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Introduction

The Sociometric Vision and Research Productivity

JOE W. HART

SIXTEEN YEARS AGO, in 1971, *Corporate Man* by Anthony Jay was published. In that book, Jay outlined what was essentially a sociometric vision. It was a vision of a particular kind of group, the hunting band, noted for its efficiency and collective success. The central premise of the book was stated in these words:

... that the tendency to form “hunting band” groups of about ten people ... is part of our nature, that these groups have been the instrument of our survival ... and that any modern ... organization still depends on these groups for its survival. (p. 36)

The program of the high socio-technology component of the annual conference of the Federation of Trainers and Training Programs in Psychodrama, to be held in Dallas in November of this year, focuses on the question: What is a healthy organization? Jay’s answer is that it is the morale and productivity of these “hunting band” groups—not of individuals—that are the best measures of organizational health.

What would happen if a project were undertaken to seek out those members of our profession who are most active in developing sociometry and invite them to submit an example of their work? This special issue of *Journal of Group Psychotherapy, Psychodrama, and Sociometry* is the result of that project.

Most of the authors of this issue are members of the Committee on Computerized Sociometry. This committee was formed in Seattle, Washington, at the 10th annual meeting of the Federation of Trainers and Training Programs in Psychodrama. The initial purpose was to explore the uses of computers in sociometric research, where increasing efforts are yielding impressive achievements in areas of interest in the larger arena. In doing so, the committee is possibly enlarging the area of sociometry to include an area guided by a newer, larger vision of what we can

accomplish through sociometric research and through the application of sociometry in our personal and professional lives, individually and collectively.

In the sister organizations, F.T.T.P.P. and A.S.G.P.P., we worry about failure to be more productive in the area of research. We meet and we discuss and we attempt to devise new ways to motivate individuals in our organizations, particularly the younger and newer members, to do more research. These efforts will always fail, in a relative sense. For various reasons, we will get enough of a trickle of research and writing to produce the journal and to convince ourselves that we are scientifically oriented. There will be a few surrogate researchers to do this tedious work for all of us. These efforts will fail because the vision is lacking as long as we focus on the individual as an *isolate* working alone, instead of focusing on the group with members working interactively, spontaneously, and cooperatively in ways that give support, energy, and assistance to all, including the universe outside our profession.

I feel honored to have worked with the contributors to this issue—Ann Hale, Edmund Portnoy, Taylor Rockwell, and Tom Treadwell—because of the depth of their sociometric vision, the power of their energy, and the intensity of their dedication. This might well be the beginning of the formation of a new “*hunting band*,” that group of sociometrists and psychodramatists who will create a new sociometric vision, a new emphasis on research, and a stronger foundation for our profession.

The Social Construction of Careers: Career Development and Career Counseling Viewed from a Sociometric Perspective

TAYLOR ROCKWELL

ABSTRACT. Career development is too often examined without critical attention to the key roles that significant others play in influencing career decisions. A sociometric view of career development is offered here. This view is validated empirically using a sociomatrix specially designed to explore the social construction of occupational preference. Clinical use of a similar sociomatrix to explore a client's occupational social atom is then described. Psychodramatic career counseling is offered as an action technique that further enhances understanding of the social construction of careers. The social construction of other types of decisions can be examined using similar techniques.

CAREER COUNSELING TAKES PLACE in both individual and group formats. Numerous highly structured models for career counseling have been devised. These may involve lectures (McWhirter, Nichols, & Banks, 1984), activities (Sullivan, 1983; Swain, 1984), pencil-and-paper exercises (Carey & Kuisis, 1980), and kits (Jones, 1983). Most such models involve clients and counselors primarily at the cognitive levels: throughout the process their interactions are largely verbal. The major thrust of such models is usually self-assessment and "fitting" the resulting self-description into the most appropriate career. In the more than 40 years since vocational psychology gained the widest attention, methods of assessing traits and qualities of "self," such as skills, interests, values, vocational maturity (Super, 1955), indecision, and realism (Ginzberg, Ginsburg, Axelrad, & Herma, 1951), have been extensively studied and applied in the practice of career counseling.

From a sociometric perspective, clients involved in self-focused types of career counseling do not get a chance to explore, systematically, the variety of interpersonal forces that affect their thinking and feelings about the career options they are considering. If sociometry were applied

to the study of career development and implemented during the career counseling process, perhaps the prevalent American ideology that autonomous choice is a right of the job hunter would be ameliorated.

In addition to career counseling, job hunters need a great deal of objective information about careers and jobs before they can make an informed choice. They also need education and training for most of the jobs in today's marketplace. While such information and preparation cannot be obtained sociometrically, this method can be used to help them evaluate what use they will make of what they have learned.

When they are not obtaining occupational information or acquiring education and training, people in career counseling focus on the introspective processes of self-evaluation and decision making. Their focus, turned inward, does not systematically take into account the unique, specific, and formative influences of friends, teachers, parents, bosses, former bosses, mates, and other role figures that frequently interact with them in ways that either directly or indirectly affect their sense of themselves as a working person with unique talents and inclinations. Each of these role figures is perceived to have his or her own "picture," however clear or vague, of how a given person's career should take shape, what he or she should and should not do. This article contends that the indecision, ambivalence, and confusion that many people feel when they attempt to make a career decision are in part a result of the variously conflicting "pictures" attributable to each of these role figures, the unconscious confluence of which forms a muddle instead of a picture of what they should be doing. Sociometry can be used to tease out the various threads of influence, so that clients can assess each role figure's influence on their thinking about their career options. The internal psychological processes that are the focus of many career development theories (e.g., Crites, 1969; Gottfredson, 1981; Super, 1953) and career counseling methods are displaced here by a shift to focus on the social and interpersonal determinants of career development. A radical question for American vocational psychology is here being proposed: Who chooses our careers? Ourselves or others?

This article will first examine how Moreno's notions of role and social atom illuminate the social dynamics that undergird all career development. Next it will describe an empirical study that confirms the sociometric hypothesis that occupational preferences are strongly influenced by what significant others say and do. Finally, it will discuss implications of these findings for (a) using sociometry and psychodrama to enrich the career counseling experience and outcomes; and (b) further research into the social construction of other decision-making processes. The findings reported here suggest that career counseling—which is an extensive and

well-developed service industry into which sociometrists and psychodramatists have as yet made few inroads—can benefit from sociometric theory and practice.

Theory: A Sociometry of Occupational Preferences

Roles and Career Development

A core tenet of Moreno's work is that the basic unit of human behavior is the role.

The tangible aspects of what is known as "ego" or "self" are the roles in which it operates. Role and relationship between roles are the most significant development within any specific culture. Working with the "role" as a point of reference appears to be a methodological advantage as compared with "personality," "self," or "ego" [which] are less concrete. . . . Roles do not emerge from the self, but the self can emerge from the roles. (Moreno, 1960, p. 85)

Moreno argued that people are required by their physiological, psychological, and cultural circumstances to adopt a large variety of roles. For example, "eater" and "runner" are two physiological roles. "Son," "policeman," and "manager" are all social or cultural roles. All occupations and careers involve social or cultural roles. A few occupations, such as messenger or social worker, involve cultural roles that derive from physiological or psychological roles—in this case, from the roles of runner and helper, respectively.

Moreno notes that, for most people, the roles they take tend to become conserved (rigid or fixed) in particular behavior patterns that, at their inception, were adaptive and beneficial. This conservation of roles becomes maladaptive, however, when changes occur either within or around people who make the conserved pattern inappropriate. Moreno observed that, especially in adults, the ability to adapt role patterns to changing circumstance is often lost or greatly diminished. This results from an absence of spontaneity, which Moreno defines as the ability to find new solutions to old problems or novel solutions to new problems. Moreno believes that, paradoxically, spontaneity can be retrained in people who have lost touch with it. He conceived psychodrama as a key method for recapturing this spontaneity.

Moreno's conception of the role is useful in understanding career development. A career is a complicated concatenation of roles, many interacting at one time, and many changing over time. For instance, corporate managers have to be supervisors to their supervisees while at the same time being subordinates to their bosses and peers to their fellow managers. To the public they are company representatives, but to vendors

they are potential clients. And when managers are promoted, the relative importance and the specific referents of most of their former role relationships will shift notably; some roles will no longer involve them and others will be taken on for the first time.

A moment's reflection reveals how central spontaneity is to the effective functioning of people who have to juggle so many roles simultaneously and effectively. Spontaneity is also needed to handle changes in their external or internal environment. The constant changes in the work environment—changes in personnel, job definitions, market forces, corporate mission, key legislation—all require spontaneity as well as training and experience if they are to be handled adeptly. As people go through internal psychological changes, their perceptions of their jobs and what they expect and need to get from them will also change. To negotiate their world using these new perceptions requires spontaneity as well.

By what social means do people arrive at their own careers? Spontaneity is central here, too, because each new step in a career has unique aspects that have not been experienced before. But in addition, people also apply their earlier prework role experiences to finding the best workable solutions, testing whether these applications are borne out by the consequences.

Of particular interest is the entry-level job hunter. Consider the hypothetical and intentionally dramatic example of a female college graduate with a blank resume and a long way to go. Where does her career development start? A Morenean view of roles would suggest that the experiences she will bring to bear in choosing her first job will come from the full range of roles she took in settings such as school, clubs, volunteer positions, hobbies, and home.

A Clinical Example

As a child she was warmly rewarded by both parents for her quickness in adding new words to her vocabulary, but her father and brother absentmindedly excluded her when they tinkered with motors and clocks in the garage. In school she was brighter than most of the other kids, and her teachers joined her parents in applauding her voracious reading. She even had a neighbor whose extensive library became a wonderland in which she would lose herself for hours on end during weekends, and with whom she talked about many of the stories she read.

As a teenager, she grew like a sprout and discovered that, with her long legs, she could outrun most others. A nationally famous track coach at her high school spotted her and lured her onto the track team, where she learned the satisfactions of victory after disciplined effort. But many of

her peers teased her for being so tall, and this prevented her from taking pride in her body's talents, causing her to leave the track team after a two-year winning streak. Turning inward, she cultivated fewer but closer friends, got involved with one boy and shied away from meeting others, and redoubled her interest in literature, even picking up a pen to write down her ideas. Unfortunately, no one appreciated her secret gift with language, a later reflection of her early childhood precociousness. Thus, it was only her good grades and test scores that got her into a fine college, to her parents' and teachers' clear delight. However, her insecurity in that new milieu made a joiner out of her when it came to declaring majors. She joined the army of future accountants, confident in a secure future and the shared opinion that made accounting "in."

Secretly, however, she continued to read widely and took all the literature courses that her major allowed. It occurred to her only dimly that she might make a career out of her love of language, but her premature commitment to accounting relegated this notion to the realm of daydreams. A few workshops by the career planning center made her briefly question the wisdom of her choice, but she could not tolerate the idea of feeling foolish about her mistaken allegiance. Feeling a vague sense of terror and foreboding, she went to the counseling center to talk about life after college. . . .

This example demonstrates how prework roles interact with and influence the development of work roles. Parents invariably play a large role in steering their children toward certain career areas, if not toward specific careers (e.g., "My son, the doctor!"). Teachers and coaches, by differentially rewarding student performance, tend to steer students toward or away from higher education, which in itself preselects whole classes of occupations as likely future targets for each student. Peers, and even neighbors, each by virtue of his or her unique inclinations and influence, can also play roles in constructing a person's self-perceived profile of talents, skills, and competencies.

The Occupational Social Atom

For Moreno, the fundamental unit of human interrelationship is the dyad, the person in relation to another person. The full range of people with whom a particular person has significant emotional ties is that person's social atom. Hale (1981) points out that social atoms are usually portrayed with "a 'nearness to distant' factor; some persons being more significant than others; some more peripheral" (p. 19). Social atoms need to have defining criteria, a set of tasks or issues around which the people are related. In the above discussion of career development, the

role figures who influence a person's career development constitute that person's social atom for that criterion.

Moreno (1947) points out that people develop strong emotional ties with objects as well as people. He describes the example of someone "who cares for money most of all and exclusively, being indifferent toward all other things and giving as a reason that with money he can buy all wants" (p. 290). He then argues that sociometric tests can be constructed for exploring a person's relation to objects just as they are used to explore relations with other people. In *Who Shall Survive?* (1978), Moreno describes the cultural atom of a reader's relations to the books he or she reads and the other readers of those same books (pp. 308–310). This same notion can be applied to occupations. The various occupations toward which a person feels strong attractions can be said to constitute that person's occupational atom. As with money, books, or people, the occupational atom may also have a "nearness to distant" factor, the most attractive ones feeling nearer than the less attractive ones.

When we consider that people in a person's social atom influence his or her feelings about the occupations in his or her occupational atom, we are considering the domain of the occupational social atom. It is this domain that interests the sociometrist or psychodramatist who is exploring career decision-making issues.

Moreno's emphasis on social causality is shared by social learning theory (Rotter, 1954, 1982), which, in simple terms, argues that people are likely to engage in behaviors for which they have been rewarded (reinforced) by others in the past. In such situations, people are said to have an expectancy for future reinforcements from others, which inclines them to continue to exhibit behaviors that were rewarded in the past. Krumboltz (1979) developed a social learning theory of career decision making, which postulated, among other things, that a person will be attracted to (prefer) an occupation or field of work "if that individual has been consistently positively reinforced by a valued person who models and/or advocates engaging in that . . . occupation or field of work" (p. 40). This is compatible with a Morenean view in that Krumboltz's "valued person" is a member of the individual's social atom, and the occupations or fields of work to which an individual is attracted constitute his or her occupational atom.

The occupational social atom, it is argued here, is constituted by, on the one hand, the chooser's preferences for a number of different occupations; and on the other, by the chooser's expectancies for approval (reinforcement) from each valued role figure for each possible occupational choice. This new construct—approval expectancy for occupational choice—is the glue that holds the occupational social atom together, giving the

chooser a unique set of potential choices, each with its cluster of prior social reinforcements and future social rewards. The construct, while theoretically viable, needs empirical validation.

To test the heretofore unproven premise that approval expectancy for occupational choice influences occupational preference, the present study hypothesized that "the higher the level of occupational preference, the higher the level of approval expectancy for occupational choice" (Rockwell, 1986a, p. 39). Testing this hypothesis required several departures from approaches that might be used in clinical (career counseling) examination of the social atom or the occupational social atom. First, to assure that a wide range of role figures was studied and to allow generalizations from the results, this study used a fixed list of 16 role titles, preventing each research participant from defining his or her social atom in what, under clinical circumstances, should perhaps be an open-ended manner. Second, rather than examining only the most preferred occupations, the hypothesis required that a range of preferences be examined instead. After the hypothesis is borne out empirically, greater flexibility in the clinical exploration of the occupational social atom would be justified.

This study also posed a research question: "Across research participants, for which role figures is approval expectancy positively related to level of occupational preference?" (Rockwell, 1986a, p. 40). This research question sought to differentiate the effects of different role figures, based on the sociometric notion that each role figure has a unique influence stemming from his or her unique role relationship with the choosing individual. Again, after establishing such differences nomothetically, clinical exploration of different role figures' unique influences would be justified in career counseling.

Research

Method

The study involved 100 male and female first- and second-year undergraduate students from the full range of majors at a major metropolitan university in northeastern United States. Each of these students completed the Rockwell Occupational Approval Grid (ROAG), which is presented in Figure 1. A completed sample ROAG is presented here to facilitate understanding of how the form is filled out. Following detailed instructions, each research participant was asked to complete the following:

1. *Occupational preference hierarchy.* This consisted of seven occupations at seven preference levels, ranging from most preferred to most dis-

liked. The instrument for eliciting this hierarchy was devised by Oppenheimer (1966). In determining its reliability, he found that a median Spearman rank order correlation of .93 was obtained between the ranking it elicited on first trial and the ranking it elicited 48 hours later. The occupational preference hierarchy is installed by the research participant on the left side of his or her ROAG form.

2. *Role figure list.* This consisted of 16 people fitting role descriptions such as the following: mother—"Write your mother's name. If you grew up with a stepmother, write her name"; or ex-employer—"An employer or person to whom you were responsible for some task earlier in your life and whose evaluation of you you respected at the time" (Rockwell, 1986a, pp. 106-107). These role descriptions were based on wordings used in George Kelly's (1955) repertory grid technique. They were worded so that exceptions that are role equivalents can be included. They also pull for the most valued person fitting that description, and they represent a wide range of the roles commonly available to a person. Kelly's (1955) similar list of role titles was found by Mitsos (1958) to have a .77 agreement over two administrations separated by two weeks, and was therefore considered to be reliable. Research participants installed the role figure list on the top side of their ROAG forms, and then filled out the last form.

3. *Approval expectancy matrix.* This consists of writing, in each cell of the grid, the approval expectancy for occupational choice value that depicts how the role figure in that column would feel if the research participant were to decide to train for and enter the occupation in that row. These values range from 5 (strongly approve) to 1 (strongly disapprove).

Analysis of the Data

The resulting ROAG matrices were averaged, ignoring specific occupations and people's names, collapsing into a pooled matrix depicting the average approval expectancy value attributed to each role figure at each level of occupational preference.

The pooled matrix was analyzed using the BMDP4V multivariate analysis of variance (MANOVA) computer program (Barcikowski, 1983; Rich, 1983). This analysis included Huynh-Feldt (1976) adjusted F ratios, which are more conservative than normal F ratios and which take into account the nonindependence of the repeated measures data—112 observations from each subject on the same variable. Alpha for all significance tests was .05.

Results

Table 1 shows the average approval expectancy values for the 7 preference levels and the 16 role figures. The row marked "Marginal" shows the approval expectancy at each preference level averaged across the 16 role figures. In these 7 summary approval expectancy values, a clear linear trend is evident. Indeed, the MANOVA revealed a significant main effect for preference, with a Huynh-Feldt $F(5.66, 532.44) = 106.0, p = 0.0$. Thus, the hypothesis was confirmed.

A significant preference by role figure interaction, with an adjusted $F(60.64, 5700.29) = 3.87, p = 0.0$, justified breaking down the approval expectancy values by role figure and preference level, as they are in Table 1. These values reveal similar positive linear relations between approval expectancy and preference for each of the 16 role figures. This is borne out by statistical analyses of the simple main effect of preference at each role figure. For all 16 role figures, adjusted F ratios for this simple main effect were significant at the .0000 level. There was, therefore, no significant difference in the effects of preference at different role figures. The

TABLE 1
Mean Approval Expectancy Scores as a Function of Level
of Occupational Preference and Role Figure
($N = 100$)

Role Figure	(Like)	Preference level					(Dislike)
	1	2	3	4	5	6	7
Mother	4.50	4.22	3.72	3.30	2.90	2.51	1.83
Father	4.34	4.04	3.59	3.15	2.91	2.45	1.90
Brother	4.31	3.92	3.54	3.28	3.00	2.51	2.15
Sister	4.50	4.10	3.62	3.16	3.00	2.47	1.99
Mate	4.65	4.18	3.59	3.10	2.76	2.40	1.77
Ex-mate	4.46	3.96	3.59	3.16	3.01	2.53	1.92
Friend	4.67	4.15	3.16	3.10	3.11	2.51	1.84
Ex-friend	3.71	3.38	3.21	3.13	3.01	2.69	2.39
Professional	4.39	3.94	3.62	3.24	3.00	2.60	2.15
Neighbor	4.11	3.89	3.52	3.18	2.96	2.42	2.14
Relative	4.45	4.35	3.67	3.28	2.94	2.60	2.00
Teacher	4.37	3.93	3.39	2.96	2.89	2.51	2.19
Ex-teacher	4.38	3.90	3.47	2.97	2.93	2.52	2.09
Employer	4.45	4.11	3.38	3.11	2.72	2.33	1.80
Ex-employer	4.28	3.72	3.49	3.11	2.81	2.50	1.98
Other person	4.45	4.06	3.67	3.06	2.86	2.46	1.68
Marginal	4.38	3.99	3.54	3.14	2.93	2.50	1.99

significant role figure by preference interaction must therefore be explained by differences in the simple main effects of role figure at different levels of preference. This simple main effect was not of interest in this study.

Discussion

Approval expectancy for occupational choice has been clearly validated by establishing its relationship to the well-researched vocational psychology construct of occupational preference. This finding suggests that occupational preference is socially constructed and is highly influenced by the career decision maker's expectations of approval from significant others for making certain occupational choices.

It is important to note that this study focuses on the approval that the chooser would expect, as perceived by the chooser. It does not explore whether the role figures feel that they would react in the same way as the chooser thinks they would. From the points of view of both social learning theory and sociometry, this is not a serious methodological flaw. In social learning theory, expectancies for reinforcement—what the chooser thinks will happen—are more important in influencing behavior than the reinforcements that will actually take place. In sociometry, the notion of tele—the current of emotion flowing between two people, which often allows insight into the other's feelings—suggests that a chooser should have some insight into how a significant other would approve of a particular choice. On the other hand, sociometry is also concerned with what happens when a person becomes emotionally dissociated from his social atom and his telic connections yield inaccurate impressions. Future research into the sociometry of career choice could control for this important factor.

Sociometric Vocational Assessment

The research described above purposely studied the full range of preference (from most liked to most disliked) to see if preference was related to approval expectancy for occupational choice. This relationship was so strong that it overwhelmed any possible differences in how different role figures affect occupational preference. These findings were stronger than expected. They clearly indicate that future research should narrow the range of preference studied because it is desirable to explore whether different role figures do exert different types of influence.

Such discrimination might be possible if the range of preference that the sociometrist focused on were restricted to only the most preferred oc-

cupations. Then the same sociometric question might yield different answers for different role figures, so that each figure's unique influence could be discerned. This brings us nicely back to the notion of the occupational social atom.

This research suggests that the Rockwell Occupational Approval Grid should be altered so that, instead of listing occupations spanning the full range of preference, it should elicit a list of all of the chooser's most preferred occupations. This change results in a matrix that actually portrays numerically the emotional currents running between the chooser, his social atom, and his occupational atom—in other words, an occupational social atom matrix.

This author has been exploring this sociomatrix for several years. Sociometric mathematical models for analysing it are being sought and reviewed currently. Computer programs are also being sought that could take such a matrix and analyze it, using techniques such as multidimensional scaling and unfolding. To date, this line of investigation has not yielded any clear reportable results. However, it is possible that a currently available IBM PC software package (Chambers & Grice, 1986) designed to analyze Kelly's (1955) repertory grids may produce meaningful analyses of these sociomatrices as well, and with very little manual labor.

Pure research aside, the occupational social atom matrix has proved extremely valuable to career counseling clients in its raw, unanalyzed form. This author has designed a clinical version of the Rockwell Occupational Approval Grid, along with a manual that explains its use to the career counselor (Rockwell, 1986b). Clients fill out the grid on their own, listing key social atom figures and all their occupational preference fantasies and denoting how each person would feel if they were to choose to train for and enter each fantasized occupation. The client and counselor sit together with the ROAG in front of them, and the client is asked questions such as: What patterns do you see in your grid? What do those patterns mean? Are some occupations clearly more favored than others? Is there significantly more approval than disapproval, or vice-versa, or is there a predominance of 3s in your grid? Do the 3s in your grid represent indifference in your occupational social atom, or is it that you do not know how others feel? If the latter, what does it mean to you that you are unsure how others would respond to your choices? There are many possible fruitful questions, and they vary from client to client.

Career counseling can remain sociometric but leave the ROAG behind. Clients might draw an occupational social atom sociogram, portraying the relative distances and interrelationships between people and occupations. This picture could be redrawn at intervals and plumbed for its emotional impact on the client's decision-making process.

Psychodramatic Career Counseling

It is also possible to move from the grid or the sociogram into action. In the several years that this author has used it in education, training, and counseling, psychodramatic career counseling has proved to be a rich and helpful adjunct to more conventional career counseling methods, whether used in a group counseling or an individual, psychodrama *à deux* setting.

It was noted above that people often lose touch with their spontaneity, their ability to come up with novel solutions to old problems. Clients who must choose an occupation often become tense and rigid when faced with the tremendous consequences of committing themselves to a course of action. Psychodramatic career counseling can help to replenish their spontaneity, enabling them to explore the full range of values, skills, interests, and potential with which others (and nature) endowed them. In addition, it allows them to examine the network of reinforcements that constructed their preferences from childhood to the present. Beyond this, the benefits of role training, role reversal, and mirroring are readily apparent in the context of career decision making.

A basic premise of psychodramatic career counseling is that, behind every cell in the occupational social atom matrix, there is a possible psychodramatic encounter concerning why that person would feel that way about that career choice. The protagonist or chooser is given the opportunity to address influential persons psychodramatically, to disagree or agree, to argue or embrace, to protest or acquiesce. These can be powerful and enlightening psychodramas, often covering much more than career choice questions. They demonstrate how right Moreno was when he said that the self emerges from one's roles.

The Social Construction of Other Types of Decisions

Sociometry is in part the study of how people make choices. As this article points out, it can focus on choices of all kinds: choices of other people, of books, of money, of careers. While career choice is often one of the more important choices people make, and is therefore deserving of all the careful attention we can give it, there are certainly many other decisions the social construction of which also deserve attention.

The same type of sociomatrix can be used to explore the social construction of most decisions. On one side there would always be those people from the decision maker's social atom who are felt to be influential regarding the decision in question. On the adjacent side would be the different options one has to choose from in making that decision. For ex-

ample, the college student who must choose a major, but is undecided which to choose, may benefit from exploring what pushes and pulls he is experiencing from different areas of his social atom.

One career counseling client called for an interesting variant of the ROAG. She was happy at the law firm where she worked but was unsure of which career path to take within the firm. She listed all the people she worked with at the firm on the social atom side of her grid and the different career path options on the other side. The resulting approval expectancy matrix clarified the pros and cons enough for her to make a clear choice.

The possible applications of this type of sociomatrix are as varied as the clients we work with and the decisions they must make. Clinical use of the grid in a new decision-making area can be validated beforehand by a study that determines whether that type of decision is socially constructed, as career decisions have here been shown to be.

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The Relationship of Sociometric Choice to Group Typology: A Study of Junior High Age Students

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ABSTRACT. This study examines the relationship of psychological type combinations to the sociometric choices of junior high students. The study involved 103 students in a 5-day peer support workshop. The Myers-Briggs Type Indicator (Form G) was administered to subjects to determine psychological type, and sociometric questionnaires were used to identify sociometric stars, isolates, and mutual choice pairs. The chi-square statistic was computed to assess the relationship between psychological type and sociometric choice. The results indicated a significant relationship between psychological type combinations and the selection of sociometric stars and isolates within groups. Mutual sociometric choice pairs were also significantly related to type combinations. This study confirms Myers's theory of psychological type combinations and their effect on interpersonal relationships. The findings of this study suggest alternatives for responding to disruptive students.

The would-be learner's major preoccupation in the classroom may center not on the learning task but on the predicament of getting along for the greater part of his working hours with an accidentally selected group of disturbing associates with whom he is required to work toward a common goal chosen by someone else. (Getzels & Thelan, 1960, pp. 55-56)

ACCORDING TO 16 OF THE LAST 18 Annual Gallup Polls of the Public's Attitudes Toward the Public Schools, the American public considers lack of discipline the biggest problem for public schools (Gallup, 1986, pp. 43-59). In a study of teachers who left teaching after one year, Brooks (1985) found that 80% listed discipline problems as the primary reason for their departure.

Elaborate models of classroom management have given teachers easy-to-use techniques that are aimed at extinguishing negative behaviors and increasing positive behaviors within the controlled environment of the

classroom. Often these techniques are typified by extrinsic rewards and punishment used to modify behavior. A problem arises when the controlled setting is altered. Removing the extrinsic rewards and punishments also removes the incentive for socially acceptable behaviors and results in students being controlled by a method that stresses external authority, rather than the development of self-control.

If our schools are to produce creative thinkers able to deal with the problems of the future, citizens capable of self-control and better able to function in a democratic society, we need to examine the results of disciplinary procedures and seek alternative approaches so that teachers and students are placed in environments conducive to learning skills and attitudes that promote self-discipline.

The process of schooling is not solely academic; it is a social venture as well. Students are placed in a wide variety of groups for various educational activities. Classroom groups exhibit the same group dynamics as both formal and informal groups throughout society. J. L. Moreno was one of the earliest contributors to the study of group dynamics. He observed in a World War I camp for displaced persons that "the adjustment of people seemed to be better when they were allowed to form their own groups within the camp" (Cartwright & Zander, 1953, p. 22).

The sociometric test is a measure of social organization and group dynamics. One primary contribution of the sociometric method is the finding that individuals with adjustment problems in one group may function quite well when placed in a new group with socially compatible others.

Myers's theory of psychological type (1962) implies that attractions and repulsions of group members are in accordance with similarities or differences in psychological preferences. She states:

Whatever a person's particular combination of preferences may be, others with the same combination will be the easiest for him to understand and get along with. On the other hand, the person who differs from him on both preferences is hard to deal with and hard to predict, except that on every debatable question he is likely to take an opposing stand. (p. 53)

This study proposed to determine the relationship of similar or dissimilar psychological type combinations to the sociometric choices of junior high age students. Myers's attention to function combinations was used to determine similarity or dissimilarity.

The study was designed to contribute knowledge to the exploration of function combinations and their relationship to interpersonal relations.

Recent studies have provided supportive evidence for positive interpersonal relations of similar types. Thompson (in Carskadon, 1979) studied counselor-client relationships and found the similarity between counselor and client on the E-I and J-P scales to be significantly related to the

counselor's perception of client success. Dissimilarity on these scales was related to unsuccessful clients' relationships (see Carskadon, 1979). Sherman (1981) found that individuals have a tendency to marry someone similar in type on all scales but E-I. In a study of eighth grade friendship choices, Barberousse (1965) found a tendency for people to choose their own types.

Yeakley (1982), using communication adjustment scales to investigate psychological type similarity, found type similarity positively related to improved marital relationships, successful communication between managers and subordinates, and successful sales presentations. In college lecture and discussion classes, type similarity between teacher and students was positively correlated with receiving higher grades relative to the students' cumulative grade point average.

There is equal evidence that negative interpersonal relationships are associated with dissimilar types. Ballard (in Cohen, 1981) found that in the vast majority of cases, severe student misconduct resulting in removal from the classroom occurred when teacher and student type were mismatched. In addition, teachers' descriptions of the misconduct were much harsher for the same offense than when a mismatch did not occur.

Besides the Yeakley method for combining the preferred functions into communication styles, Hoy and Vaught (1981) combined the functions to examine the relationship of problem-solving styles to problem-solving skills, and Blaylock (1983) combined the functions to compare compatible and complementary teams in a simulated production environment.

The primary research questions in this study were

1. What is the relationship of function combinations to sociometric "stars" and "isolates" within groups?
2. What is the relationship of function combinations to the mutual attractions or repulsions within groups?

Method

Subjects

The junior high age subjects for this study were selected to participate in a 5-day leadership workshop. They came from a large elementary school district with a total enrollment of approximately 25,000 students in kindergarten through eighth grade. The workshop was designed to promote personal growth through instructional sessions, group projects, and peer support. The student sample consisted of 67 girls and 36 boys

ranging in age from 10 to 15 years. The average age was 12.3 years.

The total workshop sample of 103 boys and girls was carefully selected by criteria distinguishing "formal leaders" and "informal leaders."

Formal leaders were identified as students who had distinguished themselves in traditional ways within the school setting and local community. A formal leader was an elected officer in student government who had above average grades and was well liked by teachers and peers. Formal leaders were chosen to participate through competitive interviews.

Informal leaders were students who had a following in a negative way. They were typified by frequent disciplinary referrals to the principal's office, disruptive classroom behavior, and, in some instances, arrest for status or criminal offenses. Students who met the informal leader criteria were invited to attend the workshop. The ratio of formal leaders to informal leaders was 3:1.

Procedures

The hidden curriculum of the workshop was peer support created by surrounding informal leaders with positive peer models who provided maximum social pressure for behaving positively.

The total workshop population was divided into eight subdivisions called councils. Each council of approximately 13 students was formed with an effort to balance males and females and various grade levels, and to maintain the 3:1 ratio of formal to informal leaders.

Each of the eight councils was led by an adult facilitator and two skilled high school age junior counselors. Councils provided a "classroom" base for the students and served as a setting for group discussions, problem-solving activities, and self-exploration.

The Myers-Briggs Type Indicator (Form G) was administered to the students in their first small group meeting to determine individual and group type characteristics. A sociometric questionnaire was included as part of the final workshop evaluation. Students were asked to name another student in their group whom they would most prefer working with and the student they would least prefer working with.

For the first research question, the combination of perception and judgment preferences of the individual receiving the most positive sociometric votes (the sociometric star) was compared with the number of others within the group who shared or did not share the same combination. Similarly, the function combination of the individual receiving the most negative sociometric votes (the sociometric isolate) was compared with the number of others within the group who shared or did not share the same combination. Totals from each of the eight groups were com-

bined, and the chi-square statistic was computed using a 2×2 contingency table.

For the second research question, three possibilities existed for mutual choice makers. They shared both functions (NF and NF), one preference (SF, NF), or none (ST, NF). To compute the chi-square statistic, a 2×3 contingency table was constructed. The research questions were tested for significance at the .05 level for a two-tailed test.

Results

Statistical analysis of the data displayed in Table 1 indicated that the selection of sociometric stars and isolates was significantly related to similar or dissimilar function combinations. Students were more likely to be selected positively when they shared similar functions with others in their group. Similarly, students isolated typologically from other group members were more likely to receive negative sociometric votes.

The obtained chi-square value (7.26) was significant at the .01 level, confirming the relationship between shared function combinations and the selection of sociometric stars and isolates within groups.

For the second research question, the eight council groups produced 15 mutual positive choice pairs and 5 mutual negative choice pairs. There were no contradictory selections of one student picking another positively while being selected negatively in return.

The statistical analysis of mutual choice pairs presented in Table 2 shows that there was a significant relationship between positive mutual choice and similar preferences for perception and judgment. Negative mutual choice was significantly related to dissimilar preferences for perception and judgment. The subjects tended to choose to relate to group members who had similar preferences for perception and judgment and avoid those who differed. The obtained chi-square value (12.0) was significant at the .01 level.

TABLE 1
Chi-square Analysis of the Relationship of Sociometric Stars and Isolates to the Shared Function Combinations with Others in Their Group

	Shared function combinations	Not shared function combinations	χ^2	Significance
Stars	27	68	7.26	.01
Isolates	12	83		

TABLE 2
Relationship of Mutual Positive or Negative Sociometric Choice
to Shared Functions for Perception and Judgment

	Shared functions	Alike on one dimension	Alike on no dimensions	χ^2	Significance
Positive mutual choice	9	6	0	12	.01
Negative mutual choice	0	2	3		

Conclusion

The selections within groups of sociometric stars and isolates and mutual choice pairs were found to be significantly related to shared preferences for perception and judgment. This study confirmed Myers's theory of type combinations and offers an alternative for dealing with disruptive students.

All students selected as sociometric stars were chosen for the workshop as formal leaders. Students identified as sociometric isolates were evenly split between formal and informal leaders. The results of this study lead to the conclusion that the informal leaders chosen as sociometric isolates were the result not of who they were, but where they were typologically in relationship to their particular group. Prior school behavior was not predictive in the selection of sociometric isolates.

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Sociometric Elements Related to the “Healing Circle” as Presented by John Mosher

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ABSTRACT. The Mosher Healing Circle can be used as a model by sociometrists. The author applied her own frame of reference to the model and identified stages that correspond to opposites in sociometric position. The models derived from variations of the quartered circle proved useful in helping members of a group accept the currents of acceptance and rejection within their own groups.

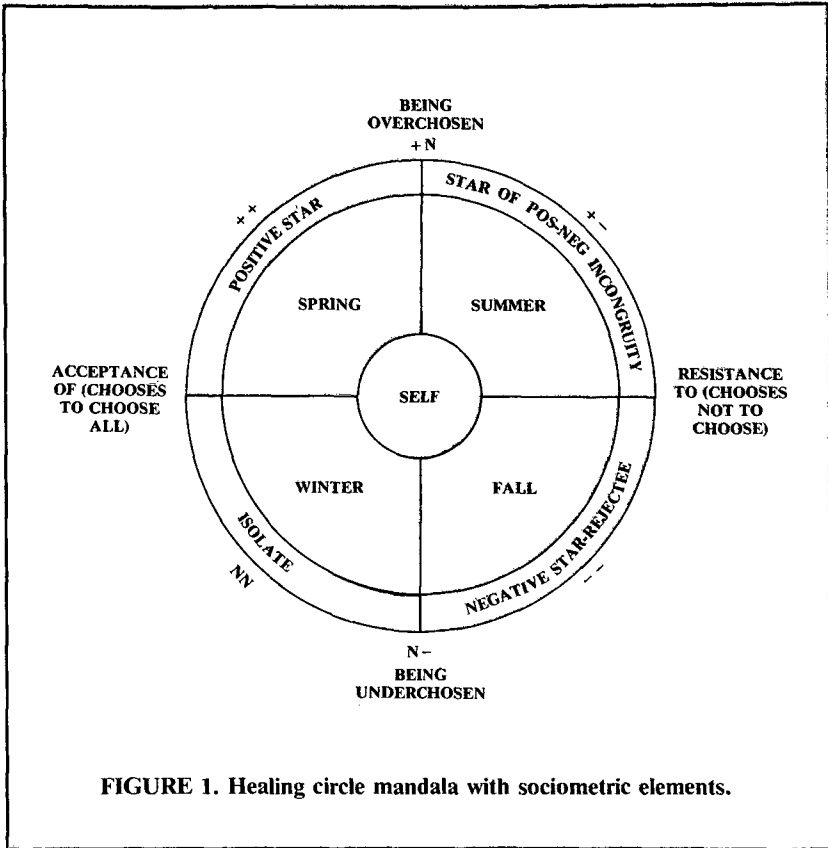
AT THE 1987 MEETING of the Psychodrama Conference in Santa Monica, John Mosher made a day-long presentation entitled “The Healing Circle: Myth, Ritual, and Therapy.” This was the premier presentation of some 20 years building and involved trays of slides, a text in draft form, and many fascinating and convincing parallels between a therapeutic process and natural cycles. The Healing Circle is the quartered circle mandala that Mosher presented in terms of the following components: (1) duality; (2) developmental stages; (3) the seasons; (4) the elements; and (5) intrarelationship in the circle. Mosher (1987) proposed that “this synthesizing meta-model can help strategize a course of therapy or determine an immediate tactical intervention.”

The clarity of the presentation made it possible for those of us who attended to begin immediately to apply our own frame of reference to the model. The author applied sociometric principles to the quartered circle, identifying stages with each season that correspond to opposites in sociometric position. Figure 1 illustrates the sociometric cycle.

Hale (1985) proposes that there are six possible results of reciprocal choice making in a group. Three are mutual, and three are incongruous:

positive choice met with a positive choice: + +

positive choice met with a negative choice: + -



positive choice met with a neutral response: + n
 negative choice met with a neutral response: - n
 negative choice met with a negative choice: - -
 neutral choice met with a neutral choice: n n

To the six have been added the choice-making position of (1) choosing all and (2) choosing not to choose, which, while similar stances, have an opposite effect on a group.

In the circle, acceptance of has been written at the west position, and at the east position, resistance to, which may be read as follows:

1. Acceptance of being overchosen results in reciprocating positive choices and is experienced as being a star of positive mutuality: + +. Placement within the healing circle mandala corresponds with the season of spring.

2. Acceptance of being underchosen is experienced as isolation: $n\ n$. This corresponds with the winter season.

3. Resistance to being overchosen results in being neutral toward, or rejecting positive choices, and is experienced as high intensity incongruity: $+ -$. This corresponds with the summer season.

4. Resistance to being underchosen is experienced as rejection. $- -$. This corresponds with the fall season.

In terms of duality, the author considers the following to be the strongest opposites:

Star of mutuality ($+ +$)

Rejectee ($- -$)

Overchosen ($+ n$)

Underchosen ($- n$)

Isolate (nn)

Star of Incongruity ($+ -$)

Chooses to choose all

Chooses not to choose

The isolate and star of incongruity are opposites, being matched for highest intensity and lowest intensity.

Application

According to Mosher, each position within the quartered circle represents a developmental stage in the individual or in the group. The task of therapy is often one of assisting in the full experience of *what* is happening in life and the preparation for the future. The sociometric-cycle frame of reference provides an explanation to group leaders and group members about ways an individual's sociometric position is connected to his or her or the group's developmental stage.

This example of the cycle of a group star illustrates the healing circle mandala. A group star may find the role of being overchosen confining and may feel stuck there by the expectations of others. According to the circle, the star's task is to resist being overchosen and begin to reject, resulting in strong positive and negative relating. This results in mutual rejection because withholding something that is valued is a major contributor to negative choice making. There follows acceptance of rejection and the cooling off period that we allow ourselves and others who have disappointed us: the isolate in a healing of wounds period. Once a person has experienced successfully getting out of an untenable star position, it makes it possible for him or her to begin to leave the isolation and move toward developing skills and connections to others that may once again result in being a positive star. Thus, the cycle begins again.

Maggie Lawrence (1987) identified a sociometric cycle based on the issue of inclusion as illustrated in Figure 2. Each position has advantages and disadvantages to the person and has potential for enhancing growth.

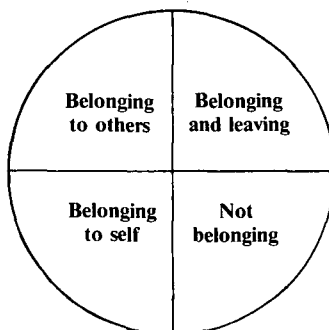


FIGURE 2. Lawrence's inclusion cycle.

Purpose of the Meta-models

These meta-models are extremely useful in helping members of a group accept the currents of acceptance and resistance within their own processes and evaluate the results of sociometric testing in ways that *liberate them from judgments about the higher or lower desirability of one sociometric position over another*. The dreaded position of rejectee or isolate may be viewed as therapeutic, or natural, and as providing group members with experiences that facilitate them developmentally.

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New Developments in Sociometry

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SOCIOMETRY AS A QUANTIFYING and a qualitative social science has benefitted in recent years from both the development of theory and the application of computer technology. This section provides information to the reader about the following: computer programs for sociometric data, particularly the MacIntosh program; the work of Hector Sabelli that features a process theory and emphasizes the union of opposites; and John Mosher's work in myth, ritual, and therapy, which has prompted the design of the "sociometric cycle." The following short reports elaborate on these new developments.

Computer Programs for Sociometric Data

When Jimmie Naugher (1975) completed his dissertation, *A System for the Collection and Computer Analysis of Sociometric Data for Research and Classroom Purposes*, at North Texas State University, the computer program was written for a main frame computer. In 1986, Tom Treadwell headed a project to write the program for an IBM PC. This computer program was introduced to attendees at the 1987 annual meeting of the American Society for Group Psychotherapy and Psychodrama in New York. The program allows for entering sociometric data, quantifying and analyzing the results, and assembling the data in a form that assists in the drawing of sociograms. Further descriptions and information are available from Treadwell at the Department of Psychology, Westchester State College, Westchester, PA 19383.

There is now a computer program for sociometric test data that runs on the MacIntosh 512 computer. Frank Snyder, coordinator of the School of Social Work Computer Lab at Ohio State University, along with Mowgli Assor and Barry Stellrecht, has written a computer program in MAC BASIC for the MacIntosh 512 computer. The program can also run on the Mac Plus, the Mac SE, and the MacIntosh II. Frank Snyder refers to the program as "user friendly" and one that produces data in forms familiar to the sociometrist.

The program handles data from the sociometric test and can produce a 20×20 sociomatrix—a sociomatrix for a group of 20 participants. Figure 1 presents a sample of the MAC BASIC sociomatrix. The sociomatrix

FIGURE 1. Sample sociomatrix from EZ MATRIX program.

	1	2	3	4	5	6	7	8	+	=	N
1 :Female 1		+1 +	+2 +	N +	N ⁿ	N +	N +	+3 -	3	0	4
2 :Female 2	+2 +		+3 +	+1 +	+4 ⁿ	-1 =	N +	-2 =	4	2	1
3 :Female 3	+6 ⁿ	+1 +		+3 +	+5 +	-1 -	+2 +	+4 +	6	1	0
4 :Female 4	N ⁿ	+4 +	+4 +		+3 +	+2 +	+1 +	-4 +	5	1	1
5 :Male 4	+4 ⁿ	+1 ⁿ	+3 ⁿ	+2 +		N ⁿ	+6 =	+5 ⁿ	6	0	1
6 :Male 3	+3 +	+2 =	+4 ⁿ	-1 +	N ⁿ		N ⁿ	+1 +	4	1	2
7 :Male 2	+3 +	+1 ⁿ	+4 +	+2 +	N +	N ⁿ		+5 +	5	0	2
8 :Male 1	+2 +	-1 -	+4 ⁿ	+3 =	N +	N +	+1 +		4	1	2

Choices Received:

+	6	6	7	5	3	1	4	5			
=	0	1	0	1	0	2	0	2			
N	1	0	0	1	4	4	3	0			

Mutuals:

+	3	4	6	4	3	0	3	3
-	0	1	0	0	0	0	0	1
N	1	0	0	1	1	2	1	0

Incongruities:

+/-	0	1	1	2	0	3	0	1
+/N	3	1	0	0	3	2	3	2
-/N	0	0	0	0	0	0	0	0
Total	3	2	1	2	3	5	3	3

Weighting:

+	16	26	18	19	6	4	14	12
-	0	1	0	1	0	2	0	0
Mutual	8.6	10.7	12.9	10.7	8.6	4.3	8.6	8.6
Total	24.6	35.8	30.9	28.8	14.6	6.3	22.6	20.6

(Figure 2) shows all choices made and received, all perceptions made and received, all mutuals and incongruities, and computes a weighting. For ease in analysis, the program can handle 10 sociomatrices per file and has a capacity to load sociometric test data from other files.

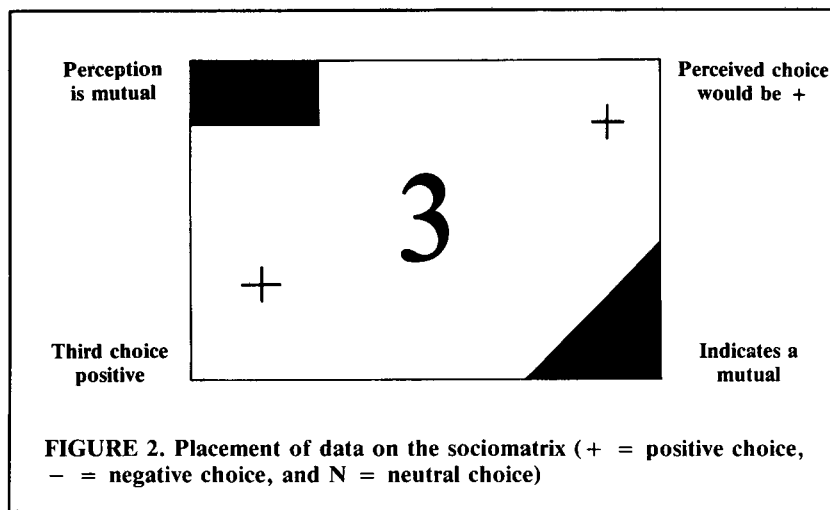
The matrix analysis program displays and prints all pairings by the level of choice (all first choices, for instance), can identify the highest reciprocal pairings for any level of choice, and provides for ease in sub-grouping based on chosen variables.

The data can be entered by filling in a blank sociomatrix displayed on the screen, or each group member can key in his or her data individually following a programmed set of questions. Once the data have been entered, it takes 2 to 3 minutes to print a completed sociomatrix. This program does not produce a sociogram; however, portions of the sociomatrix can be highlighted. From this, a sociogram may be drawn.

Snyder, Assor, and Stellrecht plan to make the program available for purchase by fall 1987. For more complete information, readers should write to Frank Snyder at 1054 Westborough, North, Columbus, Ohio 43201-3717.

Sociometric Measurement Reviewed in Terms of H. Sabelli's Model of Opposition

Hector Sabelli (1986) proposes that every choice has oppositional components, both positive and negative. "The theory of the union of op-



posites states that opposition cannot be represented by totally opposed vectors; there always is a common component to the two opposites."

In soliciting sociometric data, particularly data from a sociometric test, we are seeking information about the choices that person is making for others and information about the feelings underlying those choices. In the past, we have considered the results of those choices and the rankings persons have made and made assumptions about the feelings underlying the choices. If a person receives a positive choice, we assume the feelings are primarily positive. Often this is the case; however, the actual choice itself does not translate into a specific degree of positive feeling. In addition, being a first-choice positive does not necessarily mean that the first-choice person is held in higher positive regard than a person who is in third- or fourth-choice position.

At this time an experimental procedure is being developed for the collection of sociometric data that will elicit degrees of positive and degrees of negative feeling underlying a particular relationship and a specific role interaction and the third dimension of its relationship or impact on choice. Further elaborations of sociometric theory and Sabelli's process theory may appear in a future issue of this journal. For further information about the experimental stages of sociometric measurement, readers should write to Ann E. Hale at 4536 Latona Ave. NE, Seattle, WA 98105.

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An Introduction to the COMPSOC System: A Computerized Approach to Processing Sociometric Data

THOMAS W. TREADWELL and EVAN A. LEACH

ABSTRACT. Sociometry, a quantitative method for measuring interpersonal relationships in group settings, has traditionally been a cumbersome task requiring hours of tabulating, calculating, and graphing to produce a group analysis. This paper introduces the COMPSOC (*Computerized Sociometry*) system, which analyzes sociometric data within minutes. Brief descriptions of each COMPSOC profile and the six basic matrices are included, along with a computerized sociometric analysis of group data.

SOCIOMETRY HAS BEEN CONSIDERED a quantitative method for measuring interpersonal relationships in a group setting for well over 50 years. Books, articles, and monographs emphasize the various roles sociometry occupies in industry, education, and mental health. However, the greatest barrier to effective implementation of sociometry in an applied setting is the cumbersome calculations required to chart, quantify, interpret, and graph sociometric data. In order to alleviate this problem, a system has been developed to replace the traditional paper-and-pencil method with one that can be generated on a main frame or personal computer. The input and output is rapid and creates a flexible analysis of data that is easily read and understood. This paper introduces this system as it applies to a personal or home computer, outlines its components, and discusses the implications for practitioners and researchers of computerized sociometry in examining interpersonal relationships within groups.

The NARSOC (*Naugher Sociometric*) computerized sociometry program was originally written by J. R. Naugher (1975), modified by R. E. Martin and T. W. Treadwell (1983) for a main frame computer, and adapted by J. Steinberg, L. Bert, and T. Treadwell (1986) for use on an

IBM PC or an IBM PC compatible personal computer. The adapted computerized program has been named the COMPSOC (*Computerized Sociometry*) system and serves the following two functions: It provides forms that supply information pertaining to the sociometric choices and related data in its raw form, and it generates a computer analysis of data with 10 reports. This computer program has been tested on an IBM 360/50, a CDC CYBER 74 6600, a Honeywell-Xerox Sigma 9 (CP-V XEROX), IBM 4381, and an IBM PC.

Interpreting COMPSOC Profiles

The main analysis is subdivided into 10 profiles labeled A,B,C,D,E,F, G,H,I, and J, which provide six pieces of information: (1) an analysis of choices made by each person; (2) an analysis of the choices received by each person; (3) a list of people in rank order by the number of choices received; (4) a summary analysis of one variable; (5) an analysis of the group structure; and (6) a sociogram layout, a visual picture of the analysis. Along with the profiles, this computerized analysis also illustrates six matrices that display the (1) raw data, (2) choices made, (3) mutual choices, (4) degree of mutuality, (5) total choices received, and (6) subgroups for the sociometric question.

A computerized sociometric analysis produced by COMPSOC is shown in the appendix (pps. 130-151). This section contains an analysis for one sociometric question, one variable, and three choices for the question. Because of space limitations, only profiles I and J are reported here.

Profile A: Choices Made on a Given Question

Profile A is divided into a separate report for each sociometric question (i.e., Profile A-1 and Profile A-2). Profile A-1 displays a detailed analysis of *the choices made* by each person on the first sociometric question. Profile A-2 displays the same information for the second question.

Profile B: Choices Received on a Given Question

Profile B is also divided into a separate report for each sociometric question (Profile B-1 and Profile B-2). Profile B-1 displays a detailed analysis of *the choices received* by each person on question one. Profile B-2 displays the same information for the second question.

The A and B profiles have similar formats. The basic difference is that Profile A lists the person and his or her choices, whereas Profile B lists the person and then each person *who chose him or her*.

Profile C: Persons Rank Ordered by Number of Choices Received

Profile C lists everyone in rank order *based on the number of choices received* on all questions combined and on each separate question. The profile is specifically helpful for the identification of an individual's relative rank of popularity on the questions administered.

Profile D: Persons in the Top Third on One Question and the Bottom Third on Another Question in Number of Choices Received

Profile D identifies individuals for whom there is a discrepancy in ranking on different sociometric criteria. This information is usually helpful in isolating areas of conflict that individuals may be experiencing in a group as perceived by group members.

Profile E: The Number of Choices a Person Receives by His or Her Choice Position

Profile E provides a summary of the number of first-, second-, and third-place choices received by each person on each question and a total sum of the number of choices received on all questions combined.

Profile F: List of Mutual Choices for Each Person on Each Question

Profile F identifies the mutual choices made by group members on each question administered.

Profile G: List of Persons Who Made or Received Cross-Category Choices

Profile G lists the number of total choices made or received on each variable for each question administered. For example, this profile will list all choices made of a given categorical variable (i.e., sex, race, GPA, age, leadership qualities) for each question and for all questions combined.

Profile H: Summary Information of Categorized Variables

Profile H lists (1) the number of persons in a group, (2) total number of choices made and received, (3) individuals who received only one or no choices, (4) persons with no mutual choices, (5) number of choices made that were cross-category, (6) persons who made cross-category choices, (7) number of choices that were received that were cross-category, and (8) individuals who received cross-category choices.

Profile I: Group Structure

Profile I supplies a separate report that describes the choice patterns for each sociometric question. These patterns illustrate the subgroupings for each question, the reciprocal sets (choices made) within each subgrouping, the one-way choices for a person in subgrouping 1 for another person in the same subgroup, and the one-way choices made by a person in a specific subgroup for someone not in that subgroup. The subgroupings are specifically defined so that a person can be in one, and only one, group on a given question. Each subgroup is made up of individuals who have mutually selected one another. For example, a subgroup might consist of 10 persons, and within that subgrouping of 10 it lists a 5-person reciprocal set of individuals who selected one another. This would be true for a 4-, 3-, and 2-person reciprocal set. This profile lists the one-way choices by a person in subgrouping 1 for another person in subgrouping 2, and lists the one-way choices by a person in subgrouping 1 for a person not in subgrouping 1.

Profile J: Sociogram Layout

This is a visual profile of group relationships. One is able to detect the subgroups, semi-isolates, isolates, stars, near stars, chains, intra, inter, and non subgroup relations outlined in a sociogram format. It lists each person in the group and the subgrouping that person is identified with. Also indicated are the number of choices received for that question, the number of choices received for all sociometric questions, and the selections made by that individual. All subgroupings are listed or placed on the sociogram printout together; isolates and persons who chose but were not selected (semi-isolates) are placed on the printout in a quasi-subgrouping. Each person is given an identification number (ID) that is used specifically to place individuals on the sociogram layout. Placement of the ID number on the sociogram printout is determined on the basis of a weighting criterion. This is printed at the beginning of the profile. The weighting system used in the appendix is based on the number of choices received on that specific sociometric question. This weighting system is not limited, and the sociometrist has the option to select other weighting systems in the program.

The Utility of COMPSOC in Education, Industry, and the Field of Mental Health

An enormous amount of literature focuses on the theory and application of sociometry. Clearly, sociometry is considered a viable tool that is

useful to both the researcher and practitioner. The fact that sociometry is so popular is surprising, considering the great amount of time and manual labor required to use sociometry effectively. In its original state, the sociometric process was timely, limited in scope, and required a moderate amount of quantification and organizational skills. Each question had to be processed separately and charted by hand. Ultimately, the confounding variable of human error was often present and reduced the data's reliability. For a fairly comprehensive review of the sociometric literature, see Criswall (1943), Jennings (1950), Northway (1952), Bjerstedt (1956), Moreno (1960), Hart (1976), Hale (1985), and Kumar and Treadwell (1985). Although this list is far from complete, it gives the practitioner or researcher a primary assemblage of sociometric research.

The study of group processes within industry, education, and the field of mental health requires one to gauge, accurately, the interaction of group members on social and task-relevant variables. The COMPSOC system provides this information in a manner that is faster and more reliable than the conventional pencil-and-paper method. In most cases, a comprehensive sociometric report can be generated within 15 minutes. The limited degree of resistance encountered when teaching this program usually comes from individuals who experience anxiety because of fear of computers. However, computerized sociometry is easily learned and promotes human-computer interaction, which quickly remedies this problem. In short, the COMPSOC system improves and expedites the traditional sociometric method through the incorporation of a computerized analysis of group data.

NOTE

A pilot project to explore various uses of COMPSOC as it applies to industry, education, and mental health is under way. Results of the project will be presented at the April 1988 meeting of the American Society of Group Psychotherapy and Psychodrama in San Diego. Readers who are interested in furthering the project, particularly those in business or industry, should get in touch with Dr. Thomas Treadwell, Department of Psychology, West Chester University, West Chester, PA 19383.

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-

Thomas Treadwell is a professor of psychology at West Chester University, West Chester, PA, where Evan Leach is a graduate student in industrial and organizational psychology.

APPENDIX

#####

1

1

DATA AS PROVIDED TO COMPUTER

CARD TYPE 1:

	NQ	HC	NV	ABCDEFGHIJWP	MAX
1PARAMETERS	1	3	1	11111110000	0

CARD TYPE 1A:

OPTION	CW1	CW2	CW3	CW4	CW5	CW6	CW7	CW8	CW9	CW10
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

CARD TYPE 2:

2QUESTION1 SELECT PERSONS TO WORK WITH ON THE SOCIOMETRIC PILOT PROJECT.

CARD TYPE 3:

3QUESTION2 -----NONE-----

CARD TYPE 4:

4QUESTION3 -----NONE-----

CARD TYPE 5:

5SEX OF PERSON SEX 2MALE M FEMALE F

CARD TYPE 6:

6 0

CARD TYPE 7:

7 0

DATA AS PROVIDED TO COMPUTER

CARD TYPE 81:

81 8 TREADWELL/LEACH--1987/1988--COMPUTERIZED SOCIONETRY--THE "COMPSOC" SYSTEM

CARD TYPE 82:

82 8 1ALLISON	2
82 8 2WILLIAM	1
82 8 3CHRIS	2
82 8 4DOUGLAS	1
82 8 5JON	1
82 8 6PAT	2
82 8 7RALPH	1
82 8 8HAROLD	1
82 8 9SUSAN	2
82 8 10BARB	2
82 8 11LEWIS	1

Continued

82 8 12	HOLLY	2
82 8 13	BRUCE	1
82 8 14	LAURIE	2
82 8 15	JIM	1

NO. OF TYPE 82 CARDS READ: 15

CARD TYPE 83:

83 8 1	5	9	12	0	0
83 8 2	0	0	0	0	0
83 8 3	5	13	0	0	0
83 8 4	7	0	11	0	0
83 8 5	12	9	0	0	0
83 8 6	4	7	11	0	0
83 8 7	6	4	0	0	0
83 8 8	11	6	0	0	0
83 8 9	1	12	5	0	0
83 8 10	15	4	0	0	0
83 8 11	8	6	4	0	0
83 8 12	1	9	0	0	0
83 8 13	3	5	4	0	0
83 8 14	15	10	0	0	0
83 8 15	10	0	0	0	0

NO. OF TYPE 83 CARDS READ: 15

 BASIC MATRIX DATA--

NUMBER IN GROUP: 15

"ID" IS AN IDENTIFYING NUMBER USED FOR THE PERSON IN THESE REPORTS.

"1/1"=1ST CHOICE ON QUESTION 1, ETC.

"1/2"=1ST CHOICE ON QUESTION 2, ETC.

 CHOICES MADE--IC(1,J,X)

ID(1) ANAME(I,M) ***** 1/1 2/1 3/1 *****

----- *****

1. ALLISON	5	9	12
2. WILLIAM	0	0	0
3. CHRIS	5	13	0
4. DOUGLAS	7	0	11
5. JON	12	9	0
6. PAT	4	7	11
7. RALPH	6	4	0
8. HAROLD	11	6	0
9. SUSAN	1	12	5
10. BARB	15	4	0
11. LEWIS	8	6	4
12. HOLLY	1	9	0
13. BRUCE	3	5	4

Continued

```

14. LAURIE      15  10  0
15. JIM        10   0  0
  
```

 END OF THIS REPORT

1 GROUP ID NO.: 8 TREADWELL/LEACH--1987/1988--COMPUTERIZED SOCIOOMETRY--THE "COMPSOC" SYSTEM

 BASIC MATRIX DATA--

NUMBER IN GROUP: 15

A MUTUAL CHOICE OCCURS WHEN TWO PEOPLE BOTH CHOOSE EACH OTHER--IF FOR EXAMPLE BILL CHOSE JOE AND JOE CHOSE BILL.

"1/1"=1ST CHOICE ON QUESTION 1, ETC.

"1/2"=1ST CHOICE ON QUESTION 2, ETC.

 MUTUAL CHOICES--ICM(1,J,K)

```

ID(1) ANAME(1,M)      1/1  2/1  3/1
-----
  
```

```

1. ALLISON      0   9  12
2. WILLIAM      0   0   0
3. CHRIS        0  13   0
  
```


4. DOUGLAS	7	0	11
5. JON	0	9	0
6. PAT	0	7	11
7. RALPH	6	4	0
8. HAROLD	11	0	0
9. SUSAN	1	12	5
10. BARB	15	0	0
11. LEWIS	8	6	4
12. HOLLY	1	9	0
13. BRUCE	3	0	0
14. LAURIE	0	0	0
15. JIM	10	0	0

 END OF THIS REPORT

1 GROUP ID NO.: 8 TREADWELL/LEACH--1987/1988--COMPUTERIZED SOCIOMETRY--THE "COMPSOC" SYSTEM

 BASIC MATRIX DATA--

NUMBER IN GROUP: 15

"ID" IS AN IDENTIFYING NUMBER USED FOR THE PERSON IN THESE REPORTS.

"1/1"=1ST CHOICE ON QUESTION 1, ETC.

"1/2"=1ST CHOICE ON QUESTION 2, ETC.

Continued

DEG. OF MUTUALITY-RUGT(I, J, K) ;

ID(I) ANAME(I,M)

[illegible]

iii 2/1 3/1

[illegible]

1. ALLELSON

20,00 15,00

2. WELFARE

၁၀၀

3. **Суд**

၂၀၁၆-၁၇

4. செய்து கொடுத்தேன்.

[illegible]

4. 1000

1.00 1.00 1.00

NOTES

00:00 00:00 00:00

PAI
O.

00:27 00:29 00:30

7. RALPH

00° 00' 00" 00° 02' 00"

8. HAROLD

00° 00° 00°

9. SUSAN

12.00 16.00 12.00

Q. BARB

00.00

1. LEWIS

9.00 12.00 9.00

2. HOLLY

16.00 16.00

3. BRUCE

000000

6. **Alibi**

၀၀၀

END OF THIS REPORT

1. GROUP TO NO. 8
TREADWELL / EACH = 1987/1988 = COMPUTERIZED SOCIOLOGY -- THE "COMPSOC" SYSTEM

BASIC MATRIX DATA:-

NUMBER IN GROUP: 15

TOTAL CHOICES RECEIVED BY QUESTION

ID	NAME	ALL QUESTIONS	ITRAQ(I)	ITREQ(I,K)	QUESTION1 SE
***	*****	*****	*****	*****	*****
1.	ALLISON	2	2	2	
2.	WILLIAM	0	0	0	
3.	CHRIS	1	1	1	
4.	DOUGLAS	5	5	5	
5.	JON	4	4	4	
6.	PAT	3	3	3	
7.	RALPH	2	2	2	
8.	HAROLD	1	1	1	
9.	SUSAN	3	3	3	
10.	BARB	2	2	2	
11.	LEWIS	3	3	3	
12.	HOLLY	3	3	3	
13.	BRUCE	1	1	1	
14.	LAURIE	0	0	0	
15.	JIM	2	2	2	
		****	****	****	
	TOTALS	32	32	32	

END OF THIS REPORT

Continued

1 GROUP ID NO.: 8 TREADWELL/LEACH--1987/1988--COMPUTERIZED SOCIOMETRY--THE "COMPSOC" SYSTEM

BASIC MATRIX DATA-

NUMBER IN GROUP: 15

A MUTUAL CHOICE OCCURS WHEN TWO PEOPLE BOTH CHOOSE EACH OTHER--IF FOR EXAMPLE BILL CHOSE JOE AND JOE CHOSE BILL.

A "SUBGROUPING" INCLUDES ALL PERSONS WHO ARE CONNECTED BY MUTUAL CHOICES ON A QUESTION, THUS EACH SUBGROUPING IS MUTUALLY EXCLUSIVE AND IS IDENTIFIED BY A CODE NUMBER. PERSONS WITH NO MUTUAL CHOICE ARE CONSIDERED A "QUASI-SUBGROUPING" WITH CODE ZERO.

SUBGROUPINGS--ISUBG(I,K)

ID NAME ***** QUESTION1 SE *****

1.	ALLISON	1
2.	WILLIAM	0
3.	CHRIS	2
4.	DOUGLAS	3
5.	JON	1
6.	PAT	3
7.	RALPH	3
8.	HAROLD	3

9. SUSAN 1
 10. BARB 4
 11. LEWIS 3
 12. HOLLY 1
 13. BRUCE 2
 14. LAURIE 0
 15. JIM 4

END OF THIS REPORT

1 GROUP ID NO.: 8 TREADWELL/LEACH--1987/1988--COMPUTERIZED SOCIOLOGY--THE "COMPSOC" SYSTEM

REPORT I-1: GROUP STRUCTURE FOR QUESTION1 SELECT PERSONS TO WORK WITH ON THE SOCIOMETRIC PILOT PROJECT.

NUMBER IN GROUP: 15

"ID" IS AN IDENTIFYING NUMBER USED FOR THE PERSON IN THESE REPORTS.

A MUTUAL CHOICE OCCURS WHEN TWO PEOPLE BOTH CHOOSE EACH OTHER--IF FOR EXAMPLE BILL CHOSE JOE AND JOE CHOSE BILL.

A "SUBGROUPING" INCLUDES ALL PERSONS WHO ARE CONNECTED BY MUTUAL CHOICES ON A QUESTION, THUS EACH SUBGROUPING IS MUTUALLY EXCLUSIVE AND IS IDENTIFIED BY A CODE NUMBER. PERSONS WITH NO MUTUAL CHOICE ARE CONSIDERED A "QUASI-SUBGROUPING" WITH CODE ZERO.

"RECIPROCAL SET"= A GROUP OF PERSONS, EACH OF WHOM BOTH CHOSE AND WAS CHOSEN BY EACH OF THE OTHERS IN THE

Continued

SET (THUS ALL ARE MUTUALS). IT IS A SUBDIVISION OF A SUBGROUPING IN THAT THE SUBGROUPING MAY ALSO CONTAIN PERSONS WHO ARE MUTUAL WITH ONLY ONE OTHER PERSON IN THE SUBGROUPING. PERSONS ARE LISTED IN ONLY THE LARGEST UNIQUE RECIPROCAL SET(S). FOR EXAMPLE, IF 4 PEOPLE ALL CHOSE EACH OTHER THEY WOULD BE LISTED AS ONE 4-PERSON SET, NOT IN THE 6 UNIQUE 2-PERSON SETS.

CATEGORIZED-VARIABLE CODES:

"SEX" M=SEX OF PERSON M=MALE F=FEMALE

"CROSS-CATEGORY" CHOICE: EXAMPLE--IF THE VARIABLE WAS "SEX" AND SOMEONE IN CATEGORY "MALE" CHOSE SOMEONE IN CATEGORY "FEMALE".

```
*****
--NUMBER OF CHOICES RECEIVED ON--
QUESTION1 SE ALL QUESTIONS: SEX
*****
ID NAME
*****
1. SUBGROUPING 1 ON QUESTION1 SELECT PERSONS TO WORK WITH ON THE SOCIOMETRIC PILOT PROJECT.
*****
+ 1 ALLISON 2 2 F
+ 5 JON 4 4 M
+ 9 SUSAN 3 3 F
+ 12 HOLLY 3 3 F
+

```

1.1 RECIPROCAL SETS WITHIN SUBGROUPING 1:

** 3-PERSON RECIPROCAL SET

1 ALLISON
9 SUSAN
12 HOLLY

** 2-PERSON RECIPROCAL SET

5 JON
9 SUSAN

1.2 ONE-WAY CHOICES BY A PERSON IN SUBGROUPING 1 FOR ANOTHER IN SUBGROUPING 1:

** 1 ALLISON
CHOSE 5 JON

** 5 JON
CHOSE 12 HOLLY

1.3 ONE-WAY CHOICES BY A PERSON IN SUBGROUPING 1 FOR A PERSON NOT IN SUBGROUPING 1:

>>>>NONE

2. SUBGROUPING 2 ON QUESTION1 SELECT PERSONS TO WORK WITH ON THE SOCIOMETRIC PILOT PROJECT.

+	3 CHRIS	1	1	
				F
	13 BRUCE	1	1	
+				M

2.1 RECIPROCAL SETS WITHIN SUBGROUPING 2:

** 2-PERSON RECIPROCAL SET

Continued

3 CHRIS
13 BRUCE

2.2 ONE-WAY CHOICES BY A PERSON IN SUBGROUPING 2 FOR ANOTHER IN SUBGROUPING 2:

>>>>>NONE

2.3 ONE-WAY CHOICES BY A PERSON IN SUBGROUPING 2 FOR A PERSON NOT IN SUBGROUPING 2:

** 3 CHRIS
CHOSE 5 JON 4 4 F
<SUBGROUPING 1>

** 13 BRUCE
CHOSE 5 JON 4 4 M
<SUBGROUPING 1>

CHOSE 4 DOUGLAS 5 5 M
<SUBGROUPING 3>

3. SUBGROUPING 3 ON QUESTION1 SELECT PERSONS TO WORK WITH ON THE SOCIOMETRIC PILOT PROJECT.

4 DOUGLAS 5 5 M
6 PAT 3 3 F
7 RALPH 2 2 M
8 HAROLD 1 1 M
11 LEWIS 3 3 M

3.1 RECIPROCAL SETS WITHIN SUBGROUPING 3:

** 2-PERSON RECIPROCAL SET

4 DOUGLAS
7 RALPH

** 2-PERSON RECIPROCAL SET

4 DOUGLAS
11 LEWIS

** 2-PERSON RECIPROCAL SET

6 PAT
7 RALPH

** 2-PERSON RECIPROCAL SET

6 PAT
11 LEWIS

** 2-PERSON RECIPROCAL SET

8 HAROLD
11 LEWIS

3.2 ONE-WAY CHOICES BY A PERSON IN SUBGROUPING 3 FOR ANOTHER IN SUBGROUPING 3:

** 6 PAT

CHOSE 4 DOUGLAS

** 8 HAROLD

Continued

CHOSE 6 PAT

3.3 ONE-WAY CHOICES BY A PERSON IN SUBGROUPING 3 FOR A PERSON NOT IN SUBGROUPING 3:

>>>>>NONE

4. SUBGROUPING 4 ON QUESTION1 SELECT PERSONS TO WORK WITH ON THE SOCIOMETRIC PILOT PROJECT.

10 BARB

2 2

+

15 JIM

2 2

F

+

M

4.1 RECIPROCAL SETS WITHIN SUBGROUPING 4:

** 2-PERSON RECIPROCAL SET

10 BARB

15 JIM

4.2 ONE-WAY CHOICES BY A PERSON IN SUBGROUPING 4 FOR ANOTHER IN SUBGROUPING 4:

>>>>>NONE

4.3 ONE-WAY CHOICES BY A PERSON IN SUBGROUPING 4 FOR A PERSON NOT IN SUBGROUPING 4:

** 10 BARB

CHOSE 4 DOUGLAS

5 5

+

F

<SUBGROUPING 3>

 >>>> OTHERS (QUASI-SUBGROUPING ZERO)--THOSE WITH NO MUTUAL CHOICES ON QUESTION1 SE

+ ** 2 WILLIAM 0 0 M

PERSON MADE NO CHOICES

+ ** 14 LAURIE 0 0 F

+ CHOSE 15 JIM 2 2 <SUBGROUPING 4>

+ CHOSE 10 BARB 2 2 M

+ F

 END OF THIS REPORT

1 GROUP ID NO.: 8 TREADWELL/LEACH--1987/1988--COMPUTERIZED SOCIOMETRY--THE "COMPSOC" SYSTEM

 REPORT J-1: SOCIOGRAM LAYOUT FOR QUESTION1 SELECT PERSONS TO WORK WITH ON THE SOCIOMETRIC PILOT PROJECT.

NUMBER IN GROUP: 15

"ID" IS AN IDENTIFYING NUMBER USED FOR THE PERSON IN THESE REPORTS.

Continued

A MUTUAL CHOICE OCCURS WHEN TWO PEOPLE BOTH CHOOSE EACH OTHER--IF FOR EXAMPLE BILL CHOSE JOE AND JOE CHOSE BILL.

A "SUBGROUPING" INCLUDES ALL PERSONS WHO ARE CONNECTED BY MUTUAL CHOICES ON A QUESTION, THUS EACH SUBGROUPING IS MUTUALLY EXCLUSIVE AND IS IDENTIFIED BY A CODE NUMBER. PERSONS WITH NO MUTUAL CHOICE ARE CONSIDERED A "QUASI-SUBGROUPING" WITH CODE ZERO.

CATEGORIZED-VARIABLE CODES:

"SEX" =SEX OF PERSON M =MALE F =FEMALE

"CROSS-CATEGORY" CHOICE: EXAMPLE--IF THE VARIABLE WAS "SEX" AND SOMEONE IN CATEGORY "MALE" CHOSE SOMEONE IN CATEGORY "FEMALE".

BASIS FOR WEIGHTING IS

NO. OF CHOICES RECEIVED ON QUESTION1 SE

WEIGHT 0 = NO CHOICES RECEIVED

WEIGHT 1 = 1 THRU 1 CHOICES RECEIVED

WEIGHT 2 = 2 THRU 2 CHOICES RECEIVED

WEIGHT 3 = 3 THRU 3 CHOICES RECEIVED

WEIGHT 4 = 4 THRU 4 CHOICES RECEIVED

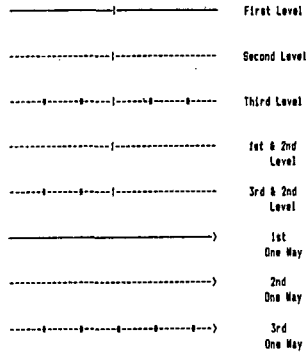
WEIGHT 5 = 5 THRU 5 CHOICES RECEIVED

WEIGHT 6 = 6 THRU 6 CHOICES RECEIVED

ID NUMBERS ARE LOCATED IN THE "SOCIOGRAM LAYOUT" BELOW ON THE BASIS OF SUBGROUPING AND SPECIFIED WEIGHTS.

COMPLETE THE SOCIOGRAM BY DRAWING ARROWS FROM CHOOSER TO PERSON CHOSEN (YOU CAN USE DIFFERENT COLORS FOR MUTUAL AND ONE-WAY CHOICES). IT WILL HELP IF YOU REFER TO REPORT 1-1: GROUP SUBSTRUCTURE FOR QUESTION1 SE

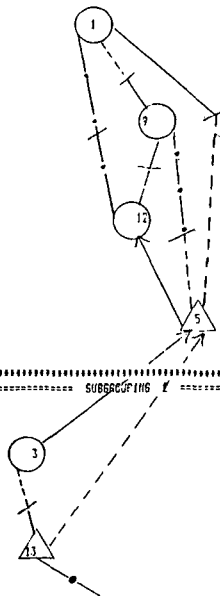
KEY
Levels of Mutuality



10 NUMBERS ARE LOCATED IN THE "SOCIOGRAM LAYOUT" BELOW ON THE BASIS OF SUBGROUPING AND SPECIFIED WEIGHTS.

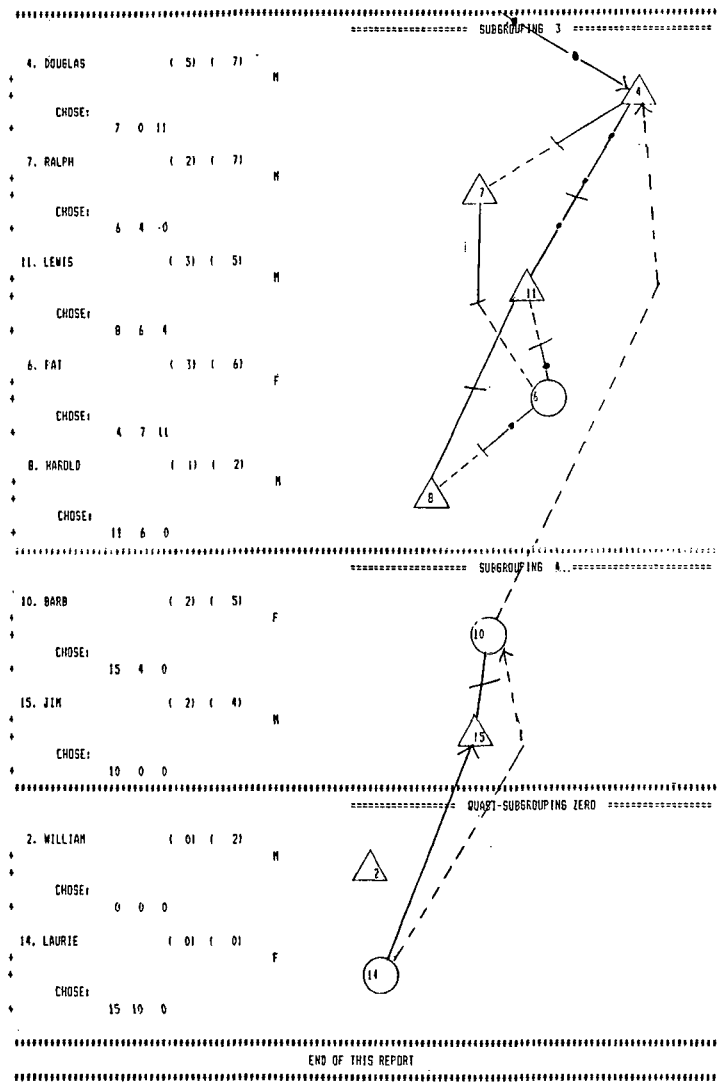
COMPLETE THE SOCIOGRAM BY DRAWING ARROWS FROM CHOOSER TO PERSON CHOSEN (YOU CAN USE DIFFERENT COLORS FOR MUTUAL AND ONE-WAY CHOICES). IT WILL HELP IF YOU REFER TO REPORT 1-2; GROUP SUBSTRUCTURE FOR QUESTION 2 SE

NUMBER OF CHOICES RECEIVED:				CATEGORIZED		---SOCIOGRAM LAYOUT---		---SOCIOGRAM LAYOUT---		---SOCIOGRAM LAYOUT---		---SOCIOGRAM LAYOUT---	
						WEIGHT	WEIGHT	WEIGHT	WEIGHT	WEIGHT	WEIGHT	WEIGHT	WEIGHT
10	NAME	(0-2)	(0-ALL)	VARIABLES		0	1	2	3	4	5	6	
===== SUBGROUPING 1 =====													
1.	ALLISON	(2)	(5)	F									
+	CHOOSE:	5	9	12									
9.	SUSAN	(3)	(8)	F									
+	CHOOSE:	1	12	5									
12.	HOLLY	(3)	(6)	F									
+	CHOOSE:	1	9	0									
5.	JON	(4)	(7)	M									
+	CHOOSE:	12	9	0									
===== SUBGROUPING 16 =====													
3.	CHRIS	(1)	(3)	F									
+	CHOOSE:	5	13	0									
13.	BRUCE	(1)	(3)	M									
+	CHOOSE:	3	5	4									



Continued

Continued from previous page



In Memoriam

Mary L. Northway

This memorandum is a celebration of the life of Mary Northway, Ph.D., which ended this winter of 1987. Born in 1909 and educated in Psychology in Canada, Dr. Northway studied in Cambridge, England, under Sir Frederick Bartlett on remembering, on which she completed her doctoral thesis in Toronto. From 1922 to 1939, she was actively involved in camping in Canada's canoe country, an interest that continued throughout her life. This experience with young people, combined with her interest in psychology and research, led to her association with the Institute of Child Study at the University of Toronto and to her outstanding work in sociometry. She pioneered in the careful sociometric studies of young children. As associate professor at the University and later as founder of the Brora Center, she supported and encouraged sociometric investigations of classroom and camp groups, encouraging inclusion and belonging.

Dr. Northway's book *A Primer of Sociometry*, published in 1952 by the University of Toronto Press, has been translated into French, Italian, Spanish, Portuguese, and Hungarian, with excerpts printed in Norway and Sweden. A second book, *Sociometric Testing: a Guide for Teachers*, was published in 1957. Her articles from academic journals and her papers from professional conferences are among the special collections of the Thomas Fisher Library at the University of Toronto.

One significant contribution to sociometry was Dr. Northway's Target Sociogram, which appeared in the *Primer*. Depicting sociometric data on a grid resembling a target, she was able to show clearly a number of variables and configurations important in understanding a group and its potential for change.

When we were establishing the Toronto Center for Psychodrama and Sociometry in 1976, Mary Northway was a steady source of encouragement to us. Serving on our advisory board, she provided us with information, encouragement, contacts, back copies of sociometry journals, and numerous cups of tea. She combined rigorous commitment to research methods with a practical turn of mind and compassion for people. Her love of the Canadian north and her informality led us to claim her as a uniquely Canadian sociometric scholar. Her belief in Moreno's vision and her ability to translate it into meaningful investigations of school

and camp groups inspired us. She supported our sociometric investigation of our change from a hierarchical to a collective structure and continued as part of our network.

We will miss her.

The Collective,
Toronto Center for Psychodrama and Sociometry

* * * * *

Dr. Mary L. Northway's first contribution to *Sociometry, A Journal of Inter-Personal Relations*, Volume III, 1940, was "A Method for Depicting Social Relationships Obtained by Sociometric Testing." She was then a research fellow at the University of Toronto but later became attached to and still later, director of, the Child Study Institute of that University.

The target sociogram became Dr. Northway's special enrichment of illustrating the sociometric choice process. It was a four-circled diagram and placed the persons so that those most chosen were in the center quartile; outward, toward the periphery, the unchosen, rejected, and neglected individuals were found. This depicting highly chosen individuals as "being in the center of the group" was certainly a refreshing new way of "seeing" the sociometric process in action.

Dr. Northway continued to work in the field of sociometry with children of all ages; she was particularly concerned with the possible relationship between schizophrenia and isolation, but, at the other end of the scale, with the emotional burdens placed on highly chosen children. Those, she felt, being the more sensitively aware of the feelings of others, might be prematurely involved in taking care of the feelings of others, rather than heeding the pressure of their own needs.

Her guiding spirit will be sorely missed.

Zerka T. Moreno
Beacon, N.Y.
September 25, 1987

New! ACTIVITIES FOR ADOLESCENTS IN THERAPY: A Handbook of Facilitating Guidelines and Planning Ideas for Group Therapy with Troubled Adolescents by **Susan T. Dennison**. This excellent resource manual contains over 100 new and effective therapeutic activities. Specific guidelines for the use, timing and rationale of these interventions are provided through a group therapy practice model and an assessment guide. Mar. '88, about \$32.75

New! THE ADOLESCENT MOLESTER by **William Breer**. Focusing on the adolescent who molests young children, this book explores the long-identified connection between being a victim and becoming an offender. The author discusses the dynamic factors which drive some boys to molest, clinical assessment, group psychotherapy, treatment modalities, and transference. '87, \$34.75

THE GROUP WORKERS' HANDBOOK: Varieties of Group Experience edited by **Robert K. Conyne**. Sixteen contributors survey fifteen types of contemporary group work at the individual, interpersonal, organizational and community levels. The editor overlays on these articles a schema that permits meaningful analyses and comparisons. '85, \$38.00

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Correction

Author Peter Felix Kellermann's name was incompletely listed in the summer issue of the *Journal of Group Psychotherapy, Psychodrama & Sociometry*. Dr. Kellermann, who is in private practice in Israel, also works in the Jerusalem Center for Psychodrama and Group Work. The editors regret the error.

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The journal welcomes practitioners' short reports of approximately 500 words. This brief reports section is devoted to descriptions of new techniques, clinical observations, results of small surveys and short studies.

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