board, 50% are also EI's, whereas in the community only 31% overlap. It would seem that the board has the elite of the two classifications.

Table 6. The Degree of Overlapping Classification of EI's and TI's of Men in the Community and Men on the Hospital Board

|                       | Number | Overlapping With Other Classification |          |
|-----------------------|--------|---------------------------------------|----------|
|                       |        | Number                                | Per Cent |
| Community             |        |                                       |          |
| Economic Influentials | 39     | 12                                    | 31       |
| Top Influentials      | 39*    | 12                                    | 31       |
| Hospital Board (18)   |        |                                       |          |
| Economic Influentials | 7      | 4                                     | 57       |
| Top Influentials      | 8      | 4                                     | 50       |

\* Forty men were nominated as top influentials, but one individual was not interviewed and was dropped from the study. See Warren L. Sauer, "Labor-Business Images of Community Power: Convergences and Divergences," unpublished Ph. D. dissertation, Michigan State University, (1960), pp. 25-28.

<sup>15</sup>Clelland, op. cit. The criteria for economic influentials during the 1958-1959 period were those individuals who occupied the top formal

Table 7 lists the 18 members of the board, the EI and TI classification, the code letters which identify the individuals in the tables which follow, the primary occupational identification and the corresponding economic unit in the community for each member. It can be seen that 4 of the 7 EI's and 3 of the 8 TI's were present at the annual meeting analyzed. A legitimate methodological question is the extent of representativeness of this single meeting of the board. From a substantive viewpoint this problem is extremely difficult to solve unless one makes observations over a long period of time (e.g., probably 10 years or the mean number of years of service per member, which was 13 years) since the board devotes the majority of its time to varying substantive problems over time. For example, during the 1959-1961 period the board devoted most of its energies toward building and expansion problems. In late 1961 and 1962 it was primarily concerned with labor union negotiations. One might speculate the neither of these problems will consume the same proportion of time that it did in these two periods for another 10 years or more. However, the representativeness of the findings of this meeting may be partially assessed in terms of the participation patterns of the influentials and non-influentials in attendance. If the community influentials who were not in attendance at the meeting were in general absent from board meetings, then the meeting is "more representative" than if the meeting analyzed happened to be one in which most individuals who generally attend were absent. The same may be said for the non-influentials.

Table 7a was prepared in order to assess the participation patterns of the board members who were in attendance and who were absent at the

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statuses of: industrial or commercial units having an assessed evaluation of \$750,000 or 250 employees; banks with resources of 6 million; savings and loan companies with gross assets of 6 million; and insurance companies with total assets of 6 million. Overlapping directorship was also used as a criterion.

Table 7. Board Members by EI and TI Classification, Table Codes, Primary Occupation, and Economic Unit.<sup>1</sup>

| Board Members                                                                                                       | Occupation and Economic Unit | Economic Influential Classification | Top Influential Classification <sup>2</sup> |
|---------------------------------------------------------------------------------------------------------------------|------------------------------|-------------------------------------|---------------------------------------------|
| 1. President and General Manager of Brake Corporation<br>(1959 assessed evaluation: 12 million; 3,700 employees)    |                              | A                                   | A                                           |
| 2. Publisher, Editor, and General Manager of Newspaper<br>(1959 assessed evaluation: 1 million)                     |                              | B                                   | B                                           |
| 3. Retired, Banker, Financier, Industrialist                                                                        |                              | C                                   | c                                           |
| 4. President, Insurance Company (1955 Capital: 31 million;<br>1959 assessed evaluation: \$783,000; 625 employees)   |                              | D                                   | d                                           |
| 5. Vice President, Financial Unit (Savings Co.) (1958 Capital:<br>42 Million)                                       |                              | e                                   | e                                           |
| 6. Vice President, Bank (1959 capital: 1 million)                                                                   |                              | f                                   | F                                           |
| 7. Realtor.                                                                                                         |                              | g                                   | g                                           |
| 8. Vice President, Metal Company (1950 assessed evaluation:<br>\$217,000 estimated)                                 |                              | h                                   | h                                           |
| 9. Vice President and General Manager, Auto Corporation<br>(1959 assessed evaluation: 61 million; 12,000 employees) |                              | EI                                  | TI                                          |
| 10. President, State University                                                                                     |                              | EI                                  | TI                                          |
| 11. Retired, Industrialist, Financier, Banker                                                                       |                              | EI                                  | <u>TI</u>                                   |
| 12. Attorney at Law                                                                                                 |                              | <u>EI</u>                           | TI                                          |
| 13. Vice President, Labor Council                                                                                   |                              | <u>EI</u>                           | TI                                          |
| 14. President, Insurance Agency                                                                                     |                              | <u>EI</u>                           | TI                                          |
| 15. Director of Department, Auto Corporation                                                                        |                              | <u>EI</u>                           | <u>TI</u>                                   |

|                                                                                                        |           |           |
|--------------------------------------------------------------------------------------------------------|-----------|-----------|
| 16. President and General Manager Iron Company<br>(1959 assessed evaluation: \$549,000; 152 employees) | <u>EI</u> | <u>TI</u> |
| 17. Vice President, Secretary, Sales Manager Tool Company<br>(1959 assessed evaluation: \$611,000)     | <u>EI</u> | <u>TI</u> |
| 18. President and Proprietor, Clothing Store                                                           | <u>EI</u> | <u>TI</u> |

Non-Members in Attendance

|                          |   |   |
|--------------------------|---|---|
| Director of the Hospital | i | i |
| Consultant               | j | j |
| Architect                | k | k |

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<sup>1</sup>The information about the economic units comes from several sources. See footnote 10, pages 13-14.

<sup>2</sup>The capital letter designates an influential (e.g., an EI or TI); the lower case letter designates a non-influential. An "EI" or "TI" classification indicates that the individual was not in attendance at the meeting analyzed in addition to his particular classification. Non-influentials are identified by a EI or TI symbol.

meeting analyzed. The attendance pattern of each board member for the past 10 years was tabulated for each of the influential classifications and the average number of meetings per member was computed. It can be seen that the economic influentials who were in attendance at the meeting generally attend 73% of all meetings held, whereas the economic influentials who were absent only attend 15% of the meetings held. A less striking difference was found between the top influentials present, who attend 79% of the board meetings compared to the influentials who were absent, who attend only 42% of the meetings, on the average.

Table 7a. Average Percentage of Board Meetings Attended by Each Board Member from 1950-1959, by Community Influential Classification and by Attendance at the Board Meeting Analyzed

| Board Member<br>Classification | The Board Meeting Analyzed                                           |                |
|--------------------------------|----------------------------------------------------------------------|----------------|
|                                | Members in Attendance<br>(Percentage of Meetings Attended 1950-1959) | Members Absent |
| Economic Influentials          | 73                                                                   | 15             |
| Non-influentials               | 75                                                                   | 58             |
| Top-Influentials               | 79                                                                   | 42             |
| Non-influentials               | 71                                                                   | 50             |

It would seem safe to say that the community influentials in attendance at the meeting analyzed are generally in attendance at meetings of the board. Although the non-influentials in both classifications who were in attendance are the most active participants, the non-influentials not in attendance are generally more active than their absent counterparts among the influentials. Taking the members in attendance at the meeting analyzed as a whole it would seem that they certainly are not atypical participants in board meetings in terms of a 10 year attendance pattern.

### Procedure and the Measurement of Control

Verbatim electrical recordings of the board and committee meetings were made in 1959-1960 after a 3 month period of non-participative observation on the part of the author. Good rapport was believed to be obtained as evidenced by the highly confidential material, which was allowed to be recorded. The meetings were recorded and observations were attributized and unitized in order to submit them to Bales "interaction process analysis."<sup>16</sup>

Table 8 contains the set of 12 categories of the Bales system. The activity of small groups, role partners, etc., can be classified according to the 12 categories which may be combined to provide various measures of indexes of behavior of the group.

The measurement of control or influence which shall be used to cross-validate the "reputational" and "positional" techniques is Bales' Index of Directiveness of Control.<sup>17</sup> The assumptions underlying this index are as follows. Of the twelve categories, three types of activity--categories 6, 5 and 4 are all concerned with directing the activity of actors in the group and are used in the Index. Of the three, category 6--"giving orientation, information, repeating information, clarification of a point, or confirming a fact," is the most non-directive. An example would be an actor who says "There are two points I would like to make. The first one concerns our hospital charge offs." Both of these would be scored as category 6.

The second category, number 5, is more directive than number 6, and, as one can see from Table 8, is composed of the "giving of opinions, evaluations, analyses of the situation, the expression of feelings, wishes,

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<sup>16</sup>R. F. Bales, op. cit. (For a critique of the reliability procedure using interaction process analysis, and estimates of reliability, see Appendix A.)

<sup>17</sup>Ibid., p. 145.

Table 8<sup>\*</sup>. Set of Categories

### Problem Areas:

|                                              |   |                                                                                |   |   |   |   |   |   |
|----------------------------------------------|---|--------------------------------------------------------------------------------|---|---|---|---|---|---|
| Social-Emotional Area:<br>Positive Reactions | A | 1. <u>Shows solidarity</u> , raises other's status, gives help, reward         | a | b | c | d | e | f |
|                                              |   | 2. <u>Shows tension release</u> , jokes, laughs, shows satisfaction            |   |   |   |   |   |   |
|                                              |   | 3. <u>Agrees</u> , shows passive acceptance, understands, concurs, complies    |   |   |   |   |   |   |
| Task Area:<br>Problem-Solving Attempts       | B | 4. <u>Gives suggestion</u> , direction, implying autonomy for other            | a | b | c | d | e | f |
|                                              |   | 5. <u>Gives opinion</u> , evaluation, analysis, expressed feeling, wish        |   |   |   |   |   |   |
|                                              |   | 6. <u>Gives orientation</u> , information, repeats, clarifies, confirms        |   |   |   |   |   |   |
| Task Area:<br>Questions                      | C | 7. <u>Asks for orientation</u> , information repetition, confirmation          | a | b | c | d | e | f |
|                                              |   | 8. <u>Asks for opinion</u> , evaluation, analysis, expression of feeling       |   |   |   |   |   |   |
|                                              |   | 9. <u>Asks for suggestion</u> , direction, possible ways of action             |   |   |   |   |   |   |
| Social-Emotional Area:<br>Negative Reactions | D | 10. <u>Disagrees</u> , shows passive rejection, formality, withholds help      | a | b | c | d | e | f |
|                                              |   | 11. <u>Shows tension</u> , asks for help, withdraws out of field               |   |   |   |   |   |   |
|                                              |   | 12. <u>Shows antagonism</u> , deflates other's status, defends or asserts self |   |   |   |   |   |   |

A sub-classification of problems to which each pair of categories is most relevant:

- a. Problems of orientation
- b. Problems of evaluation
- c. Problems of control
- d. Problems of decision
- e. Problems of tension-management
- f. Problems of integration

\* Robert F. Bales, "A Set of Categories for the Analysis of Small Group Interaction," *American Sociological Review*, 15 (April, 1950), pp. 257-63.

desires," etc. For example, if an actor says "I wish we could beat this Blue Cross formula," this would be scored in category 5.

The third category in the index is the most directive of the three and is comprised of the process of "giving suggestions or directions." For example, if an actor says "The first thing we should do is to provide a new parking lot for our patients," this would be scored as category 4.

The Index of Directiveness of Control is based on the preponderance of 4 and 5 in the total interaction process as compared to 6. In other words, the more the actor makes direct attempts to control the decisions of the group (by direct suggestions or expression of evaluations) in proportion to the amount of factual information he provides, the higher the index of control value.<sup>18</sup> The formula is as follows:

$$IDC_{x.y} = \frac{\frac{4}{4+6} + \frac{5}{5+6}}{2}$$

where: x and y = two given actors  
 4, 5, 6 = Bales' categories  
 2 = constant

The value the index may assume may range from 0 to 1.0, from no control to maximum control. It should be pointed out that the index does not differentiate between two actors who have no interaction and actors who interact but have no frequencies in categories 4 and 5. In both cases their IDC value would be 0. Since means will be computed for each role group in the study, the IDC values which contain any interaction in any of the three categories but which yield a .00 value will be identified by an asterisk in the tables. Means computed for each role-group will be computed on the basis of the number of index values which contain any

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<sup>18</sup>Presumably it might be argued that other categories might be included as in index of control and perhaps even all 12 could be so arranged to estimate control. Bales ADR Index is a theoretical and methodological approach to such a question. Ibid., p. 167 ff.

interaction. This will be explained below. Also, since this study is concerned with the comparison of community influentials with non-influentials, the activity of any actor which is directed toward the group as a whole is deleted from the IDC value since such activity cannot be differentiated in terms of whether the actor was directing his control over influentials or non-influentials.

The IDC values are presented in Table 9 for board members as well as for the 3 individuals present who were not board members. The latter included the director of the hospital, an architect, and a hospital construction consultant, one of whom was either an EI or a TI. The board members were classified as an EI or non-EI ( $\overline{\text{EI}}$ ), and their index values computed. Tables 10 and 11 contain the mean values for these scores.

The means are computed in the following manner. The mean IDC value of the EI's in Table 10 (.24), is the sum of the IDC values among the EI's (A, B, C, D) divided by the total number of indexes containing any interaction. Thus:  $.50 \text{ (B vs. C)} + .00^* \text{ (B vs. D)} + .13 \text{ (C vs. A)} + .34 \text{ (C vs. B)} = .97$ ; hence the EI:EI mean IDC =  $\frac{.97}{4} = .24$ .

It can be seen from Table 10 that as one moves across the table the values increase for every cell. The EI's exerted most control over the  $\overline{\text{EI}}$ 's who were not members of the board (.42), followed by the  $\overline{\text{EI}}$ 's who were members of the board (.35), and exerted the least amount of control over their counterparts on the board (.24). This pattern was also true for the  $\overline{\text{EI}}$ 's who were members of the board. They, too, attempted to control the actions of their counterparts who are not members of the board as evidenced by an index value of .35, followed by a mean of .22 with  $\overline{\text{EI}}$ 's who are members of the board, and followed by a mean of .17 with the EI's who are members of the board. Finally, the  $\overline{\text{EI}}$ 's who are not members of the board have the highest mean index of control among themselves (.50), followed by a mean of .24 with  $\overline{\text{EI}}$ 's who are members of the board, and a .12 with EI's who are members of the board.

Table 9. Index of Directiveness of Control Values<sup>\*\*</sup> of Each EI Versus Other EI's; Each EI Versus Other EI's; Each EI Versus Other EI's; and Each EI Versus Other EI's by Hospital Board Membership.

|               | Actor | BOARD MEMBERS         |      |      |      |                  |      |      |     | NON-MEMBERS      |     |     |
|---------------|-------|-----------------------|------|------|------|------------------|------|------|-----|------------------|-----|-----|
|               |       | Economic Influentials |      |      |      | Non-Influentials |      |      |     | Non-Influentials |     |     |
|               |       | A                     | B    | C    | D    | e                | f    | g    | h   | i                | j   | k   |
| EI's          | A     | --                    | .00  | .00  | .00  | .50              | .00  | .00  | .00 | .00              | .00 | .00 |
|               | B     | .00                   | --   | .50  | .00* | .00*             | .25  | .00  | .50 | .50              | .17 | .00 |
|               | C     | .13                   | .34  | --   | .00  | .00              | .50  | .00  | .00 | .50              | .00 | .00 |
|               | D     | .00                   | .00  | .00  | --   | .00              | .00  | .00  | .00 | .00              | .50 | .00 |
| Board Members | e     | .00*                  | .51  | .00* | .00  | --               | .00* | .00  | .09 | .00              | .49 | .00 |
|               | f     | .00                   | .00  | .00  | .00  | .50              | --   | .00  | .00 | .00              | .00 | .00 |
|               | g     | .00                   | .00* | .00  | .00  | .00              | .50  | --   | .00 | .00*             | .00 | .00 |
|               | h     | .34                   | .00  | .00  | .00  | .00*             | .00  | .00  | --  | .25              | .50 | .50 |
| Non-Members   | i     | .34                   | .00  | .13  | .00  | .00*             | .00* | .00* | .17 | --               | .00 | .00 |
|               | j     | .00*                  | .00  | .00  | .00  | .25              | .00  | .00  | .00 | .50              | --  | .50 |
|               | k     | .00*                  | .00  | .00  | .00  | 1.00             | .00  | .00  | .00 | .00              | .50 | --  |

\* .00 Value, but index contains interaction.

Table 10. Mean IDC Value\* for EI's and  $\overline{\text{EI}}$ 's by Hospital Board Membership

|              |                           | BOARD MEMBERS        |                                           | NON-MEMBERS                            |
|--------------|---------------------------|----------------------|-------------------------------------------|----------------------------------------|
| Actors       |                           | EI's<br>(A, B, C, D) | $\overline{\text{EI}}$ 's<br>(e, f, g, h) | $\overline{\text{EI}}$ 's<br>(i, j, k) |
| Board Member | EI's                      | .24                  | .35                                       | .42                                    |
|              | $\overline{\text{EI}}$ 's | .17                  | .22                                       | .35                                    |
| Non-Member   | $\overline{\text{EI}}$ 's | .12                  | .24                                       | .50                                    |

\* Means are computed on indexes with any interaction

There is clearly a pecking order of attempts at control. The  $\overline{\text{EI}}$ 's who are not members of the board received the greatest amount of control, which makes sense in terms of their functions in the management structure of the organization. However, the  $\overline{\text{EI}}$ 's on the board also received more control attempts from the EI's than they in turn attempted with the EI's.

Table 11 contains the simple relationships between EI's and  $\overline{\text{EI}}$ 's, disregarding board membership. If the mean scores of EI's (.38) are subtracted from  $\overline{\text{EI}}$ 's (.15), a mean difference of .23 in favor of the EI's is obtained.

Table 11. Mean IDC Values for EI's and  $\overline{\text{EI}}$ 's

| Actors                    | EI's | $\overline{\text{EI}}$ 's |
|---------------------------|------|---------------------------|
| EI's                      | .24  | .38                       |
| $\overline{\text{EI}}$ 's | .15  | .30                       |

Tables 12, 13, and 14 contain the same data for "top influentials" who attended the meeting analyzed. These values are computed in the same manner as in Tables 9-11; and the same letter refers to the same person, except the capital letter here refers to the "top influential" classification.

In Table 13, the same general pattern found for EI's also holds true for TI's, with one exception. The  $\overline{\text{TI}}$  board members have a higher mean over TI's on the board (.26) than they do among themselves (.03).

When one looks at the simple relationship between TI's and  $\overline{\text{TI}}$ 's in Table 14, however, one sees that TI's have a higher mean index over  $\overline{\text{TI}}$ 's (.38) than the converse (.20). The mean difference is .18 in favor of the TI's.

Table 15 shows the heirarchy of control for both EI- $\overline{\text{EI}}$  comparisons and TI- $\overline{\text{TI}}$  comparisons. The pecking order runs as follows: EI's over  $\overline{\text{EI}}$ 's,  $\overline{\text{EI}}$ 's with themselves, EI's with themselves, and finally  $\overline{\text{EI}}$ 's over EI's. The same heirarchy was found for the TI's.

At this point it may be said that an independently derived measure of the degree of control exerted in a decision-making unit of a community organization has been established. It was used for purposes of cross-validating both the "reputational technique" as represented by the TI classification, and the "positional technique" as represented by the EI classification.

Table 12. Index of Directiveness of Control Values of Each TI versus Other TIs: Each TI versus Other TIs:  
Each TI versus other TIs: and Each TI versus Other TIs by Hospital Board Membership

|               |      | BOARD MEMBERS      |      |      |     |      |                    |      |      |      |     | NON-MEMBERS      |     |     |
|---------------|------|--------------------|------|------|-----|------|--------------------|------|------|------|-----|------------------|-----|-----|
|               |      | "Top Influentials" |      |      |     |      | "Non-Influentials" |      |      |      |     | Non-Influentials |     |     |
|               |      | A                  | B    | F    |     |      | c                  | d    | e    | g    | h   | i                | j   | k   |
| Board Members | TI's | A                  | --   | .00  | .00 |      | .00                | .00  | .50  | .00  | .00 | .00              | .00 | .00 |
|               | B    | .00                | --   | .25  |     | .50  | .00*               | .00* | .00  | .00  | .50 | .50              | .50 | .00 |
|               | F    | .00                | .00  | --   |     | .00  | .00                | .00  | .50  | .00  | .00 | .00              | .00 | .00 |
|               | c    | .13                | .34  | .50  |     | --   | .00                | .00  | .00  | .00  | .00 | .50              | .00 | .00 |
|               | d    | .00                | .00  | .00  |     | .00  | --                 | .00  | .00  | .00  | .00 | .00              | .50 | .00 |
|               | e    | .00*               | .51  | .00* |     | .00* | .00                | --   | .00  | .09  | .00 | .00              | .49 | .00 |
|               | g    | .00                | .00* | .50  |     | .00  | .00                | .00  | .00  | --   | .00 | .00*             | .00 | .00 |
|               | h    | .34                | .00  | .00  |     | .00  | .00                | .00* | .00  | .00  | --  | .25              | .50 | .50 |
|               | i    | .34                | .00  | .00* |     | .13  | .00                | .00* | .00* | .00* | .17 | --               | .00 | .00 |
|               | j    | .00*               | .00  | .00  |     | .00  | .00                | .25  | .00  | .00  | .00 | .50              | --  | .50 |
| Non-Members   | k    | .00*               | .00  | .00  |     | .00  | .00                | 1.00 | .00  | .00  | .00 | .00              | .50 | --  |

\* .00 Value, but index contains interaction

Table 13. Mean IDC Values\* for TI's and  $\overline{\text{TI}}$ 's by Board Membership

|              | Actors                    | BOARD MEMBERS     |                                              | NON-MEMBERS                            |
|--------------|---------------------------|-------------------|----------------------------------------------|----------------------------------------|
|              |                           | TI's<br>(A, B, F) | $\overline{\text{TI}}$ 's<br>(c, d, e, g, h) | $\overline{\text{TI}}$ 's<br>(i, j, k) |
| Board Member | TI's                      | .25               | .33                                          | .50                                    |
|              | $\overline{\text{TI}}$ 's | .26               | .03                                          | .39                                    |
| Non-Member   | $\overline{\text{TI}}$ 's | .09               | .26                                          | .50                                    |

\* Means are computed on indexes with any interaction.

Table 14. Mean IDC Values for TI's and  $\overline{\text{TI}}$ 's

| Actors                    | TI's | $\overline{\text{TI}}$ 's |
|---------------------------|------|---------------------------|
| TI's                      | .25  | .38                       |
| $\overline{\text{TI}}$ 's | .20  | .26                       |

Table 15. Rank Order of Means Between EI- $\overline{\text{EI}}$  and TI- $\overline{\text{TI}}$  Comparisons of Index of Directiveness of Control

| EI : $\overline{\text{EI}}$ Comparisons               |                |      | TI : $\overline{\text{TI}}$ Comparisons |                |                                                       |
|-------------------------------------------------------|----------------|------|-----------------------------------------|----------------|-------------------------------------------------------|
|                                                       | $\overline{X}$ | Rank | Rank                                    | $\overline{X}$ |                                                       |
| EI's : $\overline{\text{EI}}$ 's                      | .38            | 1    | 1                                       | .38            | TI's : $\overline{\text{TI}}$ 's                      |
| $\overline{\text{EI}}$ 's : $\overline{\text{EI}}$ 's | .30            | 2    | 2                                       | .26            | $\overline{\text{TI}}$ 's : $\overline{\text{TI}}$ 's |
| EI's : EI's                                           | .24            | 3    | 3                                       | .25            | TI's : TI's                                           |
| $\overline{\text{EI}}$ 's : EI's                      | .15            | 4    | 4                                       | .20            | $\overline{\text{TI}}$ 's : TI's                      |

The problem of measuring the relative difference of control between EI's and TI's is complicated by the fact that 2 of the 4 EI's were also TI's, and conversely, 2 of the 3 TI's were EI's, as mentioned earlier. It is possible to compare the means of the two distributions in Table 15, but they do not appear to differ too significantly. Perhaps the  $\overline{\text{TI}}$ 's are slightly more active in control attempts than their counterparts, the  $\overline{\text{EI}}$ 's. Another comparison possible is between the EI's who are not TI's and the TI who is not an EI. Table 16 contains these comparisons, and for the one set of values we have, the EI has the higher index score. This one case, obviously, does not allow extended generalization. Nevertheless, it is clear that for the meeting analyzed in this chapter, the hypothesis that community influentials exhibit greater control over non-influentials is supported.<sup>19</sup>

In order to more adequately assess the role of community influentials on the board, data in Table 17 is presented in the form of the percentage

<sup>19</sup>Two limitations must be observed in the use of this index of control. First it is not an adequate measure of what is generally called "power." Most sociologists working in this area generally follow the Weberian concept which includes an element of force or contest. The second limitation is that this index should perhaps more accurately be labelled an index of attempts at control since it contains no measure of the acceptance of the suggestions or directions made in the meeting.

Table 16. Comparison of IDC Values of EI's with TI's Who Do Not Share Overlapping EI-TI Classification

|                        |   | EI ( $\overline{TI}$ ) |     | TI ( $\overline{EI}$ ) |
|------------------------|---|------------------------|-----|------------------------|
| Actor                  |   | C                      | D   | F                      |
| EI ( $\overline{TI}$ ) | C | --                     | .00 | .50                    |
|                        | D | .00                    | --  | .00                    |
| TI ( $\overline{EI}$ ) | F | .00                    | .00 | --                     |

distribution of interaction of community influentials and non-influentials for the 12 categories in the Bales' system.

The interaction of community influentials was clearly concentrated in category 6 (giving orientation, information, clarification and confirmation). What is very interesting to note is that the profile of interaction of the hospital administration and consulting staff was closer to the community influentials than was the profile of the non-influentials who are members of the board. The latter were plagued by the greatest amount of tension or conflict and exhibited a higher incidence of disagreement and antagonism than the other two classifications of participants.

This pattern was also true in terms of the domination of the amount of interaction that goes on in the board meeting. Table 17 also contains the mean number of acts per individual in attendance at the meeting. The community influentials had the highest number of acts, (especially the TI's with a mean of 122 and the EI's with 95), followed by the hospital staff ( $\bar{X} = 90$ ) and finally by the non-influentials on the board ( $\bar{X} = 62$  for EI's and 52 for TI's).

The data in Table 17 were presented in such a form as to allow examination of how members of the role groups distributed their total activity according to Bales' 12 categories. However, Table 18 presents the same

Table 17. Profile of Percentage Distribution of Interaction by Bales' Categories for EI's, EI's, TI's, and TI's, by Board Membership

| Bales' Categories                    | Board Members        |                      |                   | Non-Members                |                                  |                                  |
|--------------------------------------|----------------------|----------------------|-------------------|----------------------------|----------------------------------|----------------------------------|
|                                      | EI's<br>(A, B, C, D) | EI's<br>(e, f, g, h) | EI's<br>(i, j, k) | Board<br>TI's<br>(A, B, F) | Board<br>TI's<br>(c, d, e, g, h) | Non-Members<br>TI's<br>(i, j, k) |
| 1. Shows Solidarity                  | 5                    | 1                    | 0                 | 2                          | 4                                | 0                                |
| 2. Shows Tension Release             | 1                    | 4                    | 2                 | 2                          | 3                                | 1                                |
| 3. Agrees                            | 8                    | 10                   | 6                 | 8                          | 7                                | 6                                |
| 4. Gives Suggestion, Direction       | 13                   | 8                    | 13                | 12                         | 13                               | 13                               |
| 5. Gives Opinion, Evaluation         | 15                   | 20                   | 18                | 17                         | 14                               | 18                               |
| 6. Gives Orientation, Information    | 40                   | 21                   | 51                | 38                         | 40                               | 51                               |
| 7. Asks for Orientation, Information | 7                    | 4                    | 2                 | 4                          | 6                                | 2                                |
| 8. Asks for Opinion, Evaluation      | 3                    | 2                    | 1                 | 2                          | 4                                | 0                                |
| 9. Asks for Suggestion, Direction    | 2                    | 2                    | 0                 | 1                          | 2                                | 0                                |
| 10. Disagrees                        | 1                    | 19                   | 5                 | 7                          | 3                                | 20                               |
| 11. Shows Tension                    | 1                    | 0                    | 0                 | 1                          | 1                                | 0                                |
| 12. Shows Antagonism                 | 4                    | 10                   | 3                 | 5                          | 4                                | 11                               |
| Total Per Cent                       | 100                  | 101                  | 101               | 99                         | 100                              | 100                              |
| Total Number of Acts                 | 379                  | 248                  | 271               | 898                        | 365                              | 211                              |
| $\bar{X}$ Number of Acts per Member  | 95                   | 62                   | 90                | 82                         | 122                              | 90                               |
|                                      |                      |                      |                   |                            | 52                               | 82                               |

Table 18. Mean Percentage of Interaction Per Member in Each of the Bales' Categories for EI's, EI's, TI's, and TI's, by Board Membership

| Bales' Categories                    | Board Members        |                      | Non-Members       |                   | Board Members     |                         | Non-Members       |                   |
|--------------------------------------|----------------------|----------------------|-------------------|-------------------|-------------------|-------------------------|-------------------|-------------------|
|                                      | EI's<br>(A, B, C, D) | EI's<br>(e, f, g, h) | EI's<br>(i, j, k) | EI's<br>(i, j, k) | TI's<br>(A, B, F) | TI's<br>(c, d, e, g, h) | TI's<br>(i, j, k) | TI's<br>(i, j, k) |
| 1. Shows Solidarity                  | 21                   | 3                    | 2                 | 2                 | 21                | 7                       | 2                 | 2                 |
| 2. Shows Tension Release             | 6                    | 14                   | 7                 | 7                 | 10                | 10                      | 7                 | 7                 |
| 3. Agrees                            | 10                   | 9                    | 8                 | 8                 | 13                | 8                       | 8                 | 8                 |
| 4. Gives Suggestions, Directions     | 12                   | 5                    | 11                | 11                | 15                | 4                       | 11                | 11                |
| 5. Gives Opinion, Evaluation         | 9                    | 8                    | 10                | 10                | 11                | 7                       | 10                | 10                |
| 6. Gives Orientation, Information    | 11                   | 4                    | 14                | 14                | 14                | 3                       | 14                | 14                |
| 7. Asks for Orientation, Information | 16                   | 6                    | 4                 | 4                 | 20                | 6                       | 4                 | 4                 |
| 8. Asks for Opinion, Evaluation      | 17                   | 6                    | 4                 | 4                 | 30                | 0                       | 4                 | 4                 |
| 9. Asks for Suggestion, Direction    | 16                   | 8                    | 0                 | 0                 | 21                | 8                       | 0                 | 0                 |
| 10. Disagrees                        | 2                    | 18                   | 7                 | 7                 | 6                 | 12                      | 7                 | 7                 |
| 11. Shows Tension                    | 17                   | 4                    | 6                 | 6                 | 17                | 7                       | 6                 | 6                 |
| 12. Shows Antagonism                 | 9                    | 12                   | 5                 | 5                 | 10                | 11                      | 5                 | 5                 |

data in a different form. It presents the percentage of activity in each category that is accounted for by each member of the role group. In other words the relative proportion of activity within each category taken as a unit of analysis that is accounted for by each member of the role group (on the average) is presented in Table 18. Here it is seen that community influentials accounted for the greatest percentage of interaction in showing solidarity (1), agreement (3), giving directions (4), asking for information (7), asking for evaluation (8), asking for suggestions (9), and showing tension (11). Non-influentials accounted for most of the tension release (2), disagreement (10), and the showing of antagonism (12). Category 5, giving evaluation, is fairly evenly divided among all three classifications of participants. The administrators and the board members accounted for the largest proportions of giving information.

The conclusion one gleans from this analysis is that the data appear to lend further support to the hypothesis that community influentials are actively involved in the decision-making process of the board. They have the highest rate of activity; they ask more questions, accept (and reject) more solutions to problems; and they show more tension. However, they are not as involved in conflict and are less antagonistic than the non-influentials on the board.

### Summary

In summary, a third and completely independent measurement system has empirically validated the use of both the reputational technique (TI's) and the positional technique (EI's) as predictors of control or influence in the setting of the hospital board of trustees. A definite heirarchy of control on the board was found. The EI's on the board exerted the most control over the  $\overline{\text{EI}}$ 's who are members of the hospital management staff, less control over the  $\overline{\text{EI}}$ 's who are members of the board, and least control was exerted among themselves. The same general pattern was found for the TI's.

The community influentials clearly dominated the proportion of activity at the board meeting, and accounted for the largest proportion of interaction in the positive emotional area, the problem solving area, and in the area of asking questions in order to solve problems confronting the organization. The non-influentials on the board reacted to this by exhibiting a higher proportion of negative emotions. The hypothesis that community influentials are actively involved in the decision-making process of the board and exerted a greater amount of control over the decision-making process is given considerable empirical support.

## CHAPTER IV

### THE EMPIRICAL MEASUREMENT OF CONTROL OF EI'S AND TI'S ON TWO WORKING COMMITTEES OF THE BOARD OF TRUSTEES

#### Introduction

Chapter III examined the central hypothesis of this study--that community influentials are actively involved in the decision-making process of the hospital and that they exert greater control over the non-influentials than they in turn exert over the community influentials, for the board of trustees. This chapter will examine the same hypothesis for two lower level units in the decision-making structure of the hospital--the executive committee and the operations committee.

#### The Executive Committee

As Figure 1 in Chapter I illustrates,<sup>1</sup> the executive committee is the most legally powerful committee in the hospital (outside of the board). It has legal authority to act in place of the board on many policy making decisions. It appoints physicians to the medical staff; it has authority to purchase land and enter into contracts; etc. However, in practice, it typically makes recommendations to the board which are seldom (if ever) reversed.

The executive committee is composed of 10 persons, 5 from the woman's board of managers, and 5 from the board of trustees. Generally, two or three members of the administration are in attendance, but they are

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<sup>1</sup>See page 6, Chapter I.

not voting members of the committee. The committee members, their EI:TI classification, their primary occupational identification and economic unit are presented in Table 19.

The chairman of the committee, who is also the president of the board of trustees, is both an economic influential and a top influential. The second member is also an economic influential and a past president of the board. The representatives from the woman's board of managers, for the most part, are daughters and/or widows of socially prominent "old city families." They are also quite active in community activities.

Data in Table 20 provide the test of the control hypothesis for the executive committee. Inspection of the table shows that the hierarchy of control favors the community influentials. The community influentials have a mean IDC value of .25, followed by the non-influentials on the committee ( $\bar{X} = .23$ ) and the administrators ( $\bar{X} = .15$ ). The IDC means for the EI:TI increases for every cell in the first row. He exerted little control over his fellow EI who was not a TI ( $\bar{X} = .06$ ), moreover the  $\overline{\text{EI}}:\overline{\text{TI}}$ 's who were members of the committee ( $\bar{X} = .23$ ), and the most control over the administrators of the hospital ( $\bar{X} = .37$ ). The same pattern was found for the  $\overline{\text{EI}}:\overline{\text{TI}}$  on the committee ( $\bar{X}$ 's = .04, .21, and .33, respectively).

The  $\overline{\text{EI}}:\overline{\text{TI}}$ 's on the committee exerted the least amount of control over the EI:TI ( $\bar{X} = .19$ ), concentrated their control efforts on the  $\overline{\text{EI}}:\overline{\text{TI}}$  (.46), less over their colleagues ( $\bar{X} = .25$ ), and exerted a modicum of control over the administrators ( $\bar{X} = .22$ ).

Finally, the administrators exerted no control among their colleagues ( $\bar{X} = .00$ ), somewhat more over the community influentials ( $\bar{X} = .12$  for the EI:TI and .06 for the  $\overline{\text{EI}}:\overline{\text{TI}}$ ), and appeared to concentrate their control efforts on the EI:TI's on the committee ( $\bar{X} = .17$ ).

If the differences between the means are taken as the final index of control, the differences between the administrators and the community influentials were in favor of the EI:TI ( $\bar{X}_d = .25$ ) and the  $\overline{\text{EI}}:\overline{\text{TI}}$  ( $\bar{X}_d = .27$ )

Table 19. Executive Committee Members, by EI:TI Classification, Occupation and Economic Unit

| Committee Member and<br>Hospital Unit Represented | Occupation and Economic Unit                                               | Economic                       |                                | Top                            |                                |
|---------------------------------------------------|----------------------------------------------------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
|                                                   |                                                                            | Influential<br>Classification* | Influential<br>Classification* | Influential<br>Classification* | Influential<br>Classification* |
| 1. Board of Trustees                              | Publisher, Editor and General Manager of<br>Newspaper (Committee Chairman) | B                              | B                              | B                              | B                              |
| 2. Board of Trustees                              | Retired, Chairman of Bank Board                                            | C                              | C                              | c                              | c                              |
| 3. Board of Trustees                              | Realtor                                                                    | g                              | g                              | g                              | g                              |
| 4. Board of Trustees                              | Vice President, Metal Company                                              | h                              | h                              | h                              | h                              |
| 5. Board of Trustees                              | Vice President, Financial Unit<br>(Savings Company)                        | <u>EI</u>                      | <u>EI</u>                      | <u>TI</u>                      | <u>TI</u>                      |
| 6. Woman's Board of Managers                      | Widow, Realtor                                                             | n                              | n                              | n                              | n                              |
| 7. Woman's Board of Managers                      | Widow of Proprietor of Large Farm                                          | u                              | u                              | u                              | u                              |
| 8. Woman's Board of Managers                      | Wife, Educator                                                             | v                              | v                              | v                              | v                              |
| 9. Woman's Board of Managers                      | Wife, Insurance man                                                        | w                              | w                              | w                              | w                              |
| 10. Woman's Board of Managers                     | Widow of Manager of Fraternal Order                                        | <u>EI</u>                      | <u>EI</u>                      | <u>TI</u>                      | <u>TI</u>                      |
| Non-Members (Administrators)                      |                                                                            |                                |                                |                                |                                |
| Administration                                    | Director of the Hospital                                                   | i                              | i                              | i                              | i                              |
| Administration                                    | Assistant Director                                                         | o                              | o                              | o                              | o                              |
| Administration                                    | Comptroller                                                                | p                              | p                              | p                              | p                              |

\*The capital letter designates an influential and the lower case letter designates a non-influential in both classifications. The "EI" or "TI" classification indicates that the individual did not attend the meetings analyzed in addition to his particular classification.

Table 20. Means of Index of Directiveness of Control of EI's and TI's by Committee Membership on the Executive Committee (Two Meetings)

|                      | Actors                                      | Committee Members |                                   |                                                                   | Administrators                                           | Total |
|----------------------|---------------------------------------------|-------------------|-----------------------------------|-------------------------------------------------------------------|----------------------------------------------------------|-------|
|                      |                                             | EI:TI<br>(B)      | EI: $\overline{\text{TI}}$<br>(C) | $\overline{\text{EI}}:\overline{\text{TI}}$<br>(g, h, n, u, v, w) | $\overline{\text{EI}}:\overline{\text{TI}}$<br>(i, o, p) |       |
| Committee<br>Members | EI:TI                                       | --                | .01                               | .23                                                               | .37                                                      | .25   |
|                      | EI: $\overline{\text{TI}}$                  | .04               | --                                | .21                                                               | .33                                                      | .25   |
|                      | $\overline{\text{EI}}:\overline{\text{TI}}$ | .19               | .46                               | .25                                                               | .22                                                      | .23   |
| Administrators       | $\overline{\text{EI}}:\overline{\text{TI}}$ | .12               | .06                               | .17                                                               | .00                                                      | .15   |

(see Table 21). Although the EI:TI barely controlled the  $\overline{\text{EI}}:\overline{\text{TI}}$ 's on the committee ( $\overline{X}_d = .04$ ) the EI: $\overline{\text{TI}}$  lost out to the  $\overline{\text{EI}}:\overline{\text{TI}}$ 's on the committee ( $\overline{X}_d = -0.25$ ).

In order to examine the activity aspect of the central hypothesis, the percentage distribution of interaction of members of the executive committee was computed. These data are presented in Tables 22 and 24.

Table 22 contains the percentage distribution of each EI:TI classification for committee members and the administrators. Almost one-half (49%) of the EI:TI's behavior was giving orientation to the committee. Ten percent of the time he was asking for information; 9% of the time he was agreeing; and another 9% of his behavior was concerned with giving directions or suggestions. The EI: $\overline{\text{TI}}$  spent more of his time agreeing (15%), giving opinions (14%), and showing antagonism (12%) than did the EI:TI,

Table 21. Mean Differences Between the IDC Values of the Individuals on the Executive Committee by EI:TI Classification

|                      |                           | Committee Members |              |                                                 | Administrators                         |
|----------------------|---------------------------|-------------------|--------------|-------------------------------------------------|----------------------------------------|
| Actor                |                           | EI:TI<br>(B)      | EI:TI<br>(C) | $\overline{\text{EI:TI}}$<br>(g, h, n, u, v, w) | $\overline{\text{EI:TI}}$<br>(i, o, p) |
| Committee<br>Members | EI:TI                     | --                | -.03         | .04                                             | .25                                    |
|                      | EI:TI                     |                   | --           | -.25                                            | .27                                    |
|                      | $\overline{\text{EI:TI}}$ |                   |              | --                                              | .04                                    |
| Administrators       | $\overline{\text{EI:TI}}$ |                   |              |                                                 | --                                     |

but he spent less of his time giving information (29%). The other members of the committee correspond very closely to the EI:TI in each category but tended to spend somewhat more of their time giving information (39%). The administrators were largely concerned with giving information (57% of their time) and evaluations (13%).

One of the most interesting findings was the high rate of activity of the EI:TI. His mean number of acts per meeting was 487. Although it appears to be extremely high in comparison with other classification means, this comparison is somewhat misleading. The other classifications (e.g.,  $\overline{\text{EI:TI}}$ s) have more than one member in them, some members of whom are active and some of whom are not. For example, one EI:TI on the committee had a mean of 440 acts per meeting (h). The director of the hospital had a mean of 419 acts per executive committee meeting. It is apparent though,

Table 22. Profile of Percentage Distribution of Interaction by Bales' Categories by EI and TI Classification  
for Executive Committee Members and Administrators (Two Meetings)

| Bales' Categories                                      | Committee Members |              |                             | Administrators     |               |       | Total<br>EI:TI's | Total<br>Group |
|--------------------------------------------------------|-------------------|--------------|-----------------------------|--------------------|---------------|-------|------------------|----------------|
|                                                        | EI:TI<br>(B)      | EI:TI<br>(C) | (g, h, n, u, v, w)<br>EI:TI | (i, o, p)<br>EI:TI | Total<br>EI's |       |                  |                |
| 1. Shows Solidarity                                    | 1                 | 4            | 0                           | 1                  | 2             | 0     | 1                |                |
| 2. Shows Tension Release                               | 4                 | 5            | 4                           | 5                  | 5             | 5     | 4                |                |
| 3. Agrees                                              | 9                 | 15           | 11                          | 11                 | 12            | 11    | 11               |                |
| 4. Gives Suggestion, Direction                         | 9                 | 8            | 7                           | 2                  | 8             | 5     | 6                |                |
| 5. Gives Opinion, Evaluation                           | 7                 | 14           | 11                          | 13                 | 10            | 12    | 11               |                |
| 6. Gives Orientation, Information                      | 49                | 29           | 38                          | 57                 | 39            | 47    | 46               |                |
| 7. Asks for Orientation, Information                   | 10                | 5            | 11                          | 2                  | 8             | 7     | 8                |                |
| 8. Asks for Opinion, Evaluation                        | 1                 | 2            | 3                           | 0                  | 1             | 2     | 2                |                |
| 9. Asks for Suggestion, Direction                      | 1                 | 1            | 2                           | 1                  | 1             | 2     | 1                |                |
| 10. Disagrees                                          | 2                 | 4            | 3                           | 3                  | 3             | 3     | 3                |                |
| 11. Shows Tension                                      | 1                 | 1            | 2                           | 0                  | 1             | 1     | 1                |                |
| 12. Shows Antagonism                                   | 6                 | 12           | 8                           | 4                  | 9             | 6     | 6                |                |
| Total Per Cent                                         | 100               | 100          | 101                         | 99                 | 99            | 100   | 100              |                |
| Total N Acts<br>(2 meetings)                           | 973               | 195          | 1,208                       | 968                | 1,168         | 2,176 | 3,344            |                |
| $\bar{X}$ Number of Acts per<br>Individual per Meeting | 487               | 98           | 151                         | 242                | 292           | 272   | 209              |                |

that the community influentials are more active than the committee non-influentials ( $\bar{X}$ 's = 292 versus 121) and somewhat more active than the administration ( $\bar{X}$ 's = 292 versus 242). Two possible reasons for the high activity rate of the EI:TI at these meetings are: first, he was the chairman of the committee; and second, he was proposing that the committee approve the acquisition of real estate adjacent to the hospital and the  $\bar{E}\bar{I}:\bar{T}\bar{I}$ 's were against it (for the most part) since the hospital was going through an expansion program and was heavily indebted. The fact that the property was eventually acquired is an independent measure of the power of the EI:TI. He was also the chairman of the united community hospital expansion board and a good proportion of his activity at both meetings was involved in explaining the plans and results of that board. Table 23 contains the list of major topics which were covered in these two meetings and the observer's evaluation of the extent of disagreement.

Table 23. List of Topics Covered by the Executive Committee in Two Meetings

| Subject                                        | Presence of Disagreement |
|------------------------------------------------|--------------------------|
| Financial Report                               | No                       |
| State and County Charge Offs                   | Some                     |
| Building Program                               | No                       |
| Control of Out-patient Traffic in Nursing Home | Some                     |
| Surgery Scheduling and Occupancy               | No                       |
| Foundations and Fund Raising                   | No                       |
| Acquisition of Real Estate                     | Yes                      |
| Blue Cross Formula Problem                     | No                       |

Table 24 contains the mean percentage of interaction per person in each category that is accounted for by each classification of membership on the committee. It is interesting to note that the one EI:TI accounted for a greater proportion of the activity in every category except one, where the EI:TI accounted for slightly more of the solidarity expressed. The EI:TI accounted for 40% of the directions, 37% of the questions asked, and ranged from 20% to 28% of each of the remaining categories except for requests for directions (13%). This is further evidence of his high rate of activity.

Among the non-influentials, the administrators were, in general, highest in the positive emotional areas (categories 2 and 3), attempted answers (categories 5 and 6), and disagreement (category 10); the committee members showed slightly more solidarity, control, questions asked (categories 7, 8, 9), and negative reactions (categories 11 and 12).

When the mean percentage of interaction in each category for influentials is compared with non-influentials, the influentials accounted for more interaction in each category than did the non-influentials except for asking directions.

## The Operations Committee

### Introduction

The operations committee is the "work horse" of the board of trustees. It meets bi-monthly compared to the monthly meeting of the executive committee and to the quarterly meeting of the board as a whole. It reviews in detail the operation of the hospital--the financial reports, wage surveys, parking surveys, construction programs, insurance coverage, etc. It is directly responsible to the executive committee and makes reports and recommendations to it.

Table 24. Mean Percentage of Interaction in Each of the Bales' Categories by EI and TI Classification for Executive Committee Members and Administrators (Two Meetings)

| Bales' Categories                    | Committee Members |              |                                           |                                  | Administrators |   | Total<br>$\frac{\text{EI:TI's}}{\text{EI:TI's}}$ |
|--------------------------------------|-------------------|--------------|-------------------------------------------|----------------------------------|----------------|---|--------------------------------------------------|
|                                      | EI:TI<br>(B)      | EI:TI<br>(C) | $\frac{\text{EI:TI}}{(g, h, n, u, v, w)}$ | $\frac{\text{EI:TI}}{(i, o, p)}$ | Total<br>EI's  |   |                                                  |
| 1. Shows Solidarity                  | 23                | 27           | 6                                         | 4                                | 25             | 6 |                                                  |
| 2. Shows Tension Release             | 28                | 6            | 5                                         | 12                               | 17             | 7 |                                                  |
| 3. Agrees                            | 26                | 8            | 6                                         | 10                               | 17             | 7 |                                                  |
| 4. Gives Suggestion, Direction       | 40                | 8            | 7                                         | 3                                | 24             | 6 |                                                  |
| 5. Gives Opinion, Evaluation         | 20                | 8            | 6                                         | 12                               | 14             | 8 |                                                  |
| 6. Gives Orientation, Information    | 31                | 4            | 5                                         | 13                               | 4              | 7 |                                                  |
| 7. Asks for Orientation, Information | 37                | 4            | 8                                         | 3                                | 21             | 7 |                                                  |
| 8. Asks for Opinion, Evaluation      | 25                | 9            | 10                                        | 2                                | 17             | 7 |                                                  |
| 9. Asks for Suggestion, Direction    | 13                | 3            | 11                                        | 6                                | 8              | 9 |                                                  |
| 10. Disagrees                        | 22                | 7            | 7                                         | 9                                | 15             | 8 |                                                  |
| 11. Shows Tension                    | 24                | 3            | 12                                        | 1                                | 14             | 8 |                                                  |
| 12. Shows Antagonism                 | 26                | 11           | 7                                         | 6                                | 18             | 7 |                                                  |

Our central hypothesis will be examined again within the context of this committee. Since there is only one influential on the committee, it is hypothesized that the influential is more active than, and exerts a greater degree of control over, the non-influentials on the committee.

### The Committee

Table 25 lists the members of the committee, their EI:TI classification, their primary occupational identification and economic unit. The committee is composed of four representatives of the board of trustees, two representatives of the woman's board of managers, and in addition, is attended by three or four members of the administrative staff. They are not voting members of the committee, however.

The chairman of the committee is a vice-president of a financially prominent economic unit in the community. The chairman of the board (and chairman of the executive committee), who is an EI:TI, is also on the committee. The two representatives of the woman's board of managers are active business women in the community and are both widows. One is the president of a construction supply firm.

Table 26 presents the data for the test of the control aspect of the central hypothesis. It can be seen that the hierarchy of control pattern remains the same. The EI:TI had the highest mean index of control ( $\bar{X} = .40$ ); the non-influentials on the committee had the next highest mean ( $\bar{X} = .38$ ), followed by the non-influential administrators ( $\bar{X} = .31$ ). The EI:TI exerted the most control over the administrators ( $\bar{X} = .56$ ) and less over the non-influentials on the committee ( $\bar{X} = .26$ ). The non-influentials on the committee concentrated their greatest efforts of control on the EI:TI ( $\bar{X} = .57$ ), followed by the administrators ( $\bar{X} = .39$ ) and their colleagues on the committee ( $\bar{X} = .34$ ). The administrators similarly concentrated their efforts on the EI:TI ( $\bar{X} = .35$ ), followed by the non-influentials on the committee

Table 25. Operations Committee Members by EL:TI Classification, Occupation, and Economic Unit

| Committee Member and Hospital<br>Unit Represented | Occupation and<br>Economic Unit                                           | Economic                       |                                | Top         |             |
|---------------------------------------------------|---------------------------------------------------------------------------|--------------------------------|--------------------------------|-------------|-------------|
|                                                   |                                                                           | Influential<br>Classification* | Influential<br>Classification* | Influential | Influential |
| 1. Board of Trustees                              | Publisher, Editor and General<br>Manager of Newspaper                     | B                              | B                              | B           | B           |
| 2. Board of Trustees                              | Vice President, Financial Unit<br>(Savings Co.) and Committee<br>Chairman | e                              | e                              | e           | e           |
| 3. Board of Trustees                              | Vice President, Metal Co.                                                 | h                              | h                              | h           | h           |
| 4. Board of Trustees                              | President and General Manager<br>Iron Co.                                 | l                              | l                              | l           | l           |
| 5. Woman's Board of Managers                      | President and widow of ex-president,<br>Construction Supply Co.           | m                              | m                              | m           | m           |
| 6. Woman's Board of Managers                      | Realtor, and widow of Realtor                                             | n                              | n                              | n           | n           |
| Administration                                    | Non-Members (Administration)                                              | i                              | i                              | i           | i           |
| Administration                                    | Director of the Hospital                                                  | o                              | o                              | o           | o           |
| Administration                                    | Assistant Director                                                        | p                              | p                              | p           | p           |
| Administration                                    | Comptroller                                                               | q                              | q                              | q           | q           |
| Administration                                    | Resident Administrator                                                    | q                              | q                              | q           | q           |

\* A capital letter designates an influential and the lower case letter designates a non-influential in both classifications.

( $\bar{X} = .17$ ), and true to form, expend the least amount of control efforts among their fellow administrators.

Table 26. Means of Index of Directiveness of Control of EI's and TI's by Committee Membership on the Operations Committee (Four Meetings)

|                      |                           | Committee Members |                                              | Administrators                            | Total |
|----------------------|---------------------------|-------------------|----------------------------------------------|-------------------------------------------|-------|
| Actors               |                           | EI:TI<br>(B)      | $\overline{\text{EI:TI}}$<br>(e, h, l, m, n) | $\overline{\text{EI:TI}}$<br>(i, o, p, q) |       |
| Committee<br>Members | EI:TI                     | --                | .26                                          | .56                                       | .40   |
|                      | $\overline{\text{EI:TI}}$ | .57               | .34                                          | .39                                       | .38   |
| Administrators       | $\overline{\text{EI:TI}}$ | .35               | .17                                          | .10                                       | .31   |

The mean differences, the final measurement of control, are presented in Table 27. Inspection of that table shows that the community influential lost out in control to the non-influentials on the committee ( $\bar{X}_d = -.31$ ). However, he maintained his control pattern over the administrators ( $\bar{X} = .21$ ), as did the non-influentials on the committee ( $\bar{X} = .22$ ).

In order to examine the activity aspect of the central hypothesis for this committee Tables 28 and 30 were prepared. Table 28 contains the percentage distribution of each EI:TI classification of committee members and the administrators. The community influential concentrated his interaction in giving information (35%), giving opinions and evaluation (18%), and giving directions or suggestions (11%). The non-influentials on the committee spent a disproportionate amount of time in agreeing with the

Table 27. Mean Differences Between the IDC Values of the Individuals on the Operations Committee by EI:TI Classification (Four Meetings)

|                   | Actors                                      | Committee Members |                                                                | Administrators                                              |
|-------------------|---------------------------------------------|-------------------|----------------------------------------------------------------|-------------------------------------------------------------|
|                   |                                             | EI:TI<br>(B)      | $\overline{\text{EI}}:\overline{\text{TI}}$<br>(e, h, l, m, n) | $\overline{\text{EI}}:\overline{\text{TI}}$<br>(i, o, p, q) |
| Committee Members | EI:TI                                       | --                | -.31                                                           | .21                                                         |
|                   | $\overline{\text{EI}}:\overline{\text{TI}}$ |                   | --                                                             | .22                                                         |
| Administrators    | $\overline{\text{EI}}:\overline{\text{TI}}$ |                   |                                                                | --                                                          |

other members (19%)--although they tended to have a high percentage in this category generally. In the four meetings of the committee, they were low in giving orientation (18%). The administrators followed true to their pattern; highest in giving information (46%), followed by giving opinions and evaluations (20%) and agreement (12%). Conflict between the EI:TI and the committee non-influentials is evident by the 9% activity rate in showing antagonism, compared to only 3% for the administrators.

Again, the EI:TI had the highest rate of activity ( $\bar{X} = 424$ ), compared with the non-influentials ( $\bar{X} = 257$ ) and the administrators ( $\bar{X} = 187$ ). Although the non-influential chairman of the committee had the highest mean number of interactions (802), nevertheless, as a variable it appears that the EI:TI had a higher mean number of acts than non-influentials on the average ( $\bar{X}$ 's = 424 versus 257). The non-influentials, in turn, had a higher mean than the administrators ( $\bar{X}$ 's = 257 versus 187).

Table 28. Profile of Percentage Distribution of Interaction by Bales' Categories, by EI and TI Classification for Operations Committee Members and Administrators (Four Meetings)

| Bales' Categories                                   | Committee Members<br>EI:TI<br>(B) | $\frac{\text{EI:TI}}{\text{EI:TI}}$<br>(e, h, l, m, n) | Administrators<br>$\frac{\text{EI:TI}}{\text{EI:TI}}$<br>(i, o, p, q) | Total<br>Group |
|-----------------------------------------------------|-----------------------------------|--------------------------------------------------------|-----------------------------------------------------------------------|----------------|
| 1. Shows Solidarity                                 | 1                                 | 2                                                      | 1                                                                     | 1              |
| 2. Shows Tension Release                            | 3                                 | 3                                                      | 4                                                                     | 3              |
| 3. Agrees                                           | 9                                 | 19                                                     | 12                                                                    | 15             |
| 4. Gives Suggestion, Direction                      | 11                                | 9                                                      | 6                                                                     | 8              |
| 5. Gives Opinion, Evaluation                        | 18                                | 16                                                     | 20                                                                    | 17             |
| 6. Gives Orientation, Information                   | 35                                | 18                                                     | 46                                                                    | 29             |
| 7. Asks for Orientation, Information                | 5                                 | 13                                                     | 3                                                                     | 9              |
| 8. Asks for Opinion, Evaluation                     | 3                                 | 3                                                      | 1                                                                     | 2              |
| 9. Asks for Suggestion, Direction                   | 0                                 | 2                                                      | 1                                                                     | 1              |
| 10. Disagrees                                       | 4                                 | 6                                                      | 4                                                                     | 5              |
| 11. Shows Tension                                   | 2                                 | 1                                                      | 0                                                                     | 1              |
| 12. Shows Antagonism                                | 9                                 | 9                                                      | 3                                                                     | 8              |
| Total Per Cent                                      | 100                               | 101                                                    | 101                                                                   | 99             |
| Total N Acts (4 meetings)                           | 1,695                             | 3,850                                                  | 2,052                                                                 | 7,597          |
| $\bar{X}$ Number of Acts per Individual per Meeting | 424                               | 257                                                    | 187                                                                   | 262            |

Table 29 contains the list of topics which were discussed in the four meetings analyzed. Three topics aroused some "heated" discussions, and again an extended argument centered around the acquisition of real estate between the EI:TI and the chairman of the committee ("e") and actor "h" another non-influential on the committee. Both non-influentials were against the acquisition when it was first brought up and "h" continued the opposition when the resolution was reported in the executive committee meeting.

Table 29. List of Topics Covered by the Operations Committee in Four Meetings

| Subject                                  | Presence of Extensive Disagreement |
|------------------------------------------|------------------------------------|
| Financial Reports                        | No                                 |
| Acquisition of Real Estate               | Yes                                |
| Expansion of Fund Campaign               | No                                 |
| County and State Charge Offs             | No                                 |
| Creation of a New Subsidiary Corporation | Some                               |
| Building Program                         | No                                 |
| Renovation of Nurses Home                | Some                               |

Table 30 contains the mean percentage of interaction per person in each category that is accounted for by each classification of membership on the committee. What was most striking at this level was the fact that the EI:TI accounted for the largest share of the negative emotional reactions (categories 10, 11, and 12). For example, he accounted for 40% of the tension shown, 27% of the antagonism and 20% of the disagreements. This was a consequence of the conflict over the acquisition of real estate with

the non-influentials on the committee. The non-influentials also had a high proportion of interaction in emotional areas, but less than the single influential. The influential had the highest proportion of activity in 9 of the 12 categories, again further evidence of his activity.

The non-influential administrators, in the face of even greater conflict over the real estate issue participated very little in the meetings of the committee.

Table 30. Mean Percentage of Interaction in Each of the Bales' Categories By EI and TI Classification for Operations Committee Members and Administrators (Four Meetings)

| Bales' Categories                       | Committee Members |                                                                | Administrators                                              |
|-----------------------------------------|-------------------|----------------------------------------------------------------|-------------------------------------------------------------|
|                                         | EI:TI<br>(B)      | $\overline{\text{EI}}:\overline{\text{TI}}$<br>(e, h, l, m, n) | $\overline{\text{EI}}:\overline{\text{TI}}$<br>(i, o, p, q) |
| 1. Shows Solidarity                     | 11                | 14                                                             | 5                                                           |
| 2. Shows Tension Release                | 21                | 10                                                             | 8                                                           |
| 3. Agrees                               | 13                | 13                                                             | 6                                                           |
| 4. Gives Suggestion, Direction          | 29                | 12                                                             | 5                                                           |
| 5. Gives Opinion, Evaluation            | 23                | 9                                                              | 8                                                           |
| 6. Gives Orientation, Information       | 27                | 6                                                              | 10                                                          |
| 7. Asks for Orientation,<br>Information | 14                | 15                                                             | 2                                                           |
| 8. Asks for Opinion, Evaluation         | 25                | 14                                                             | 2                                                           |
| 9. Asks for Suggestion, Direction       | 5                 | 13                                                             | 7                                                           |
| 10. Disagrees                           | 20                | 12                                                             | 5                                                           |
| 11. Shows Tension                       | 40                | 12                                                             | 0                                                           |
| 12. Shows Antagonism                    | 27                | 12                                                             | 3                                                           |

### Summary and Interpretations

This chapter examined the central hypothesis of this study, that community influentials are actively involved in the decision-making process of the hospital and that they exert more control over the non-influentials in the two working committees of the board--the executive committee and the operations committee.

Contrary to the pattern found for the board, the community influentials did not exhibit a greater amount of attempts at control at the two committee levels of the decision-making structure. In the smaller committee and more informal setting,<sup>3</sup> where the influential was not chairman, the non-influentials actually had a higher mean difference of Index of Directiveness of Control over the community influentials as well as over the administrators. On one major issue resolved during these four meetings, the acquisition of real estate, they lost out to the recommendation of the community influential.<sup>4</sup> It is apparent from observation at each of the several levels of the decision-making hierarchy of the organization, that when issues were brought up, they were brought up at the lower levels where hostility, antagonisms, and pressures were openly brought to bear. However, the non-influentials were "out-maneuvered" as the issue went up the hierarchy of the organization

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<sup>3</sup>The meetings of the operations committee were held in the director's office as opposed to the larger lounge of the nursing home for the executive committee, and the conference room of the local newspaper for the board meetings.

<sup>4</sup>They were able to raise enough opposition to bargain with, however. They agreed to the acquisition of the property providing they could get a bank note to purchase the property rather than paying for it out of operating expenses as suggested by the economic influential. (This was not really a "bargaining factor" since the influential apparently had already informally contacted a local banker and had a verbal commitment to that effect. However, it apparently was treated in this manner as a face saving device.)

where the influentials had greater representation. At the board level, hostility and opposition were not generally brought out in the open.

It is interesting to note that no matter how intense the disagreement was at the lower levels of the organization, when the final vote was called for (either at the committee or board level), rarely was a negative vote cast.<sup>5</sup> For example, one issue concerning the plans for parking at the hospital was commented upon by an EI:TI on the board:

"Their suggestions [the operations committee's chaired by "e", a non-influential] I don't agree with, but I'm perfectly willing to accept your suggestion. [The EI:TI president of the board] [Laughter] Because I don't think in any institution of any kind today you can go to without free parking, whether it's retail, wholesale, manufacturing, or hospital. No matter what it is, I don't think it's possible. But I agree with you [the EI:TI president of the board]; I'll go along with it [on pay parking]."<sup>6</sup>

In terms of the profiles of interaction, the community influentials consistently dominated the interaction vis á vis the other members of the committees. When a decision was challenged they reacted negatively. The non-influentials on the committees also accounted for a fairly large share of both positive and negative emotions but less than the influentials. The administrators, in the face of conflict between the influentials and non-influentials, tended to reduce their amount of interaction en toto.

The central hypothesis was not clearly supported at the lower levels of the decision-making structure of the hospital. Although the community influentials were rigorously active they were out-manned by the control efforts of the non-influentials. The influentials were only able to control

<sup>5</sup>A reading of the minutes over a 50 year span appears to support this finding as a definite pattern. Not a single negative vote on any resolution was found recorded in a 50% random sample of minutes scanned.

<sup>6</sup>Taken from the verbatim electrical recordings of the board of trustees meeting, June 26, 1959.

the decisions of the committees by taking the issue to higher levels in the organization where they have greater support and where the non-influentials were more reluctant to engage in open opposition to the proposals.

## CHAPTER V

### THE EMPIRICAL MEASUREMENT OF CONTROL AND PARTICIPATION IN THE ADMINISTRATIVE CONFERENCE

The individuals who participate in the administrative conference are listed in Table 31. This committee is composed of the director of the hospital, the two assistant directors, the director of nursing, the comptroller, the resident administrator,<sup>1</sup> and on specified days, the chief of the medical staff.

Table 31. Members of the Administrative Conference by Table Code and Position

| Title or Position        | Table Code |
|--------------------------|------------|
| Director of the Hospital | i          |
| Assistant Director "o"*  | o          |
| Assistant Director "s"*  | s          |
| Comptroller              | p          |
| Director of Nursing      | r          |
| Chief of Medical Staff   | t          |
| Resident Administrator   | q          |

\* See Figure 1, page 6 for the departments and the areas of responsibility of these individuals.

<sup>1</sup>Resident administrators are graduate students in hospital administration who serve a residency for one year as a condition for the partial fulfillment of the requirements of a master's degree in administration.

The hypothesis to be tested in this chapter is that the director and the chief of the medical staff, by virtue of their positions, will be the most active participants in the decision-making process and will exert more control over the administrative staff than they in turn will over the two positional influentials.

Tables 32, 33 and 34 present the data to test the control aspect of this hypothesis. The mean Index of Directiveness of Control values for the five meetings analyzed are presented for each in Table 32. The director of the hospital exerted the least amount of control ( $\bar{X} = .09$ ) over the chief of staff which has been a common pattern among high status occupants at all levels of the organization. However, the physician's control mean over the director was .36. What is quite interesting is that the director of nursing had a high mean index of control in her interaction with the chief of staff ( $\bar{X} = .81$ ). Some of the extended interaction between these two individuals involved discussion about the hospital (e.g., nurses) being caught between two conflicting orders from two physicians concerning the discharge of a patient. Both she and the assistant director "o" were offering suggestions in an attempt to push for a decision which would clarify the discharge procedure. Problems involving patient identification and practices which might lead to possible lawsuits were also discussion topics.

Table 33 contains the means for the two positional influentials and the non-influentials (the administrative staff). It can be seen that the positional influentials exerted more control over the administrative staff than they did among themselves ( $\bar{X}$ 's = .36 and .23 respectively), and more than the administrative staff expended upon the positional influentials ( $\bar{X} = .27$ ). The administrative staff expended more control efforts among themselves ( $\bar{X} = .33$ ) than they did over the positional influentials ( $\bar{X} = .27$ ). If the difference between the means is taken as the final measure of control, it is apparent that the positional influentials had the higher control scores than did the administrative staff ( $\bar{X}_d = .36 - .27 = .09$ ). When this table is

Table 32. Means of the Index of Directiveness of Control for the Director, Chief of Medical Staff, and Assistant Administrators (Five Meetings)

| Position                    | Actors | Positional<br>Influentials |      |     | Administrative<br>Staff |     |     |     |
|-----------------------------|--------|----------------------------|------|-----|-------------------------|-----|-----|-----|
|                             |        | i                          | t    | o   | s                       | p   | r   | q   |
| Director of the<br>Hospital | i      | --                         | .09  | .37 | .36                     | .42 | .31 | .31 |
| Chief of Medical Staff      | t      | .36                        | --   | .50 | .00                     | .00 | .23 | .40 |
| Assistant Director          | o      | .12                        | .25  | --  | .21                     | .36 | .25 | .38 |
| Assistant Director          | s      | .16                        | .00  | .23 | --                      | .31 | .37 | .13 |
| Comptroller                 | p      | .37                        | .00  | .32 | .36                     | --  | .42 | .00 |
| Director of Nursing         | r      | .28                        | .81  | .22 | .27                     | .25 | --  | .36 |
| Resident Administrator      | q      | .13                        | .00* | .00 | 1.00                    | .00 | .15 | --  |

\*.00 value, but index contains interaction.

Table 33. Mean Index of Directiveness of Control Values\* of Positional Influentials and Administrative Staff

|                            | Positional<br>Influentials<br>(i, t) | Administrative<br>Staff<br>(o, s, p, r, q) |
|----------------------------|--------------------------------------|--------------------------------------------|
| Positional<br>Influentials | .23                                  | .36                                        |
| Administrative<br>Staff    | .27                                  | .33                                        |

\* Means are computed on indexes with any interaction.

broken down by each participant some interesting results are found.

Table 34 contains the mean differences for each of the participants in this unit.

Table 34. Difference Between the Mean IDC Values of Each Participant in the Administrative Conference

| Individuals                 |   | Positional<br>Influentials |      | Administrative Staff |      |      |      |      |
|-----------------------------|---|----------------------------|------|----------------------|------|------|------|------|
|                             |   | i                          | t    | o                    | s    | p    | r    | q    |
| Director                    | i | --                         | -.27 | .25                  | .20  | .05  | .03  | .18  |
| Chief of Staff              | t | --                         | --   | .25                  | .00  | .00  | -.58 | .27  |
| Assistant Director          | o | --                         | --   | --                   | -.02 | .04  | .03  | .38  |
| Assistant Director          | s | --                         | --   | --                   | --   | -.05 | .10  | -.87 |
| Comptroller                 | p | --                         | --   | --                   | --   | --   | .17  | .00  |
| Director of Nursing         | r | --                         | --   | --                   | --   | --   | --   | .21  |
| Resident Adminis-<br>trator | q | --                         | --   | --                   | --   | --   | --   | --   |

The director is controlled by the chief of staff ( $\bar{X}_d = -.27$ ) but he controlled the rest of his administrative staff. The chief of staff controlled two of the five administrative assistants but is controlled by the director of nursing ( $\bar{X}_d = -.58$ ). Assistant director "o" had a small margin of control over the comptroller ( $\bar{X}_d = .04$ ) and the director of nursing ( $\bar{X}_d = .03$ ), lost by a small margin to assistant director "s", and expended a higher rate of control over the resident ( $\bar{X}_d = .38$ ). The resident, in turn, was controlled by everyone except that he controlled the assistant director "s" (whom he finally replaced when he completed his residency). The director of nursing concentrated her control efforts on the physician ( $\bar{X}_d = .58$ ), but is then directed by everyone else in the conference. The comptroller exerted very little control one way or another (his mean differences ranged from  $-.05$  to  $.05$ ) except with the director of nursing ( $\bar{X}_d = .17$ ).

It may be concluded that on the basis of these five meetings, the positional influentials did exert more control over the administrative staff than the converse. However, by computing the differences between the means of control for each individual, it was found that the director of nursing expended more of her control efforts over the chief of staff, and he in turn directed his control efforts over the director of the hospital.

Tables 35 and 36 present the data to test the activity aspect of the hypothesis and the profile of behavior of each participant in the administrative conference.

Table 35 contains the profile of behavior for the two positional influentials (the director and chief of staff) and the administrative staff. The two classifications did not differ in area A (positive reactions). Both the positional influentials and the administrative staff expended 21% of their activity in this area. The administrative staff expended slightly more interaction in attempting to answer questions (59% versus 51% for the influentials), but both classifications concentrated the same amount of activity in asking questions (10%). The influentials tended to exert more negative reactions than did the assistant administrators (18% versus 11%). According to this table, the influentials were the most active participants. Their mean number of acts per individual per meetings was 316 compared to 237 for the members of the administrative staff. This comparison is somewhat misleading. Table 36 contains a finer breakdown for each individual. The director is by far the most active participant ( $\bar{X}$  number of acts = 465), and his high activity rate substantially raised the mean for influentials. The chief of staff had the lowest activity rate with the exception of the resident administrator who played a passive "student role" (he was the recording secretary for the administrative and operation's committee meetings). Assistant administrator "o" was the next most active person ( $\bar{X}$  = 337) followed by the director of nursing services ( $\bar{X}$  = 328). It would seem that the activity hypothesis of the chief of staff (as a positional influential) was not supported.

Table 35. Profile of Percentage Distribution of the Positional Influentials and Administrative Staff  
(Five Meetings)

| Area * | Bales' Categories                               | Positional<br>Influentials<br>(i, t) | Administrative<br>Staff<br>(o, s, p, r, q) | Total<br>Group |
|--------|-------------------------------------------------|--------------------------------------|--------------------------------------------|----------------|
| A      | 1. Shows Solidarity                             | 3                                    | 2                                          | 2              |
|        | 2. Shows Tension Release                        | 11                                   | 8                                          | 9              |
|        | 3. Agrees                                       | 7                                    | 11                                         | 10             |
| B      | 4. Gives Suggestion, Direction                  | 7                                    | 8                                          | 8              |
|        | 5. Gives Opinion, Evaluation                    | 16                                   | 16                                         | 16             |
|        | 6. Gives Orientation, Information               | 28                                   | 35                                         | 33             |
| C      | 7. Asks for Orientation, Information            | 7                                    | 7                                          | 7              |
|        | 8. Asks for Opinion, Evaluation                 | 2                                    | 2                                          | 2              |
|        | 9. Asks for Suggestion, Direction               | 1                                    | 1                                          | 1              |
| D      | 10. Disagrees                                   | 4                                    | 3                                          | 3              |
|        | 11. Shows Tension                               | 6                                    | 3                                          | 4              |
|        | 12. Shows Antagonism                            | 8                                    | 5                                          | 6              |
|        | Total Per Cent                                  | 100                                  | 101                                        | 101            |
|        | Total Number Acts                               | 2, 025                               | 5, 206                                     | 7, 231         |
| <hr/>  |                                                 |                                      |                                            |                |
|        | $\bar{X}$ Number Acts per Person<br>per Meeting | 316                                  | 237                                        | 258            |

\* A = Positive Reactions; B = Attempted Answers; C = Questions; D = Negative Reactions.

Table 36. Profile of Percentage Distribution of the Hospital Director, Chief of Medical Staff, and the Administrative Staff (Five Meetings)

| Bales' Categories                       | Chief of Medical Staff |            |                         | Director of Nursing     |                  |              | Resident Administrator |
|-----------------------------------------|------------------------|------------|-------------------------|-------------------------|------------------|--------------|------------------------|
|                                         | Director<br>i          | Staff<br>t | Assistant Director<br>o | Assistant Director<br>s | Comptroller<br>p | Nursing<br>r |                        |
| 1. Shows Solidarity                     | 3                      | 6          | 2                       | 3                       | 1                | 1            | 1                      |
| 2. Shows Tension Release                | 12                     | 1          | 12                      | 10                      | 6                | 4            | 24                     |
| 3. Agrees                               | 7                      | 10         | 11                      | 10                      | 13               | 10           | 6                      |
| 4. Gives Suggestion, Direction          | 7                      | 1          | 8                       | 5                       | 9                | 10           | 4                      |
| 5. Gives Opinion, Evaluation            | 15                     | 28         | 13                      | 13                      | 21               | 17           | 9                      |
| 6. Gives Orientation, Information       | 28                     | 33         | 30                      | 40                      | 29               | 40           | 18                     |
| 7. Asks for Orientation, Information    | 7                      | 4          | 9                       | 4                       | 9                | 7            | 20                     |
| 8. Asks for Opinion, Evaluation         | 2                      | 3          | 2                       | 1                       | 2                | 1            | 0                      |
| 9. Asks for Suggestion, Direction       | 1                      | 1          | 1                       | 1                       | 3                | 1            | 0                      |
| 10. Disagrees                           | 4                      | 6          | 3                       | 2                       | 2                | 4            | 5                      |
| 11. Shows Tension                       | 7                      | 1          | 4                       | 5                       | 1                | 1            | 1                      |
| 12. Shows Antagonism                    | 8                      | 7          | 5                       | 5                       | 3                | 5            | 11                     |
| Total Per Cent                          | 101                    | 101        | 100                     | 99                      | 99               | 101          | 99                     |
|                                         |                        |            |                         |                         |                  |              |                        |
| $\bar{X}$ N Acts per Person per Meeting | 465                    | 166        | 337                     | 230                     | 244              | 328          | 24                     |

To digress momentarily from the analysis of the profiles, Table 37 presents an interesting relationship. Whenever the director of the hospital and one or more of his assistants were out of town, it was noted who was "in charge" of the hospital during their absence. On one "lucky" occasion (from the standpoint of this research design) three of the administrators were away at one time which allowed the following rank order comparison to be made. Table 37 presents the heirarchy of authority for the hospital and the activity rates of the administrators.

Table 37. The Rank Order of Responsibility Among the Administration and Their Activity Rate

| Order of Responsibility<br>for the Hospital | Mean Activity Rate<br>per Meeting |
|---------------------------------------------|-----------------------------------|
| Director                                    | 465                               |
| Assistant Director "o"                      | 337                               |
| Director of Nursing                         | 328                               |
| Comptroller                                 | 244                               |
| Assistant Director "s"*                     | 230                               |
| or                                          |                                   |
| Resident Administrator*                     | 24                                |

\* The occasion never arose where the director had to choose between assistant director "s" and the resident administrator. Thus, the rank between these two is not differentiated. The resident, however, did replace "s" after he completed his degree, and the former was released.

Clearly, the heirarchy of authority among the administration was closely correlated with their activity rate.<sup>2</sup>

<sup>2</sup>There was also a perfect correlation between the activity rates of the top influentials on the board of trustees and the number of votes they received by the panel of "knowledgeables." Several studies have shown that

How do members of the administrative conference spend their time? Since Table 36 is so complex, Table 38 was prepared to compare the interaction areas of each participant. Table 38 shows that the director spent 50% of his time in the area of attempting to answer questions (category 6 = 29%; category 5 = 15%; category 4 = 7%). Only 10% of his time was spent in seeking the answers to problems (category 7 = 7%; category 8 = 2%; and category 9 = 1%). The social-emotional areas were almost balanced. He expended 22% of his interaction in the positive emotional area (category 2 = 12%; category 3 = 7%; and category 1 = 3%), and 19% in the negative emotional area (category 12 = 8%; category 11 = 7%; category 10 = 4%).

The chief of the medical staff expended a greater proportion of his time in attempting to answer questions (62%), and is exceeded in this area only by the director of nursing (67%). The comptroller had the next highest proportion in this area (59%) followed by the assistant director (58%). Since medical, nursing and financial problems were of most concern to this committee, the association between proportion of activity by area and the specific status occupant seems to have a direct relationship.

It is also interesting to note that assistant director "o", who is "second in command" had a profile quite similar to the director's,<sup>3</sup> except the director exhibited a slightly higher proportion of his activity in

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higher status persons tend to have a higher participation rate in group discussions. Caudill found that in the daily administrative conference of a psychiatric hospital, the senior staff participated more than the resident physicians who in turn participated more than the nurses and other personnel. See William Caudill, The Psychiatric Hospital as A Small Society, Cambridge, Mass.: Harvard University Press, 1958, pp. 243-251. Strodbeck, James and Hawkins also found a close association between occupational status and participation rate in mock jury deliberations. See F. L. Strodbeck, R. M. James, and C. Hawkins, "Social Status in Jury Deliberations," in E. Maccoby, T. Newcomb and E. Hartley, (eds.) Readings in Social Psychology, 3rd ed., New York: Henry Holt and Company, 1958, pp. 379-388.

<sup>3</sup>They are also quite close personal friends.

Table 38. Summary of Profile Percentages by Area of Interaction for Administrative Conference

| Area of Interaction                                 | Director<br>i | Chief of<br>Medical Staff<br>t | Assistant<br>Director<br>o | Assistant<br>Director<br>s | Comp-<br>troller<br>p | Director of<br>Nursing<br>r | Resident<br>Administrator<br>q |
|-----------------------------------------------------|---------------|--------------------------------|----------------------------|----------------------------|-----------------------|-----------------------------|--------------------------------|
| A. Positive Reactions<br>(Categories 1, 2 and 3)    | 22            | 17                             | 25                         | 23                         | 20                    | 15                          | 31                             |
| B. Attempted Answers<br>(Categories 4, 5 and 6)     | 50            | 62                             | 51                         | 58                         | 59                    | 67                          | 31                             |
| C. Questions<br>(Categories 7, 8 and 9)             | 10            | 8                              | 12                         | 6                          | 14                    | 9                           | 20                             |
| D. Negative Reactions<br>(Categories 10, 11 and 12) | 19            | 14                             | 12                         | 12                         | 6                     | 10                          | 17                             |
| Total Per Cent                                      | 101           | 101                            | 100                        | 99                         | 99                    | 101                         | 99                             |

antagonistic reactions to the proceedings of the committee. The resident administrator, again playing the student role, exhibited the highest proportion of his activity in asking questions (20%), and exhibiting "good cheer," (31%) of his activity was in the positive emotional area.

Table 39 compares the percentage distribution of interaction by area for Caudill's administrative conference in a psychiatric hospital with the distribution of interaction of the administrative conference of the community general hospital in the present study for several role groups. It should be pointed out that comparisons are between several actors for each role group in the psychiatric hospital committee and one physician (the chief of staff), one nurse (director of nursing), and one director (who has no counterpart in the psychiatric committee, since the head of that hospital was a physician).

Several over-all differences are immediately apparent. Much more of the time of the administrative committee of the general hospital was spent in the social-emotional areas. The average percentage of time the role groups in the general hospital spent in positive reactions was 20% compared to 8% for the role groups in the psychiatric hospital. The role groups spent 13% of their time in negative reactions compared to 8% in the psychiatric hospital. The difference between positive and negative reactions was in favor of the general hospital committee (7% versus 0%).

When role groups within the two committees are compared, the physician in the general hospital spent more of his time in positive reactions (17% versus 7%, respectively) and negative reactions (14% versus 8%, respectively), and less time in attempting to answer questions (62% versus 72%, respectively).

The comparisons between the nurses' profiles are remarkably similar for each area of interaction. In fact, the two profiles did not differ by more than 3% for any one area. Some interesting between-group comparisons are present, however. The nurses in the psychiatric hospital committee

Table 39. Comparison of the Percentage Distributions of Interaction by Bales' Four Areas for the Daily Administrative Conference of a Psychiatric Hospital and the Administrative Conference of a Community General Hospital for Several Role Groups

| Area of Interaction<br>(Total N Acts) | Psychiatric Hospital* |        |       |               | Community General Hospital |       |          |               |
|---------------------------------------|-----------------------|--------|-------|---------------|----------------------------|-------|----------|---------------|
|                                       | Physi-<br>cians**     | Nurses | Other | Comm.<br>Avg. | Physi-<br>cian             | Nurse | Director | Comm.<br>Avg. |
|                                       | (8, 214)              |        |       |               | (7, 231)<br>(*Others)      |       |          |               |
| A. Positive Reactions                 | 7                     | 13     | 11    | 8             | 17                         | 15    | 22       | 20            |
| B. Attempted Answers                  | 77                    | 64     | 76    | 76            | 62                         | 67    | 50       | 56            |
| C. Questions                          | 7                     | 11     | 11    | 8             | 8                          | 9     | 10       | 10            |
| D. Negative Reactions                 | 8                     | 12     | 12    | 8             | 14                         | 10    | 19       | 13            |
| Total Per Cent                        | 99                    | 100    | 100   | 99            | 101                        | 101   | 101      | 99            |

\*Taken from W. Caudill, op. cit., Tables 10-13, 10-15, pp. 253-255.

\*\*Includes senior and resident staff combined.

spent proportionately less of their time in attempting to answer questions in comparison to other role partners in the committee, whereas the nurse in the general hospital committee spent proportionately more of her time in attempting to answer questions. This may be because the nurse in the general hospital administrative committee is responsible to the lay administrator and took an active role in resolving hospital decisions. In this case, she was often supported by the administrators in taking issue with the chief of staff. In the psychiatric hospital, the nurses are responsible to the physicians and the chief of staff was also a physician. In such a milieu, nurses are perhaps more reluctant to provide answers to problems raised.

There is no counter role partner in the psychiatric hospital to the lay director and the administrative staff of the general hospital, nor are there counterparts to the "other" roles of the psychiatric hospital in the administrative conference in the general hospital. Nevertheless, it can be seen that the administrators devoted proportionately less time to the problem-solving or task areas (B and C) than the physicians and nurses in both types of hospitals, and proportionately more time in the social-emotional areas (A and D).

### Summary and Conclusion

It was hypothesized that the director of the hospital and the chief of the medical staff, by virtue of occupying two seemingly important statuses in the organization, would be the most active participants in the decision-making process and would exert more control over the administrative staff than the latter, in turn, would exert over the two positional influentials.

The hypothesis was supported in that the positional influentials had a higher mean difference score ( $\bar{X}_d = .09$ ) over the administrative staff. By examining the mean differences between each participant, it was found that the chief of staff directed his control efforts over the director; the director in turn directed his control over all the administrative staff,

and the director of nursing concentrated her control efforts on the chief of the medical staff.

The positional influentials also were more active participants in the decision-making process than the administrative staff ( $\bar{X}$  number of acts = 316 versus 237, respectively). However, this difference was largely attributable to the extremely high rate of activity of the director ( $\bar{X}$  = 465) rather than to the chief of staff whose mean number of acts was next to the lowest in the committee (166). A direct relationship between the rank of the members of the committee and their activity rate was observed.

The director of nursing and the chief of staff spent proportionately more of their time attempting to answer questions (67% and 62%, respectively) compared to the director (50%) and the administrative assistants (51%, 58%, 59%, and 31%). The resident administrator, the assistant administrators, and the director of the hospital spent proportionately more of their time in the social-emotional areas than did the physician and nurse.

When the administrative conference of a psychiatric hospital was compared with the administrative committee of the general hospital, it was found that the role groups in the general hospital spent more of their time in the social-emotional areas, and less of their time in the task or problem-solving areas. The physician in the general hospital spent less time in problem-solving areas than the physicians in the psychiatric hospital setting. The nurses in both settings had similar profiles but, in comparison with the physicians in the group, the nurse in the general hospital spent more of her time in the task area than her counter role partners in the psychiatric setting. This was interpreted in terms of differences in the composition of the role-partners in the committee (lay administrators in the general setting; physicians in the psychiatric setting). The administrators spent proportionately less time in the task areas and more time in the social-emotional areas than the physicians and nurses in both types of hospitals.

## CHAPTER VI

### SUMMARY AND CONCLUSIONS

This study has been concerned with the consequences of systemic linkage of community influentials on the decision-making process of a community general hospital. The central question which guided the research design was "to what extent do community influentials actively participate in and control or influence the decision-making process of one community organization--a non-profit general hospital. The extent of overlapping representation of influentials in the major decision-making units (the board, two working committees, and the administrative committee) was examined. The design to assess the consequences of linkage in the organization was essentially twofold. First it provided a methodological procedure by which the particular process of decision-making could be observed at various levels of the organization--Bales' interaction process. It provided a cross-validation of two commonly used measurement systems for identifying community influentials and predicting their control--the reputational and positional techniques, by using Bales' Index of Directiveness of Control based on observations of interaction rather than "observations" elicited from structured or unstructured questionnaires about who said "who did what" on a specific decision. In order to provide a test of validation, a hypothesis concerning what the reputational and positional techniques are supposed to predict was formulated. This hypothesis took the operational form that community influentials are the most active participants in the decision-making process of the organization and exert more control over the non-influentials than the latter, in turn, exert over the influentials.

Since community influentials interact at different levels of decision-making in the organization the hypothesis was tested at each level of the decision-making hierarchy. In that manner the consequences of linkage within the organization were examined.

Chapter II presented a historical analysis of the participation pattern of economic influentials over a 50 year period (1910-1959). That chapter examined the "withdrawal" hypothesis of Schulze that economic influentials were withdrawing from local decision-making participation. It was found that economic influentials declined slightly in representation on the board of trustees, but the decline was not statistically significant. For the past 30 years, a small but definite decline in influential representation in all board offices combined was observed but the trend was more gradual than for any organization found in Cibola by Schulze or in Wheelsburg by Clelland. This pattern suggests that hospitals may remain the last organization of influential participation or that the rate of withdrawal is not uniform for all community organizations and of course may not be complete in any given community.

By examining other intra-organization statuses such as the office of president, committee chairmanships and membership, and also attendance patterns, evidence was found to support the Form and Miller hypothesis of increased influential participation at the strategic organizational level.

Chapter III examined the central hypothesis of control in the board of trustees. A definite hierarchy of control in the board was found. The economic influentials on the board exerted the most control over the non-influentials who were members of the hospital management staff, less control over the non-influentials who were members of the board, and least control was exerted among themselves. The same pattern was found for the top influentials.

The community influentials clearly dominated the proportion of activity at the board meeting, and accounted for the largest proportion of

interaction in the positive emotional area, the problem solving area, and in the area of asking questions. The non-influentials reacted to this by exhibiting a higher proportion of negative emotions. The central hypothesis was supported and the use of Bales' interaction process analysis validated the reputational and positional instruments for the board.

Chapter IV examined the central hypothesis of the study in two working committees of the board--the executive committee and the operations committee. Contrary to the pattern found in the board, the community influentials did not exhibit a greater amount of control at the committee level. In the smaller committee and more informal setting where the community influential was not chairman, the non-influentials had a higher mean of control over the community influentials and administrators. However, on the major "issue" resolved during this period of observation, they "lost out" to the decision of the community influential. It was apparent from observation at each level of the organization that when issues were brought up, they were brought up at the lower levels where hostility, antagonisms, and pressures were openly brought to bear. As a consequence of systemic linkage, the non-influentials were "out-maneuvered" as the issue was moved up the hierarchy of the organization where the influentials had greater representation and power. At the board level, hostility and opposition were not brought out in the open.

The community influentials concentrated on providing the information as they did in the board meetings, and they clearly dominated the activity of the committee including engagement in conflict with the non-influentials, contrary to the pattern on the board. The non-influentials expended less of their time in providing information and were high in the proportion of their time spent in positive and negative reactions. In the face of such conflict, the administrators showed little activity.

Chapter V examined the hypothesis that the director of the hospital and the chief of the medical staff, by virtue of occupying two seemingly

important statuses in the organization, would be the most active participants in the decision-making process and would exert more control over the administrative assistants than the latter, in turn, would exert over the two positional influentials in the administrative conference. The hypothesis was supported in that the positional influentials had a higher mean difference score over the administrative staff. By examining the mean differences between each status occupant it was found that the chief of staff directed his control efforts over the director, the director in turn directed his control efforts among all the administrative staff, and the director of nursing concentrated his control efforts on the chief of staff.

The two positional influentials were also more active participants than the administrative staff, however, this difference was largely attributable to the extremely high rate of activity of the director rather than the chief of staff. A direct relationship between the rank of the administrators in the committee and their rate of activity was found.

The director of nursing and the chief of staff spent proportionately more of their time attempting to answer questions compared to the director and the administrative assistants. The resident administrator, the assistant administrators, and the director of the hospital spent proportionately more of their time in the social-emotional areas than did the physician and nurse.

When the administrative conference of a psychiatric hospital was compared with the administrative committee of the general hospital it was found that the role groups in the latter spent more of their time in the social-emotional areas and less of their time in the task or problem-solving areas. The physician in the general hospital spent less time in the task area than his counterparts in the psychiatric conference. The nurses in both types of hospitals had very similar profiles but in comparison to the physicians in their groups the nurse in the general hospital spent more of her time in

the task area than her counterpart in the psychiatric conference. This was interpreted as a consequence of the differing composition of the committee. The lay administrators in the general hospital often supported the nurse in opposition to the one physician on committee decisions, which may explain why she was more active in problem solving than the nurse situated in a conference run by physicians. The administrators spent proportionately less time in the task areas and more time in the socio-emotional areas than the physicians and nurses in both types of hospitals.

Finally, in the Appendix, a critical analysis of the reliability procedure recommended by Bales and his co-workers for testing inter-rater reliability of categorization and unitization was presented. It was found that the use of chi-square as an index of goodness of fit was not an appropriate statistical procedure for estimating inter-rater reliability. An alternative statistical procedure was developed using the normal approximation of the binomial.

#### Limitations of the Study and Future Research

This study was primarily concerned with developing a methodological approach that would validate two measurement systems which identify community influentials and which would examine their role in the decision-making process of the administrative system of a community general hospital, as has been pointed out. In this regard, the study provides a methodological contribution to the analysis of the role of any type of status occupant within any organization in the community. However, there are both theoretical and methodological limitations to the study that should be briefly pointed out.

First, it must be observed that only 1 board meeting, 6 meetings of two working committees of the board, and 5 administrative committee meetings were analyzed in this study. Although 19,070 units of interaction were observed (far more than most contrived small group laboratory experiments utilize) such observations really constitute a short period of time in

the dynamic process of decision-making in a complex organization. Under these limitations it would not be surprising if the findings did not stand the test of replication since possible conditions affecting such interaction may change as the organization continues to operate.<sup>1</sup> For example, it may be that on a board with less community influential representation, the non-influentials would exert more control than they would on a board with more influential representation (e.g., a generalization based on our intra-organization finding). It may be that community influentials sitting on a board of a hospital operated by a religious order may defer to fiscal policy set forth by that order. It may be that community influentials on a board of a hospital that is supported by federal, state or city funds may not control fiscal policy. Or if a community power structure is bifurcated and influentials are more concerned with regional and national interests, they may not control policy on boards dominated by active local leaders (again, particularly if funds were allocated from a city council, etc.). These are just a few of the conditions that need further examination.

It should also be noted that decision-making is far more complex than discussed in this study particularly when put in the social context of a complex organization (and what organization is not complex in terms of the capacity of our present measurements?).

Policy may be pre-determined before the observed meeting is ever called to order. The administration may have been consulted prior to the board meeting, but never asked during the meeting what their recommendation might be for any given policy. Or conversely, the policy may

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<sup>1</sup>Nevertheless, in all fairness to the study, the evidence does contribute to a growing body of empirical data which demonstrate that community influentials, as measured, are the most active participants in the community decision-making process and exert control over that process. It further provides an example of how, within one community organization, the influentials are able to control policy by moving the issue up the hierarchy of the organization where they have greater representation and power.

be determined by influentials in committee meeting but never implemented in the organization by administration. Such problems are not controlled using the observational procedure of this study. A further limitation of this observational approach is that the norms of the particular role groups have not been mapped and thus the measurement of the extent of conformity or deviation from institutionalized control patterns was not possible. The effects of such variables must await further research before a very definite statement about the control of influentials in a community organization may be tendered with much confidence.

A legitimate methodological criticism that might be raised is that the writer was aware of the identity of the community influentials, and might he not tend to categorize the behavior of the participants to favor the influentials as far as control behavior is concerned? Utilizing a very small sample of interaction ( $N = 327$  acts), the writer's categorization was compared to one rater who was not aware of the identity of the community influentials. In this case, the other rater categorized more behavior in category 4, directs or controls, for the community influential than did the writer and similarly the mean index of control of the influential was higher by .17, than the writer's. In other words, for a very small sample, it would appear that the writer was somewhat conservative in categorizing control behavior of the influentials, or at least was not exhibiting a great deal of bias in the same direction as the results reported.

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## APPENDIX

### INTER-RATER RELIABILITY OF CATEGORIZATION: A METHODOLOGICAL CRITIQUE OF THE PROFILE METHOD, A PROPOSED ALTERNATIVE, AND THE LEVEL OF RELIABILITY OF THE STUDY

Systematic observation of the interaction between members of groups has become commonplace in sociology. A number of methods have been devised,<sup>1</sup> and the scientific importance of these developments cannot be overstated. However, in an excellent summary of these methods Heyns and Lippitt have suggested that to be scientifically useful, the taxonomy must be clear, communicable, and subject to confirmation by other scientists.<sup>2</sup> The researcher who applies a given set of categories to an empirical situation must be able to do so with some evidence that his results will be comparable not only to those of other researchers, but to work he himself has done earlier. This is reliability which may be defined in this case as the consistent agreement between independent observers or observations over a specified period of time.

Heyns and Lippitt maintain "that there is only one score whose reliability need be assessed, and that is the score which is actually to be used in the analysis."<sup>3</sup> A similar view, apparently, has been held by a

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<sup>1</sup>See R. W. Heyns and R. Lippitt, "Systematic Observational Techniques," in Gardner Lindzey (ed.) Handbook of Social Psychology, Vol. 1, Cambridge, Massachusetts: Addison-Wesley Publishing Co., 1954, pp. 370-404, for a review of a number of these techniques.

<sup>2</sup>Ibid., p. 397.

<sup>3</sup>Ibid.

number of persons who have devised classification systems for categorizing interaction.<sup>4</sup>

Any classification of interaction in a group from a set of categories of behavior can be viewed in at least three ways. First, one can analyze the profile of observation of any given individual in the group--that is, the frequency with which a given individual is observed to "act" or "behave" in each of the elements of the classification scheme. It is possible to imagine specified situations in which agreement between raters might be high in this kind of observational scheme due to consistent (i.e., patterned) behavior which any given individual in the group might follow. This might be especially true of a chairman following an agenda or "rules of procedure." Second, one can analyze periods of interaction--called "phase analysis" by Bales.<sup>5</sup> Third, one can analyze the total profile of interaction, that is, analyze the number of acts that occur in specified categories for all members of a group.

The writer agrees with Heyns and Lippitt that the degree of inference required by an observer in classifying acts, the observational load which he confronts over a period of time, and the definition of the category units

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<sup>4</sup>H. H. Anderson, "Domination and Social Integration in the Behavior of Kindergarten Children and Teachers," Genetic Psychology Monograph, 21, (1939) pp. 285-385; L. Carter, L. Haythorn, Beatrice Meirowitz, and J. Lanzetta, "The Relation of Categorizations and Ratings in the Observation of Group Behavior," Human Relations, 4, (1951) pp. 239-254; L. Carter, W. Haythorn, Beatrice Meirowitz, and J. R. Lanzetta, "A Note on a New Technique of Interaction Recording," Journal of Abnormal and Social Psychology, 47, (1951) pp. 258-260; E. D. Chapple, "The Interaction Chronograph: Its Evolution and Present Application," Personnel, 24, (1949) pp. 295-307; M. B. Freedman, T. F. Leary, A. G. Ossorio, and H. S. Coffey, "The Interpersonal Dimension of Personality," Journal of Personality, 20, (1951) pp. 143-161; Lois N. Jack, "An Experimental Study of Ascendent Behavior in Preschool Children," University of Iowa Studies in Child Welfare, 9, (1934) No. 3; W. U. Snyder, "An Investigation of the Nature of Non-Directive Therapy," Journal of Genetic Psychology, 33, (1945) pp. 193-223; and B. Steinzor, "The Development and Evaluation of a Measure of Social Interaction," Human Relations, 2, (1949) pp. 103-122.

<sup>5</sup>R. F. Bales and F. L. Strodtbeck, "Phases in Group Problem-Solving," The Journal of Abnormal and Social Psychology, Vol. 46, No. 4, (Oct., 1951) pp. 485-495.

are all important in determining the eventual level of reliability.<sup>6</sup> It may be that the various classification systems cited above may be subject, differentially, to criticisms as a result of each of these points.

One of the most ingenious classification schemes used in observation of face-to-face interaction of the group has been that developed by Bales.<sup>7</sup> The observer is expected to assign each unit act of behavior to one of twelve interaction categories. The categories and their corresponding numbers are: (1) showing solidarity, (2) showing tension release, (3) agreement, (4) giving suggestions, (5) giving opinions, (6) giving orientation, (7) asking for orientation, (8) asking for opinion, (9) asking for suggestions, (10) disagreement, (11) showing tensions, and (12) showing antagonism.<sup>8</sup>

There are three problems of variation in inter-rater reliability which Bales delimits. The first of these is the attributing problem. This involves the attribution or designation of the originator and target for the particular unit act. The second is that of unitizing, or the division of the period of interaction into "subject-predicate units" to be scored. And the final problem involves categorization, or the assignment of acts to one of the twelve categories. There is no doubt that each of these three sources of variation might cause considerable difficulty to a researcher. Though these problems have been specifically cited by Bales, they are certainly not limited to his observational system. Heyns and Lippitt,

<sup>6</sup>Heyns and Lippitt, op. cit., p. 397.

<sup>7</sup>R. F. Bales, Interaction Process Analysis, op. cit.

<sup>8</sup>A unit act is defined by Bales as ". . . the smallest discriminable segment of verbal or nonverbal behavior to which the observer, using the present set of categories after appropriate training, can assign a classification under conditions of serial scoring. . . [and] the single item of thought or . . . behavior." Ibid., p. 37. For a discussion of the 12 categories see Ibid., Chapter II and the Appendix. Also, R. F. Bales, "A Set of Categories for the Analysis of Small Group Interaction," American Sociological Review, 15 (April, 1950) pp. 257-63.

for example, in reporting on the "Carter Observational Procedure," describe the test of reliability of observation identical to that used by Bales.<sup>9</sup>

The most common form of checking the reliability of the observer's judgments is to compare the profile which each observer develops while using a given classification system of behavior. It is this comparison of observers' results for which Heyns and Lippitt have noted substantially high reliability between observers. It also characterizes the findings on reliability and categorization by Bales and his co-workers.<sup>10</sup>

### A Critique of the Profile Method

The problem with which this Appendix will deal is that of critically evaluating the use of two statistical procedures used by Bales and his co-workers as estimates of reliability of between-rater categorization of interaction. In addition, an alternative form of estimating reliability will be proposed.

The Bales and Strodtbeck procedure for estimating reliability is based on what we have called the total profile for the group. The problem of assessing the variation in inter-rater categorization is an important one and is one which may only be solved after the reliability of unitization has been established first.<sup>11</sup> This Appendix is limited to the estimate of

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<sup>9</sup>Heyns and Lippitt, op. cit., p. 384.

<sup>10</sup>See E. F. Borgatta and R. F. Bales, "The Consistency of Subject Behavior and the Reliability of Scoring in Interaction Process Analysis," American Sociological Review, 18 (October, 1953) pp. 566-569, and C. Heinicke and R. F. Bales, "Developmental Trends in the Structure of Small Groups," Sociometry, 16 (February, 1953) pp. 7-38.

<sup>11</sup>For an excellent discussion of this problem see Harold Guetzkow, "Unitizing and Categorizing Problems in Coding Qualitative Data," Journal of Clinical Psychology, 7 (1950) pp. 47-58.

reliability of two or more observers or raters with respect to the assignment of an act of one of the twelve categories of interaction. It is not concerned with self-reliability,<sup>12</sup> "the consistency of the observed phenomenon,"<sup>13</sup> and other such related problems.<sup>14</sup>

The two commonly recommended statistical procedures for estimating inter-rater reliability of categorization are chi-square as an index of goodness of fit,<sup>15</sup> and the Pearson product moment correlation coefficient.<sup>16</sup> Heyns and Lippitt found the latter to be the more common procedure.<sup>17</sup> In Interaction Process Analysis, Bales and Strodtbeck maintain that the chi-square test is the more appropriate test of the two since (a) it is more easily extended to analysis of more than two raters; (b) "r tends to be relatively insensitive to variations in values with small densities" and to be "predominantly determined by the large values of the distribution," whereas chi-square is "more sensitive to the variations in the pairs of values of smaller magnitude"; and (c) "r is insensitive to the number of acts within categories so long as the proportion of acts within categories to the total acts is constant," whereas chi-square "permits a concomitant test of both categorization and unitizing." <sup>18</sup>

There are other limitations to the use of the Pearson "r." One of these is that there is no random sampling procedure involved in categorizing

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<sup>12</sup>Borgatta and Bales, op. cit., p. 567.

<sup>13</sup>Ibid.

<sup>14</sup>Bales, "Phases in Group Problem-Solving," op. cit.

<sup>15</sup>Bales, Interaction Process Analysis, op. cit., Chapter IV.

<sup>16</sup>Heinicke and Bales, op. cit.

<sup>17</sup>Heyns and Lippitt, op. cit., p. 396.

<sup>18</sup>Bales, op. cit., pp. 102-03.

interaction. Acts which occur rapidly tend to be underrepresented. Similarly, errors in categorization presumably are the result of different, but hardly random "mental sets" of the raters.

A short summary of the use of chi-square for the test of inter-rater reliability follows. Table 1 is a paradigm for tabulating the frequency distribution of categorized unit acts for the twelve Bales categories. The two-rater case will be employed to illustrate the procedure. The frequencies in the diagonal cells are the sum of those unit acts on which both raters were in perfect agreement. Thus, a unit scored in category 1 ("shows solidarity") by rater A and rater B would fall in cell  $A_1B_1$ . If rater A scored an act as category 4 ("gives suggestion") while rater B scored it as category 12 ("shows antagonism") then the act would fall in cell  $A_4B_{12}$  and so forth.

Table 2 illustrates the way in which Bales suggests tabulation he set up for chi-square analysis of rater reliability. Column I is the list of the 12 interaction categories. Column II is the frequency of ratings by a category for rater A and Column III is the frequency of ratings by category for rater B. Column IV is the mean of the frequencies in Columns II and III--the average number of observations by rater A and rater B for each unit act in each category. The mean is taken as a theoretical value of the row (i.e., category). Column V is the square of the observed frequency for raters (from Columns II and III) minus the mean of A and B's frequencies (Column IV) for each row (or category). The summation of the values obtained in Column V yields chi-square. Data in Column II for rater A and Column III for rater B are the column totals for rater A ( $n_{A_iB_1}$ ) and row totals for rater B ( $n_{B_1A_i}$ ) in Table 1.

Bales has established an additional rule that if in any row the frequency of scores for either rater B or rater A is less than five that row will be collapsed with all other like rows. Recent findings with the regard

Table 1. Paradigm of Tabulation of Acts by Categories for Two Raters

|            | Bales<br>Category | Rater A               |                       |   |                          |                          |  | Total<br>$n_{A_i B_1}$                          |
|------------|-------------------|-----------------------|-----------------------|---|--------------------------|--------------------------|--|-------------------------------------------------|
|            |                   | 1                     | 2                     | 3 | 4 . . . . .              | 12                       |  |                                                 |
| Rater<br>B | 1                 | $A_1 B_1$             | .                     | . | . . . . .                | $A_{12} B_1$             |  | $\sum_{i=1}^{12} A_i B_1$                       |
|            | 2                 | .                     | $A_2 B_2$             |   |                          |                          |  |                                                 |
|            | 3                 | .                     |                       | . |                          |                          |  |                                                 |
|            | 4                 | .                     |                       |   | .                        |                          |  |                                                 |
|            | .                 | .                     |                       |   | .                        |                          |  |                                                 |
|            | .                 |                       |                       |   | .                        |                          |  |                                                 |
|            | .                 |                       |                       |   | .                        |                          |  |                                                 |
|            | .                 |                       |                       |   |                          | .                        |  |                                                 |
|            | 12                | $A_1 B_{12}$          | .                     | . | $A_4 B_{12}$             | $A_{12} B_{12}$          |  | $\sum_{i=1}^{12} A_i B_{12}$                    |
|            | Total             |                       |                       |   |                          |                          |  |                                                 |
|            | $n_{B_i A_i}$     | $\sum_{i=1}^{12} A_i$ | $\sum_{i=1}^{12} B_i$ |   | $\sum_{i=1}^{12} A_{12}$ | $\sum_{i=1}^{12} B_{12}$ |  | $N = \sum_{i=1}^{12} A_i = \sum_{i=1}^{12} B_i$ |

Table 2. Frequency of Score by Rater by Category

| Categories | Rater <sub>f</sub> <sub>A</sub> | Rater <sub>f</sub> <sub>B</sub> | Mean = $\frac{R_A + R_B}{2}$ | $\frac{(R_i - \bar{X})^2}{\bar{X}}$               |
|------------|---------------------------------|---------------------------------|------------------------------|---------------------------------------------------|
| (I)        | (II)                            | (III)                           | (IV)                         | (V)                                               |
| 1          | 12                              | 8                               | $\frac{12 + 8}{2} = 10$      | $\frac{(12-10)^2}{10} + \frac{(8-10)^2}{10} = .8$ |
| 2          | .                               | .                               | .                            | .                                                 |
| 3          | .                               | .                               | .                            | .                                                 |
| 4          | .                               | .                               | .                            | .                                                 |
| 5          | .                               | .                               | .                            | .                                                 |
| 6          | .                               | .                               | .                            | .                                                 |
| 7          | .                               | .                               | .                            | .                                                 |
| 8          | .                               | .                               | .                            | .                                                 |
| 9          | .                               | .                               | .                            | .                                                 |
| 10         | .                               | .                               | .                            | .                                                 |
| 11         | .                               | .                               | .                            | .                                                 |
| 12         | .                               | .                               | .                            | .                                                 |
| Total      | $\Sigma R_A$                    | $\Sigma R_B$                    |                              | Sum = $X^2$                                       |

to characteristics of chi-square indicate that this may be overly stringent.<sup>19</sup> Thus, all such collapsed rows (categories) will be treated as one row (categories). Degrees of freedom in this case are determined by  $r(c - 1)$  where  $r$  is the number of rows (categories) and  $c$  is the number of columns (raters). The level of significance which Bales sets at .50 is an arbitrary level.<sup>20</sup> (It would seem that one should set a level around .90 or higher to yield a good estimate of agreement.)

Three hypothetical examples of inter-rater categorization will be presented. In each of the following three tables the categories have been reduced from twelve to four for illustrative purposes. In each example, the chi-square value is zero and would not allow rejection of the hypothesis that there is no difference between the observers' judgments with regard to placement of unit acts in specific categories. Hence, the researcher would accept the test result at an estimate of reliability, according to the procedure described by Bales.

Table 3 contains the first model which, on inspection, shows a considerable amount of inter-rater agreement on unit acts for each category. Raters A and B agreed that ten acts should be placed in category 1.

Table 3. A Hypothetical Model of Agreement of Inter-Rater Judgments of Unit Acts and Chi-Square Test of Inter-Rater Reliability

|          |   |         |    |    |       |          | Chi-Square Test |    |       |    |           |                                   |
|----------|---|---------|----|----|-------|----------|-----------------|----|-------|----|-----------|-----------------------------------|
| Bales'   |   | Rater A |    |    |       |          | Bales'          |    | Rater |    | $\bar{X}$ | $\frac{(A - \bar{X})^2}{\bar{X}}$ |
| Category | 1 | 2       | 3  | 4  | Total | Category | A               | B  |       |    |           |                                   |
| Rater B  | 1 | 10      | 1  | 1  | 0     | 12       | 1               | 12 | 12    | 12 | .0        |                                   |
|          | 2 | 1       | 10 | 1  | 1     | 13       | 2               | 13 | 13    | 13 | .0        |                                   |
|          | 3 | 1       | 1  | 10 | 1     | 13       | 3               | 13 | 13    | 13 | .0        |                                   |
|          | 4 | 0       | 1  | 1  | 10    | 12       | 4               | 12 | 12    | 12 | .0        |                                   |
| Total    |   | 12      | 13 | 13 | 12    | 50       | Chi-Square =    |    |       |    | .0        |                                   |

Note: See the following page for footnotes 19 and 20.

However, rater A placed one set in category 1 which rater B placed in category 2, and so forth throughout the table. The really important point to notice is that the column and row totals are equal for each category for both raters and hence, the chi-square value is exactly zero. The null hypothesis would not be rejected and the researcher would assume he had reliability.

The second hypothetical model is illustrated in Table 4.

Table 4. A Hypothetical Model of Uniform Disagreement of Inter-Rater Judgments of Unit Acts and Chi-square Test of Inter-Rater Reliability

|                 |         |    |    |    |       |                 | Chi-Square Test |    |           |                                   |    |
|-----------------|---------|----|----|----|-------|-----------------|-----------------|----|-----------|-----------------------------------|----|
| Bales' Category | Rater A |    |    |    | Total | Bales' Category | Rater           |    | $\bar{X}$ | $\frac{(A - \bar{X})^2}{\bar{X}}$ |    |
|                 | 1       | 2  | 3  | 4  |       |                 | A               | B  |           |                                   |    |
| Rater B         | 1       | 5  | 5  | 5  | 5     | 20              | 1               | 20 | 20        | 20                                | .0 |
|                 | 2       | 5  | 5  | 5  | 5     | 20              | 2               | 20 | 20        | 20                                | .0 |
|                 | 3       | 5  | 5  | 5  | 5     | 20              | 3               | 20 | 20        | 20                                | .0 |
|                 | 4       | 5  | 5  | 5  | 5     | 20              | 4               | 20 | 20        | 20                                | .0 |
| Total           |         | 20 | 20 | 20 | 20    | 80              | Chi-Square = .0 |    |           |                                   |    |

In this case raters A and B only disagreed as frequently on each classification for each unit act as they agreed. As can be seen by the tabulation, the column and row totals are again equal for each category. The chi-square is again exactly zero.

<sup>19</sup>W. G. Cochran, "The Chi-Square Test of Goodness of Fit," Annals of Mathematical Statistics, 23, (1952) pp. 315-345, and "Some Methods for Strengthening the Common Chi-Square Tests," Biometrics, 10 (1954) pp. 417-451.

<sup>20</sup>Bales, op. cit., p. 103 and Table 2, p. 110.

In Table 5 the third model is illustrated by a case which is even more extreme. Raters A and B disagreed completely in the classification of unit acts in the categories. The cells showing agreement, namely the right diagonal, are vacuous. Yet, row and column totals are equal and yield a chi-square value of zero. With only the row and column information, the researcher again assumes he has reliability between his raters.

Table 5. A Hypothetical Model of Complete Disagreement of Inter-Rater Judgments of Unit Acts and Chi-Square Test of Inter-Rater Reliability

|                 |         |    |    |    |       | Chi-Square Test |              |    |           |                                   |
|-----------------|---------|----|----|----|-------|-----------------|--------------|----|-----------|-----------------------------------|
| Bales' Category | Rater A |    |    |    | Total | Bales' Category | Rater        |    | $\bar{X}$ | $\frac{(A - \bar{X})^2}{\bar{X}}$ |
|                 | 1       | 2  | 3  | 4  |       |                 | A            | B  |           |                                   |
| Rater B         | 1       | 0  | 3  | 2  | 10    | 1               | 15           | 15 | 15        | .0                                |
|                 | 2       | 3  | 0  | 5  | 10    | 2               | 10           | 10 | 10        | .0                                |
|                 | 3       | 2  | 5  | 0  | 10    | 3               | 10           | 10 | 10        | .0                                |
|                 | 4       | 10 | 2  | 3  | 15    | 4               | 15           | 15 | 15        | .0                                |
| Total           | 15      | 10 | 10 | 15 | 50    |                 | Chi-Square = |    |           | .0                                |

It is apparent by the models shown in Table 3, 4, and 5, chi-square is completely insensitive to agreement (or disagreement) between raters on particular unit acts. Rather, it is sensitive to differences in the absolute number of acts scored in a single category by the two raters. Thus, the test results are the same for distributions of disagreement which produce equality of row and column totals as they are for complete agreement. Yet, the judgment of raters over each specific unit act is of interest in a test of agreement. Since this analysis has shown the serious limitation with regard to chi-square tests, (or indeed any test which relies on data

from the total profile) it would seem wise to discard this statistical procedure.

The chi-square test described above is dependent upon the tenuous assumption that the pool of unit acts chosen by rater A to be classified in a particular category will be the same unit acts that rater B placed in that category. It has been shown that if the assumption is true (as is nearly the case in Table 3), the chi-square value obtained will reflect inter-rater agreement. However, if the assumption is not true (as in Table 5), its chi-square value will be insensitive to inter-rater disagreement. In other words, the Bales-Strodtbeck procedure for testing reliability is a measure of the existence of agreement between observers that certain observed proportions of the total number of acts for a given time period falls into each of the twelve categories--a profile analysis. The procedure is insensitive to whether or not they agree that each unit act they are observing at a specific time falls into the same category.

In an article by Heinicke and Bales, apparently the use of the Pearson product moment correlation follows the same estimation procedure and makes the same tenuous assumption.<sup>21</sup> Here too the correlation coefficient represent the degree of agreement between the raters, where the datum is the proportion of total acts which fall into the twelve categories. Again, it does not assess the degree of agreement between two observers of a single act at a single point in time.

As if this were not enough, there is an additional source of contamination. We have observed that raters soon become familiar with the overall distribution of acts by categories (or what Bales calls profiles). (This refers to the proportion of acts in the row or column totals for each category in Table 1.) Thus, the raters may tend to have substantial agreement in the profiles without regard to specific unit acts.

A statistic which only tells the similarity of the profiles is not confronting the central issue, viz., the judgments by different raters of a

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<sup>21</sup>Heinicke and Bales, op. cit.

single unit act. In effect as Model 5 illustrates, two raters may have very low rates of agreement for each category, but may categorize the total number of acts observed in a similar profile. What Bales calls unitizing is not even remotely tested by means of chi-square, and categorization--insofar as it refers to the classification of the particular acts by two or more observers--is not accurately estimated for reliability.

The reader should not interpret these comments to mean that Bales schema has little utility, for one can hardly come to that conclusion when using it for the analysis of group interaction. Similarly, it is not implied that it is impossible to get reliability with Bales or any other procedure, although the problems involved in non-laboratory settings are far more legion than one might expect. Thus, part of the purpose of this analysis has been to attempt to draw attention to an uncritical application of the reliability procedure recommended by researchers in a relatively new and stimulating area of social science research.

In short, the writer is in particular disagreement with Bales and Strodtbeck for using the specific tests of reliability which they suggest. In addition, the findings of this report suggest Heyns and Lippett's justification of the comparison of profiles of behavioral acts to be invalid as a general thesis. At the outset, we quoted Heyns and Lippitt as saying, "that there is only one score whose reliability need be assessed, and that is the score which is actually to be used in the analysis." The statement is, of course, valid. However, it has been shown that its authors have also ignored its implications.

There are several statistical procedures available to help the researcher with his problem of estimating the differences in observer's classification of behavior. One alternative which is simple to compute, which is sensitive to all of the distribution problems discussed above, and which allows a test of significance based on a known sampling distribution, is the binomial.

### A Proposed Alternative Test of Inter-rater Reliability

For purposes of discussion this procedure will be called the "proportion technique." First the observation of the two observers are tallied in a distribution sheet given as in Table 1. The population parameter,  $P$ , is fixed at whatever level meets an acceptable criterion of agreement for the researcher.

For example, if  $P$  is set equal to .9 the result tests whether or not 90 per cent of the judgments were in agreement. The probability associated with finding a value equal to or greater than the amount of agreement on the basis of the sample value is examined. The binomial is laborious to compute when the sample size (the number of unit acts) is larger than 25. In addition, tables are not generally available for larger samples. However, it can be shown that as  $N$  increases, the binomial distribution tends to be approximated by the normal distributions and therefore the  $z$  statistic can be used as an approximation. The  $N$  for an hour's observation of a small group is usually quite large (around 2500 unit acts) and the  $z$  statistic is a good approximation to the binomial in such cases. This is true even if  $P$  is near 1 or 0, a fact which is generally a limiting assumption of the use of the binomial distribution. A rule-of-thumb indicates that if  $P$  is near 1 or 0,  $NPQ$  (where  $Q = 1 - P$ ) must be at least 9 for this statistic to have a normal distribution. Thus, if  $P = .9$ , the total  $N$  must be at least 100 where  $N = \frac{9}{PQ}$  or  $N = \frac{9}{(.9)(.1)}$ , therefore,  $N = 100$ . This condition is quite easy to meet. It appears that the binomial is sensitive to the various models examined here and yields a correct estimate of reliability within specified probability values.

A brief example of the use of the "proportion technique" might be helpful at this point. The formula is:

$$Z = \frac{(X \pm .5) - NP}{\sqrt{NPQ}}$$

Let  $P = .7$ , the proportion of agreement which would be accepted as the degree of reliability of categorization for two raters (i. e., 70 per cent).

Let  $Q = .3$ , the proportion of disagreements between two raters (i. e., 30 per cent).

Let  $X = 40$ , the observed number of agreements between two raters, and

Let  $N = 50$ , the total number of unit acts observed.

Correcting for continuity, since we are using a distribution for a continuous variable to approximate a distribution for a discrete variable, a .5 must be added to  $X$ .<sup>22</sup> Sufficient data is now available to compute the value of  $z$  and make a decision as to an estimate of reliability. The null and alternative hypotheses are:

$$H_0 : P > .7 \text{ and}$$

$$H_1 : P < .7$$

With alpha at say .05, the null hypothesis is rejected if the probability associated with the value is less than alpha. For the data presented in Table 3,  $Z = 1.39$ . The probability associated with that value (taken from the tables for the normal distribution)<sup>23</sup> is equal to .082. Since .082 is greater than .05 (alpha) the null hypotheses is not rejected and it is reasonable to assume that on the basis of this test we have an adequate estimate of reliability. Several other procedures for estimating inter-rater reliability have been reviewed and rejected, but perhaps deserve mentioning. In his book Intra-Class Correlation, Haggard presents a

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<sup>22</sup>The .5 is added since  $X$  is greater than  $NP$ . A .5 would be subtracted from  $X$  if  $X$  were less than  $NP$ .

<sup>23</sup>See for example Table A, p. 247 in Sidney Siegel, Nonparametric Statistics for the Behavior Sciences, op. cit.

number of intriguing possibilities.<sup>24</sup> However, since it is questionable whether the assumptions underlying the analysis of variance are met with a dichotomous measurement ("agree" or "disagree"), rendering interpretation of the F's and R's highly tenuous, and since random errors must be uncorrelated, the intraclass technique was rejected.<sup>25</sup> Variations due to inferences drawn by observers about the behavior they are categorizing and the appropriateness of the categories themselves are consistent rather than random.

Another paper of substantial importance is that of Harold Guetzkow.<sup>26</sup> He proposes a technique for estimating inter-rater reliability, but puts an exceedingly strict limitation to his formulation. He maintains that "the proposition of units upon which two coders agree may be conceived as the sum of those items which both coders correctly classify and those items which both coders incorrectly classify in the same incorrect way."<sup>27</sup> He thus assumes that the correct classification is identified and known, whereas the proportion technique merely measures the agreement between two raters. He also assumes that the probability of correct classification should be the same for all units. This is another exceedingly stringent assumption which probably cannot be met in the use of Bales' categories.

The traditional marginal method of computing the chi-square (using the distributions in the margins to compute the theoretical frequencies) was reviewed and found to be insensitive to the distributions of the type exemplified in Table 4.

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<sup>24</sup>We are indebted to Bernard Lazerwitz for calling our attention to the possible use of intra-class correlation as an estimate of inter-rater reliability. See Ernest A. Haggard, Intraclass Correlation and the Analysis of Variance, N. Y.: The Dryden Press, Inc., 1958.

<sup>25</sup>Ibid., p. 46 and p. 91.

<sup>26</sup>Guetzkow, op. cit.

<sup>27</sup>Ibid., p. 51.

### Summary of Critique

A brief critical review of the commonly accepted procedure of testing inter-rater reliability by comparing the profiles of observed behavior categorized by raters was reviewed and found to be wanting. Specifically, the use of chi-square and the Pearson product moment correlation coefficient for tests involving the profile method, as used, do measure the existence of agreement between observers that certain proportions of the total number of acts of a group fall into each category. However, they are insensitive to whether or not the raters agree that each unit act which they observe falls into the same category.

The z statistic, the normal approximation of the binomial test--corrected for continuity, is proposed as an acceptable alternative which is simple to compute, is insensitive to various types of theoretically possible distributions of disagreements, and provides a statement of the probability associated with the level of estimation of reliability between two raters.

### The Level of Reliability of The Study

It is important to point out that the writer's level of competence in using Bales' system is the sole consequence of study of Bales' works in the area of interaction process analysis. He was not trained by Bales nor by any of Bales' co-workers.

After a three month period of non-participant observation in the hospital, electrical recordings were made of the various groups in the hospital.<sup>28</sup> At these meetings the writer simultaneously attributized the interaction ("who interacted with whom") on a stenographic pad,

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<sup>28</sup>Since the boards and committees met at different intervals during the year, the length of time the writer was in the hospital before recording the meeting of any given group varied within this time period.

according to pre-coded identification of the participants. In order to match the protocol with the recordings, the first two or three words spoken by each respondent were entered on the pad after each attributization. Transcriptions were then typed by matching the protocol with the recordings.

Two other raters were then asked to read Bales' Interaction Process Analysis. After a two week trial period 6 tests were made.<sup>29</sup> Table 6 contains the percentage of agreement in categorization between the writer and raters B and C, and the percentage agreement in unitization between the writer and rater D. The writer and raters B and C unitized the transcriptions and listened to the recording before independently categorizing the transcription. The writer also checked his internal reliability by re-categorizing a transcription after a six months interval.

Inspection of Table 6 shows that the writer agreed with his previous categorization 80% of the time. However, the extent of agreement between the writer and rater B was only 53%, and with rater C 52% on categorization. (The total for the writer and rater B represents the sum of three separate tests.) Raters B and C were able to agree on 64% of the units categorized. The fact that the two raters were able to agree more frequently between themselves than with the writer was attributed to the writer's experience in the group meetings. The latter was able to bring to the transcription knowledge of the situation and personalities of the participants that was not shared by the two raters. For example, humor was very often missed by the two raters who scored the interaction "as they saw it." The writer, knowing what went on in previous meetings was able to recognize the "subtleness of the straight line." Tension is very difficult to identify from a transcription even though listening to the recording helps a great deal. As a general limitation, it is suggested that tension is particularly under-represented in these categorizations. The above problems, however, do

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<sup>29</sup>This is an exceptionally short "training period."

Table 6. The Percentage Agreement in Categorization and Unitization Scoring from Electrical Recordings

| Raters | Categorization |    |                |    |       |    | Unitization |    |
|--------|----------------|----|----------------|----|-------|----|-------------|----|
|        | A <sup>1</sup> |    | B <sup>2</sup> |    | C     |    | D           |    |
|        | (N)            | %  | (N)            | %  | (N)   | %  | (N)         | %  |
| A      | (197)          | 80 | (842)          | 53 | (170) | 52 | (2, 123)    | 81 |
| B      | --             | -- | --             | -- | (165) | 64 | --          | -- |
| C      | --             | -- | --             | -- | --    | -- | --          | -- |

<sup>1</sup>Rater A is the writer. This test was based on a 6 month elapse period.

<sup>2</sup>A summary of three separate tests.

not entirely account for the low level of reliability. The three raters very often could not fundamentally agree on such seemingly simple distinctions between when a unit of interaction was a fact or piece of information (e.g., category 6) or an opinion (e.g., category 5). The resolution of such disagreements depended on the rater's evaluation of such things as the expertise of the participant, etc.

Table 7 contains the reliability tests between raters based on the "proportion technique." Inspection of the table shows that even though the writer was not able to reach an acceptable level of agreement (e.g., 70% was the pre-established criterion) with Raters B and C, ( $\underline{z} = -7.0$  and  $-5.2$ , respectively) he was internally consistent ( $\underline{z} = 3.1$ ). He was also able to establish reliability in unitization with rater D ( $\underline{z} = 11.5$ ).

Table 7. Z Tests of the Hypothesis that Inter-Rater Reliability is Equal to 70% Agreement for Categorization and Unitization

| Raters         | Categorization |      |      | Unitization |
|----------------|----------------|------|------|-------------|
|                | A              | B    | C    | D           |
| A (The Writer) | 3.1*           | -7.0 | -5.2 | 11.5*       |
| B              | --             | --   | -1.8 | --          |
| C              | --             | --   | --   | --          |

\* Significant at the .05 level. The hypothesis of reliability is rejected if z < 1.65.

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