Sociometric Applications in a Corporate Environment

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ABSTRACT. We have discovered that an organizational development team in the corporate setting of a major gas and electric utility can use the techniques of sociometry effectively. We present a brief historical background of the science of sociometry and then discuss our experiences in applying sociometric techniques to both large and small groups in a large corporation. We present specific step-by-step techniques that have proved effective in an organization development intervention in a system of 40 people. Our experience suggests that as a method of working with groups and a method of measuring results, sociometry has great potential for usefulness in organizational settings. The evaluation method used in the 40-person system application represents a major contribution to the organizational development field, which has in the past had difficulty measuring the effect of its work in a system in a change process.

THE TECHNIQUES OF SOCIOMETRY and roleplaying can be used effectively in a corporate setting. Sociometry is a powerful tool for reducing conflict and improving communication in a work group because it allows the group to see itself objectively and to analyze its own dynamics. After group members see their group through the window of the sociogram, they can improve mutual understanding and interpersonal skills through roleplaying.

Theory and History

Whenever people gather, they make choices—where to sit or stand, who is perceived as friendly and who not, who is central to the group, who is rejected, who is isolated. All people use a set of criteria to make these

choices. When members of a group are asked to choose others in the group based on a specific criteria, everyone in the group can make choices and describe why the choices were made. A description emerges of the networks inside the group, and a drawing of those networks is called a sociogram.

Having a drawing or map of the relationships helps the group to engineer how it wants to proceed with relationship building. The sociogram at the end of a group's work session may be different from the one at the beginning. The group and/or consultant can compare the map of the group's relationships at the beginning to the map of where the group is at the end in order to measure the changes that have occurred.

J. L. Moreno conducted the first long-range sociometric study from 1932 to 1938 at the New York State Training School for Girls in Hudson, New York. The first sociograms were published in 1934, revealing the positive and negative connections in a group. Initially, sociometric techniques were applied in the selection of work partners and school roommates and in forming military teams. When sociometric criteria were used for selection, the group was much more successful (by such measures as satisfaction, costs, and productivity), than when sociometric criteria were not employed. Moreno (1934) in *Who Shall Survive?* discusses these initial experiments in detail.

The charting of the sociometric choices and the plotting of sociograms are tedious processes. In the last few years, computer technology has begun to solve the problem of data compilation and analysis. Robert R. Blake and Anne Adams McCanse of Scientific Methods, Inc. (P.O. Box 195, Austin, TX 78767) presented a paper entitled "The Rediscovery of Sociometry" at the Moreno Centennial Conference in the spring of 1989. They detailed the past and current applications of sociometry in corporate settings and discussed available computer technology. Dr. Thomas Treadwell of West Chester University's Department of Psychology (West Chester, PA 19383, 215-436-2945) has a computerized software package called COMPSOC SOCIOMETRY PROGRAM in its final stages of development for the IBM PC. We have developed some sociometry processing applications for the Macintosh.

Corporate Applications

Corporate applications range from technically simple to sophisticated and complex. We will discuss examples at both ends of this spectrum—a simple method for the selection of a leader of a task group and a complex intervention in a 40-person system in conflict.

Regardless of the level of technical complexity, two elements make the difference between an effective use of sociometry and a mediocre one.

The selection of the criteria is one element, and the ethics, or value base, of the consultant is the other. The selection of the criteria is discussed in the section below. Because sociometry looks at a system as a whole, it is most appropriately used by a consultant who has a whole-systems approach—a consultant who helps a group look at its norms and behaviors in the context of the systems and environment in which the group finds itself. An unacceptable approach would be to assess the data gathered with the intent of discovering a specific objective, such as determining who was dysfunctional in the group, with the possible outcome of that person becoming a scapegoat and perhaps being fired. The importance of the ethical use of sociometry in corporate settings cannot be minimized. Along the same line, the ethics of the consultant concerning confidentiality must be impeccable; sociometric data are so powerful that, if misapplied, a person's career and self-esteem could be destroyed.

Method

Carl Hollander (1978a) states that there are five basic stages to a sociometric intervention: criteria selection, matrix formation, sociogram charting, analysis, and application. These occur no matter how simple or complex the intervention. For the purposes of organization development work, a sixth stage, evaluation, should be incorporated. Evaluation consists of assessing the effectiveness of the work done in the intervention.

Criteria Selection

Criteria selection makes or breaks the sociometric intervention. Each criterion presents, in as simple a format as possible, a meaningful choice to the person. For example, if asked, "Whom would you most like to have as part of this auditing [specified type of] work team to audit remote sites [to work in this specified way]?", the person will name a choice. The selection of the criteria is crucial because any question will elicit information, but the information may be confusing, distracting, or irrelevant to the intervention's objective. The criteria must be like a surgeon's knife—most effective when it cleanly isolates the material of interest. In responding to the question, each person will choose, based on an individual interpretation of the criterion. These interpretations, or sub-criteria, for this particular question could include: Do I want a person who works hard? who is a power-broker? who is amiable? a minority? An explicit statement of the criterion will tend to reduce the number of interpretations and will therefore increase the reliability of the data.

Hollander (1978a) strongly suggests that the criteria be as simply stated and as straightforward as possible. He says, "The number and range of

choices must be stated clearly: You may name as many or as few as you like. Name your first and last choice. Rank order every person in the group. You may, or may not, include yourself." Generally, Hale (1985) suggests that questions be future-oriented, imply how the results are to be used, and specify the boundaries of the group. The criteria should be designed to keep the level of risk for the group appropriate to the group's cohesion and stage of development.

A Simple Application

A simple sociometric application is the selection of a person by asking a group to make a sociometric choice based on a specific criterion. This application uses action sociometric techniques, described by Hale (1985, p. 145) as choice-making "occurring in the here and now on identifiable criteria for selection" (see Table 1). One example of this simple applica-

TABLE 1
Hale's Classifications of Criteria, with Examples

General	vs.	Specific
Of the people you met tonight:		
With whom would you walk after dinner?		With whom would you walk in an unsafe part of the city at night?
Actual	vs.	Hypothetical
Whom in the group do you choose to invite to share your home for a week?		With whom in the group would you share a bomb shelter in a nuclear attack?
Action	vs.	Diagnostic
In your work group:		
Whom would you choose as team leader?		Whom do you trust?
Personal	vs.	Social
Of the people you know, with whom would you leave your children?		Of anyone in the division, with whom would you work on an assigned project?
One-way	vs.	Two-way
Whom in the group do you choose to cross-train?		Whom in the group would you choose to work with to design a cross-training program?

tion is the selection of a task leader by the group that will be doing the task. This example described below, also illustrates the concepts of sociogram and sociometric star. The exercise is graphic and concrete.

The consultant asks the group to stand up and then says: "Whom in this group would you most like to have as leader for this task? Move as you need to and place your right hand on the shoulder of the person you choose. There are only two rules: You may choose only one person, and you must choose someone."

If an organizationally skilled, detail-competent person is most desired as leader, the criterion might be: Whom in this room would you trust to take all the orders for lunch, collect the money, get the correct orders, and make the right change? If an intuitive, big picture, future-oriented person is most desired, the criterion might be: If you had to project a new cultural phenomenon, unheard of at this time, whom in this room would you ask for information?

This exercise may be repeated several times in a short period. Different criteria can be created so that each member of the group could emerge as the most selected person—the sociometric star for a specific criterion. In each of the examples above, a different person would likely emerge as the sociometric star.

As another option with this exercise, the consultant could change the rule from you must choose someone to you don't have to choose anyone. Under this rule, any isolates in the group will identify themselves through their lack of choosing and being chosen.

The consultant may need to remind the individuals in the group that the choice must be absolutely honest and not made from any need to protect, to gain favor, or for any other reason that manipulates the group's patterns of interpersonal connectedness. Hollander (1985) suggests "Honesty often can be encouraged by sincerely communicating the seriousness of the sociometric choices to the respondents." This is the beginning of learning to trust the natural process of the group—acknowledging and respecting that the natural patterns of connectedness will lead the group in the direction it needs to travel. Once a group experiences this concrete way of selection, it can use this as one tool for making choices efficiently and accurately when the criterion is specific.

We would caution that there is a high degree of political awareness in corporate settings that needs to be considered when consultants use an action sociometric technique. We have found, for example, that a group of managers asked to select from the criteria, Whom would you choose as champion of this politically important effort? invariable selects their vice president. We have had to learn to ask less political questions, such as those listed below.

Whom in this room would you choose:
  to generate creative ideas?
  for support in taking risks?
  to relay messages accurately?
  for help in dealing with a difficult client?
  to run a business for profit?
  to get reliable information on top management decisions?
  to keep a confidence?
  who gives recognition for a job well done?
  who has shown the most growth in the past year?

We have used this action sociometric technique in small groups and in the group of thirty-six participants in the following example. We see no reason why it would not work as well in even larger groups. People enjoy the activity and appreciate the giving and receiving of recognition that takes place. We took instant photos from a high vantage point so people can later see themselves in the action sociogram.

While the group is in each pattern, we help the members of the group to see and understand the sociogram by asking them to describe the pattern, asking how the pattern reflects real life, and asking what the group would need to do to close up any gaps. The members learn very quickly and concretely about the informal organization underlying their formal organization. As one participant said, "It's how we really feel; but we don't say it very often." At this point, the action sociometry can be used as initial training for diagnostic sociometric work.

A More Complex Application

Sociometry has proved to be a powerful adjunct to standard organization-development (O.D.) techniques in resolving conflict and building teamwork in a large system. Our case example is a 40-person system, consisting of a vice president and all those who report to him directly or indirectly. The consultants were invited to help with the presenting problems of infighting and low morale.

When we were invited to this organization, we knew from informal contact with employees in the organization and from our initial contracting meetings with our principal client, the vice president, that trust was a key issue. Many commented, "People just don't trust each other around here." As part of our gathering of data about the organization, we included a sociometric criterion about trust. Our data-gathering process consisted of an organizational diagnosis questionnaire and individual interviews with all members of the organization. The interviewer asked several

open-ended questions about the organization, in addition to the sociometric question.

For the sociometric question, the interviewer reminded the employee about the confidentiality of any response and then presented a blank "trust target" (Figure 1). The interviewer then said, "Consider all the people in the organization with whom you have a working relationship. Of these, please write in the center ring the names of those toward whom you feel high trust, in the second ring the names of those toward whom you feel moderate trust, and in the outer ring, the names of those toward whom you feel distrust or antagonism." This question was the sociometric criterion on which interviewees based their choices.

Name _____ Date _____

Criterion: _____

FIGURE 1. Target for Use in Social Atom Explorations

We could have improved our data by making the criterion less ambiguous; that is, by defining more clearly what was meant by trust. We also should have been more consistent in how we presented the question; one interviewer presented an organizational chart to help people make selections, and one did not. If neither had presented an organizational chart, it is possible some people would not have been chosen at all. Despite these problems in methodology, we still obtained useful data.

We considered including a rejection study—asking the question: Whom do you actively distrust?—but decided not to because the data generated from such an inquiry would, when fed back to the group, further "antagonize the participants, destroy their trust, and perhaps cause someone unnecessary pain, embarrassment, or exposure" (Hollander, 1978a). We also believed that the outermost circle on the trust target would give us sufficient information to identify the problems.

The classical notation system as illustrated by Ann Hale (1985) requires a choice for every person. We encourage people not to force choices that may not exist because such a choice may skew the information's accuracy. In the corporate environment, people may not have working relationships with every person in the work unit. A person may emerge as an isolate, and that may be accurate if that person works alone and does not need to be part of a team. The question for such an individual becomes whether he or she needs social contact or has enough from other sociometric networks to which he or she belongs. The question for the group, because membership on the team is not a requirement for the work, becomes a question of whether or not the members are comfortable with that person in the role of isolate.

After selecting the criterion and gathering the data, we charted the matrix of responses (Figure 2). This matrix showed us who had high or medium trust or distrust for whom, as well as how many times a person chose others and how many times a person was chosen in each of the categories. High and medium trust or distrust was charted as +, 0, and −. Another description of the process of forming the matrix is presented by Hale (1985).

We next charted the sociogram of the organization by drawing lines of high and medium trust and distrust between people. We did this both directly on the organizational chart and in the more traditional way (see Figures 3 and 7). The sociomatrix and the sociogram immediately told us where the interpersonal problems were in the organization, which individuals needed coaching, and which relationships needed strengthening or disputes needed resolution. They also identified the stars, information that would be essential to rebuilding the organization successfully.
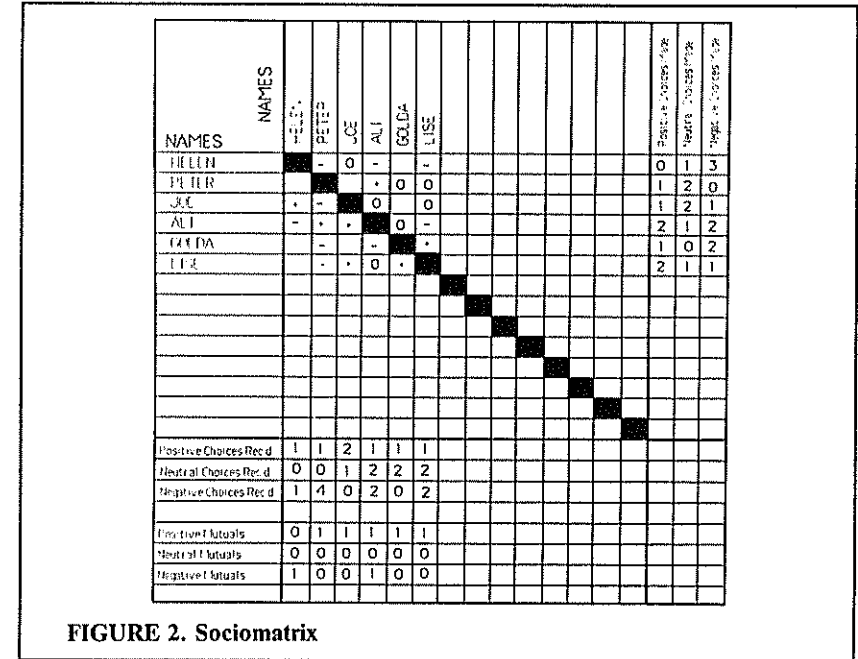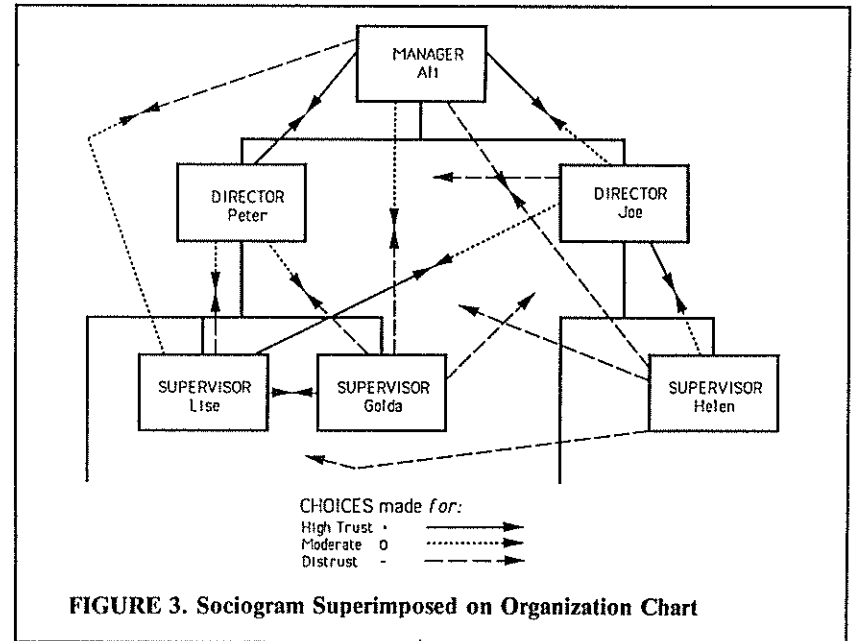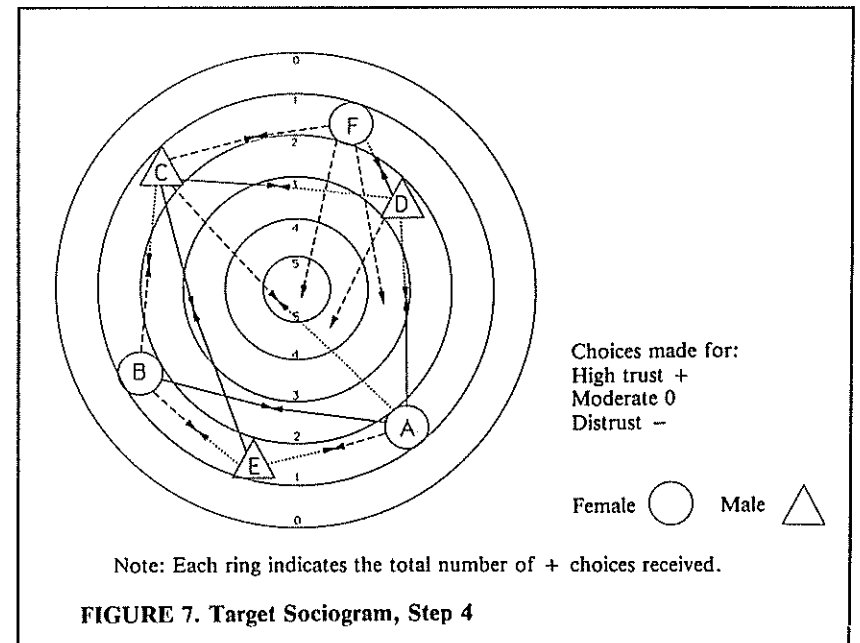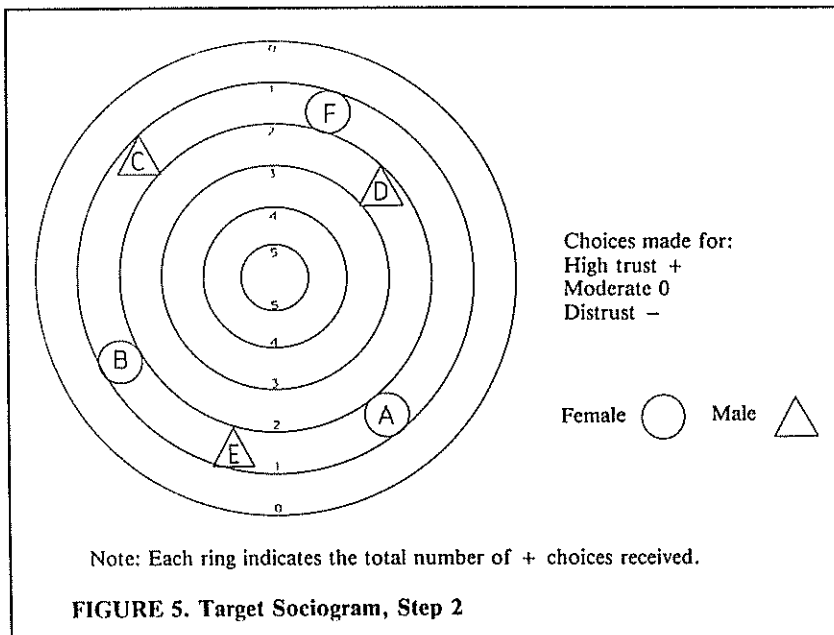

FIGURE 2. Sociomatrix

CHOICES made *for:*
High Trust   +   ———————▶
Moderate   o   ················▶
Distrust   −   — — — — ▶

FIGURE 3. Sociogram Superimposed on Organization Chart

Choices made for:
High trust +
Moderate 0
Distrust −

Note: Each ring indicates the total number of + choices received.

FIGURE 4. Target Sociogram, Step 1

Choices made for:
High trust +
Moderate 0
Distrust −

Female ◯   Male △

Note: Each ring indicates the total number of + choices received.

FIGURE 5. Target Sociogram, Step 2

Choices made for:
High trust +
Moderate 0
Distrust −

Female ◯   Male △

Note: Each ring indicates the total number of + choices received.

FIGURE 6. Target Sociogram, Step 3

Choices made for:
High trust +
Moderate 0
Distrust −

Female ◯   Male △

Note: Each ring indicates the total number of + choices received.

FIGURE 7. Target Sociogram, Step 4

Seeing the sociometric data charted was exciting and useful to us because we could immediately see exactly where problems existed, which relationships needed improvement, and whom we should recruit as allies in the conflict management effort.

We followed analysis with application. A major part of the application consisted of holding offsite meetings for the management team and then for each unit in the organization. The agenda for these meetings included a number of standard organization-development processes as well as feedback to the group about its own sociometric data. The number of participants in these sessions ranged from 4 to 10. The sociometric feedback to the group enabled the group to see itself objectively, to analyze its functioning, to begin to make agreements about how to improve its functioning, and to do all this in a relatively short time.

The sociometric method is particularly effective because it builds on data that group members accept and because it enables members to see themselves as others see them without provoking defensiveness. It frames confusing interpersonal relationships objectively, so even the least skilled person in a group can see what needs to happen. For people used to working with blueprints and diagrams, it is very comforting to have their team dynamics drawn. They know how to adjust drawings so that symmetry occurs; now they can adjust relationships so that synergy occurs.

Results

The sociometric technique can also be used to measure results. In our case example, we re-administered the sociogram at the end of a year's work in the system. The question we asked was the same as it had been a year before (i.e., high trust, moderate trust, distrust/antagonism). We gave each person a new blank sociometric target as well as a list of the people he or she had included in the first target. These names were in random order so that position on the list did not correspond to the level of trust. We asked each person to re-distribute these names on his or her target and then, in a different color of ink, add new names to the target.

In this way, we measured changes in trust level and also changes in the amount of relatedness in the group. In our case sample, we found that distrust/antagonism had been cut in half, high trust had increased by 19%, and that significant working relationships had increased by an average of five per person.

We also calculated the coefficient of cohesion of the group both before and after our intervention. This coefficient of cohesion is the number of mutual choices—I choose you at the same level that you choose me— divided by the total choices made, with the maximum possible value

equal to 1.0. This coefficient is a measure of the degree of bonding among members in the group. Hollander (personal communication, 1990) generally looks at this coefficient in terms of quartiles: A group scoring in the top quartile (.75 to 1.00) would be a highly functioning team; a group scoring in the lowest quartile would be a group with very low cohesion.

In our case example, the coefficient of cohesion of positive mutuals (total positive mutuals divided by total positive choices) went from 31% to 56%. The overall coefficient of cohesion (total mutuals, positive, zero, and negative, divided by total choices) went from 28% to 43%. These data confirm subjective observations of improvement. Sociometric data are particularly valuable in a field with relatively few objective measures of evaluation.

In the closing session, we used an action sociometry with the group, based on the criteria discussed earlier in the simple application section. The group responded openly, was very involved, and enjoyed the process. Most likely, the members would have been incapable of this activity before the intervention.

Conclusion

We conclude that an organizational development team can effectively use sociometry in a corporate setting. The evaluation method used in the 40-person system application contributes to the organizational development field, which, in the past, has had difficulty measuring the effect of its work in a system in a change process.

As a method of working with groups and as a method of measuring results, we conclude that sociometry has a bright future, especially when new software becomes available to process the data.

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Influence, Leadership, and Social Desirability in Psychotherapeutic Groups

Sarah Ben-David

ABSTRACT. This article concerns a study that examined the issue of leadership in a psychotherapeutic group and the correlation between social desirability and influence within these groups. A sociometric questionnaire was administered to nine therapeutic groups working under the same therapist. Six of the groups were made up of prisoners serving sentences in an Israeli maximum security prison. Members of the remaining groups were probation officers and students in a teacher-training seminary. Responses to the questionnaire indicated the existence of three types of intergroup leadership/member relationships: a popular, socially desirable, and influential leader found in the sex-offender therapeutic groups, an unpopular yet influential leader as found in violent groups, and a sociometric star with no relation to the degree of his or her influence found in the remaining groups.

THE SOCIOMETRIC STATUS, leadership, social desirability, and degree of influence of the natural group leader, the therapist, and the assigned director are extensively discussed in sociological literature (Dies, 1985; Gallagher, 1974; Hollander & Webb, 1958; Jenning, 1958; Kellermann, 1985; Kinder & Kolmann, 1976; Koomen, 1988; Lapp, 1962; Lundgren & Knight, 1977; Parson, 1985; Yates, 1976).

The individual's sociometric status within a particular group was found to be directly related to the person's degree of interest in that group, the level of emotional maturity of the group member, and the degree to which his or her efforts are directed toward attaining the goals set down and defined by the group (Jenning, 1958; Koomen, 1988; Yates, 1976). People undoubtedly tend to become "friends" with and are attracted to those who are similar to them and who hold familiar opinions and attitudes (Ben-David, 1983; Newcomb, 1961; Parson, 1985). Jenning (1958) notes that the leader of a given group can also be defined as the individual awarded the greatest number of votes by the group members. He is the sociometric star of that group. Bales and Slater (1951) claim, however, that the choice of a leader is based on universal considerations, whereas

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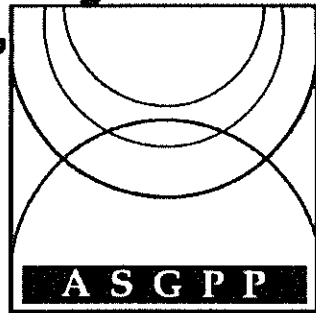
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