SOCIOMETRY-A CONCEPTUAL INTRODUCTION

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Sociometry is 'a method for, describing, discovering and evaluating social status, structure, and development through measuring the extent of acceptance or rejection between individuals in groups.' Franz defines Sociometry as "a method used for the discovery and manipulation of social configurations by measuring the attractions and repulsions between individuals in a group." It is a means for studying the choice, communication and interaction patterns of individuals in a group. It is concerned with attractions and repulsions between individuals in a group. In this method, a person is asked to choose one or more persons according to specified criteria, in order to find out the person or persons with whom he will like to associate.

The term sociometry relates to its Latin etymology, socius meaning companion, and metrum meaning measure. As these roots imply, Sociometry is a way of measuring the degree of relatedness among people. Measurement of relatedness can be useful not only in the assessment of behavior within groups, but also for interventions to bring about positive change and for determining the extent of change. Jacob Levy Moreno coined the term sociometry and conducted the first long-range sociometric study from 1932-38 at the New York State Training School for Girls in Hudson, New York. Jacob Moreno defined sociometry as "the inquiry into the evolution and organization of groups and the position of individuals within them." He goes on to write "As the …science of group organization -it attacks the problem not from the outer structure of the group, the group surface, but from the inner structure." Sociometric explorations reveal the hidden structures that give a group its form: the alliances, the subgroups, the hidden beliefs, the forbidden agenda's, the ideological agreements, and the 'stars' of the show

Sociometry is the study of human connectedness. Moreno viewed society as composed of units made up of each individual and the essential persons in his or her life. Moreno called this smallest unit of measurement the social atom, comprised of all the significant figures, real or fantasized, and past and present. Sociometry is based on the fact that people make choices in interpersonal relationships. Whenever people gather, they make choices–where to sit or stand; choices about who is perceived as friendly and who not, who is central to the group, who is rejected, who is isolated.

MEANING AND PURPOSE OF SOCIOMETRY

Moran developed Sociometry within the new sciences, although its ultimate purpose is transcendence and not science. 'By making choices based on criteria, overt and energetic, Moreno hoped that individuals would be more spontaneous, and organizations and groups structures would become fresh, clear and lively'.

A useful working definition of sociometry is that it is a methodology for tracking the energy vectors of interpersonal relationships in a group. It shows the patterns of how individuals associate with each other when acting as a group toward a specified end or goal.

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Sociometry is based on the fact that people make choices in interpersonal relationships. Whenever people gather, they make choices–where to sit or stand; choices about who is perceived as friendly and who not, who is central to the group, who is rejected, who is isolated. As Moreno says, "Choices are fundamental facts in all ongoing human relations, choices of people and choices of things. It is immaterial whether the motivations are known to the chooser or not; it is immaterial whether [the choices] are inarticulate or highly expressive, whether rational or irrational. They do not require any special justification as long as they are spontaneous and true to the self of the chooser. They are facts of the first existential order."

The purpose of sociometry is to facilitate group task effectiveness and satisfaction of participants by bringing about greater degrees of mutuality amongst people and greater authenticity in relationships.

Naturally revealing and hearing personal motivations and reasons for choices or not choosing is uncomfortable for some. Mostly this is offset by the value of change, and refreshing of relationships. Many people are relieved to hear the reasons for being chosen, or especially, not chosen, which they may have imagined previously. When these processes are facilitated respectfully, group members gain a lot of satisfaction with the shared information, and creativity and spontaneity is released.

BRANCHES OF SOCIOMETRY

Sociometry has two main branches**: research sociometry, and applied sociometry**. Research sociometry is action research with groups exploring the socio-emotional networks of relationships using specified criteria e.g. who in this group do you want to sit beside you at work? Who in the group do you go to for advice on a work problem? Who in the group do you see providing satisfying leadership in the pending project? Sometimes called network explorations, research sociometry is concerned with relational patterns in small (individual and small group) and larger populations, such as organizations and neighborhoods. Applied sociometrists utilize a range of methods to assist people and groups review, expand and develop their existing psycho-social networks of relationships. Both fields of sociometry exist to produce through their application, greater spontaneity and creativity of both individuals and groups.

CONCEPT OF SOCIOGRAM AND SOCIOMATRIX

Sociometry is a theoretical and methodological approach which seeks to analyze relations between individuals in small group situations. Sociometry is a form of network analysis. Moreno introduced the idea of a sociogram, which is a diagram representing the relationships between individuals.

When members of a group are asked to choose others in the group based on specific criteria, everyone in the group can make choices and describe why the choices were made. From these choices a description emerges of the networks inside the group. A drawing, like a map, of those networks is called a sociogram. The data for the sociogram may also be displayed as a table or matrix of each person's choices. Such a table is called a sociomatrix.

A Sociogram is an important tool for teachers. The sociograms is the chart used to actually apply sociometry in the classroom. It charts the interrelationships within a group. Its purpose is to discover group structures and the relation of any one person to the group as a whole. Its value to the teacher is in its potentiality for developing greater understanding of group behaviour so that he may operate more wisely in group management and curriculum. This shows the positive nature of sociometry and the use of it is important for understanding the relationships within classrooms. Once this relationship is understood by the teacher, group work can be better facilitated for greater learning to occur.

When working with students who tend to socially withdraw or isolate themselves, a sociometric activity can be conducted with the class to determine the peer(s) who would most like to interact with the targeted students. These results can then be used when assigning groups and arranging seating. The use of

sociometry has since expanded into other fields such as psychology, sociology, anthropology, and is now being used for education and classroom purposes. The use of sociometry in the classroom is to find the best relationships between students and to see how children see themselves within the social construct of education.

APPLICATIONS TO THE CLASSROOM

Every teacher knows that the group of children with which he works is more that an aggregation of individuals. He knows that the group has form and structure; that there are patterns of sub-groups, cliques, and friendships. Some individuals are more accepted by the group then others. Some are more rejected. These factors play an important role in determining how the group will react to learning situations and to various types of group management employed by the teacher". This quote is a very nice summary of the necessity of sociometry in the classroom. It also highlights what sociometrists are trying to accomplish by studying groups in social settings. They are trying to see how people get along in groups and what this means in the context of learning and developing within the classroom.

SOCIOMETRIC CRITERIA FOR MAKING CHOICE

Choices are always made on some basis or criterion. The criterion may be subjective, such as an intuitive feeling of liking or disliking a person on first impression. The criterion may be more objective and conscious, such as knowing that a person does or does not have certain skills needed for the group task.

CRITERION SELECTION

The selection of the appropriate criterion makes or breaks the sociometric intervention. As in all data-collection in the social sciences, the answers you get depend on the questions you ask. Any question will elicit information but unless the right question is asked, the information may be confusing or distracting or irrelevant to the intervention's objective.

The criterion 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, etc. A clear statement of the criterion will tend to reduce the number of interpretations and will therefore increase the reliability of the data.

SOCIOMETRIC ASSESSMENT TECHNIQUES/ METHODS-

There are a variety of what can be referred to as classic sociometric assessment techniques derived from the work of the 1930s, including peer nomination, peer rankings, and sociometric rankings. In the peer nomination technique, children in a social group or school classroom anonymously identify social preferences for their classmates. For example, children may be asked to provide a list of the three classmates with whom they would most like to play and the three with whom they would least like to play. Another peer nomination technique is to provide a list of the names of the children in a classroom along with social acceptance items.

An alternative peer nomination method for early readers is to use photographs with an adult reading the items aloud in either an individual or classroom setting while the children provide a nomination for a child, perhaps by assigning a smiling or frowning face to the photograph that applies. Another variation of the peer nomination method is the class play. In this procedure children cast their peers in positive and negative roles in an imaginary play. The class play has the potential advantage of being more acceptable in school settings because the positive and negative role assignments may be perceived as a more discreet method for identifying children's social standing. For each of the methods described, the nominations may be summed for each child and the results are used to identify those children who are perceived as most socially positive or negative by their peers.

Two other sociometric techniques can be described as peer ratings and sociometric rankings. Peer ratings are conducted by providing a list of children's names in the social group or classroom along with a rating for social acceptance items such as 'The most fun to play with,' 'The least fun to play with, and 'Has the most friends.' The rating methods that are used may vary, typically ranging from three- to five-point Likert-type responses. In contrast to peer nominations and ratings, sociometric rankings are completed by an adult, most often the classroom teacher who has had the opportunity to observe the children in multiple social settings such as the classroom, playground, and cafeteria. In this method, teachers rank the children on social dimensions similar to those provided by peers.

Each of these sociometric assessment methods has strengths and limitations. Researchers have found that each method appears to be valid for identifying children's social standing. Peer ratings and adult rankings appear to provide the most reliable or stable measurements and, as such, may be more useful than the peer nomination method. A major issue that arises with each of these methods is the concept of social validity, which refers to the acceptance, usefulness, and potential harm of an assessment procedure. The applications of sociometric assessment methods have resulted in controversy and ethical concerns regarding their use. These concerns center on the use of negative peer nominations and the possibility that children will compare responses which may result in negative social and emotional consequences for children who are not positively perceived by their peers. These concerns contributed to the decline in the acceptance and use of sociometric assessment methods, particularly in school settings. However, researchers have found no strong evidence that negative consequences occur for either the children who are rating or those being rated; therefore, sociometric assessment continues to be used as a research tool for understanding children's social relationships.

RELATED ASSESSMENT METHODS

Although the term sociometric has been most often applied to the assessment methods described above, in a broader context the term can be applied to related assessment measures of social functioning. These methods tend to focus on children's social competencies and skills rather than measuring only social standing or peer acceptance.

SOCIAL BEHAVIOR RATING SCALES

Social behavior rating scales represent one of the most frequently used measures of social competence. These rating scales are designed for gathering data on the frequency of occurrence of specific skills or behaviors. Some rating scales focus on social problem behaviors and others are designed specifically to assess children's social skills. For example, a social skills rating scale may contain items such as 'Appropriately invites friends to play' or 'Controls temper in conflicts with adults' which are rated on a frequency scale. Depending on the measure, ratings can be gathered from parents or parent surrogates, teachers, and when appropriate from the children themselves. Rating scales in essence provide summary observations of a child's social behavior. Gathering data from these multiple sources can facilitate understanding different perspectives regarding a child's social skills in home and school settings. Well designed social skills rating scales have been found to be reliable and valid measures.

OBSERVATION METHODS

Observation methods are used to gather information about a child's social skills in natural settings, such as in the classroom, in the cafeteria, and on the playground. Observation methods can be highly structured wherein defined behaviors are measured for frequency of occurrence or measured for occurrence during specified time periods or intervals. For example, a child's play behavior may be observed during recess by a school psychologist who records every 30 seconds whether the child was playing alone or with others. Other observation methods are less structured and rely on a narrative approach for describing a child's social interactions. Observation methods often include focus on the environmental variables that may increase or decrease a child's social skills, such as the reactions of peers and adults to a child's attempts at

initiating conversation. Observations also can be conducted in what is known as analogue assessment, which involves having a child role-play social scenarios and observing the child's performance. Whereas rating scales provide summary measures that rely on some level of recall, observations have the advantage of directly sampling a child's behavior in actual social contexts or settings, thereby increasing the validity of the assessment. The limitations of observations are that multiple observers are required to ensure reliable assessment and observations are more time intensive. Thus in applied settings they may provide limited information due to time constraints.

INTERVIEW METHODS

Interview methods are used to gather information about a child's social skill strengths and weaknesses, and to aid in the identification of specific skill deficits for intervention. Interviews can be used separately with children, parents or parent surrogates, and teachers, or conjointly with multiple sources. Interviews can be structured, with a focus on the identification and treatment of specific social skills, or interviews can be less structured, with a greater focus on feelings and perceptions about a child's social skills. As with rating scales, interview data can be viewed as summary recall information which should be validated with direct observation.

The assessment methods described often are combined in a comprehensive social skills assessment that may include rating scales, observations, and interviews. Using multiple methods of assessment is considered best practice because the use of more than one assessment method increases the likelihood that the behaviors which are targeted for classification or intervention are valid, and that specific social skills strengths and deficits are clearly defined. It is also important to use multiple assessment methods to monitor a child's progress and to assess the effectiveness of an intervention.

IMPLICATION OF SOCIOMETRIC ASSESSMENT FOR EDUCATIONAL PRACTICES

In educational practice, sociometric assessment most often is used to determine eligibility for special education and for intervention for adaptive behaviors or socio-emotional problems. Children identified with special education needs, such as learning problems, mental retardation, attention deficit disorders, and autism spectrum disorders, including Asperger's syndrome, may benefit from assessment and intervention toward enhancing their social skills. In the general education population, children may benefit who are shy, rejected, or engage in bullying or aggressive behaviors or who simply have limited social skills. Most of the classic sociometric assessment methods are not used in educational practice, partly due to issues with acceptability. Furthermore, although these methods have been found to be useful in research, they may not be viewed as being useful in school settings because they do not lead to specific classification for special education nor do they provide specific data that can directly assist in the intervention process. Related sociometric assessment measures such as rating scales often are used because these methods provide more specific information that can be linked to classification and intervention.

One classic sociometric assessment method that has been shown to be effective in educational practice is sociometric rankings. In this procedure teachers rank the children in their classroom who the teacher views as having social behavior problems, sometimes in relation to internalizing and externalizing problem behaviors. The use of teacher rankings serves as an initial screening device for identifying children who may need additional assessment and intervention. Once identified, the children are screened further with a rating scale or related method to determine the extent of their social difficulties. Those children who are found to have problems are then referred for more assessment intended to specify their problems and provide an intervention, such as social skills training. Researchers have found this method of assessment, known as a multiple gating procedure, to be acceptable and effective in applied settings.

Assessing and understanding children's and adolescents' peer relations is important in educational settings for several reasons. From a developmental standpoint, it is important to understand how children develop social skills as they mature. Researchers have found that sociometric assessment can be useful in

identifying children's social standing and predicting positive or negative social outcomes for children. The establishment of friendships and positive social interactions are important for children's social development and for interacting in the social world, including the school setting. Children with poor peer and adult relationships often experience negative social and emotional consequences that can continue throughout adulthood. These negative consequences can include lower academic achievement, higher rates of school dropout, depression, anxiety, low self-esteem, poor self-concept, social withdrawal, fewer positive employment opportunities, and anti-social behaviors such as aggression and criminality. Researchers have estimated that at least 10%, or one in ten children experience consistent negative peer relationships. Therefore, a large number of children with inadequate social relationships may be at-risk for developing behavioral and emotional difficulties. Children with poor or limited social skills also are at risk for becoming victims of bullying and other aggressive behaviors. Children with disabilities often have social skills deficits and negative peer perceptions that put them at heightened risk.

SOCIOMETRY TEST-AN EXAMPLE

The basic technique in sociometric is the 'sociometric test." This is a test under which each member of a group is asked to choose from all other members those with whom he prefers to associate in a specific situation. The situation must be a real one to the group under study, e.g., 'group study', 'play', 'class room seating' for students of a public school. The typical process for a sociometric intervention follows these basic steps:

(1) Identify the group to be studied
(2) Develop the criterion,
(3) Establish rapport / warm-up,
(4) Gather sociometric data,
(5) Analyze and interpret data,
(6) Feedback data, either: (a) to individuals, or (b) in a group setting,
(7) Develop and implement action plans,

A specific number of choices say two or three to be allowed is determined with reference to the size of the group, and different levels of preferences are designated for each choice.

VALIDITY OF SOCIOMETRY

Does sociometry really measure something useful? Jane Mouton, Robert Blake and Benjamin Fruchter reviewed the early applications of sociometry and concluded that the number of sociometric choices do tend to predict such performance criteria as productivity, combat effectiveness, training ability, and leadership. An inverse relationship also holds: the number of sociometric choices received is negatively correlated with undesirable aspects of behavior such as accident-proneness, and frequency of disciplinary charges". The more frequently you are chosen, the less likely you are to exhibit the undesirable behavior.

LIMITATIONS OF SOCIOMETRY

Sociometry is rarely used in the classroom because it usually cannot be effectively reproduced by teachers in their classrooms. However, studies of aggression and school violence show how and why sociograms should be used. There has been research conducted pointing out that there is a tendency to use esoteric terms which are intelligible only to the initiated and create barriers to communication.

REFERENCES

1. Hale, Ann E. (1985) Conducting Clinical Sociometric Explorations: A Manual. Roanoke, Virginia: Royal Publishing Company.
2. Hoffman, Chris, Wilcox, L., Gomez, E. & Hollander, C. (1992). Sociometric Applications in a Corporate Environment, Journal of Group Psychotherapy, Psychodrama & Sociometry, 45, 3-16.
3. Hollander, Carl E. (1978) an Introduction to Sociogram Construction. Denver, Colorado: Snow Lion Press, Inc. Available at the Colorado Psychodrama Center, 350 South Garfield, Denver CO, 303-322-8000.
4. Moreno, Jacob Levy (1934, Revised edition 1953). Who Shall Survive? Beacon, NY: Beacon House.
5. Moreno, Jacob Levy (1960). The Sociometry Reader. Glencoe, Illinois: The Free Press.