

MEASUREMENT, SOCIOMETRY, AND SOME DEVELOPMENTAL IMPLICATIONS

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This article presents descriptions and examples of some empirical links between social and cognitive behavior. A brief sketch of selected sociometric techniques tied to developmental theory is presented. From this follows a subsequent proposal for an interactional analysis of social and cognitive behaviors. J. L. Moreno and J. Piaget's works provide the supporting theories for the empirical assessment of the interaction of these behaviors.

Definition of Sociometry

The domain sampled by sociometry may be defined by sociology. Sociology, broadly considered, can be thought of as a science of human relations. Therefore, theoretically, there could be a myriad number of variables which the domain of sociometry could include. Ideally, a sociometric technique might encompass a measure of reciprocal impressions of group members, an individual choosing another and the other in turn choosing. The choice is a function of both the person's relationship to the social environment and of the social environment's relationship to the person. For the purposes of this paper, sociometry is utilized to sample the domain of sociology, the study of social behavior in group relations. It is considered to be a technique which attempts to quantify an aspect of social behavior.

Some Measures of Sociometry

Methods of measuring in sociometry can be categorized according to the kind of information desired. The value of the method is the degree to which it maps some aspect of human relations in a group accurately and its feasibility of administration to larger groups. Four examples of measuring social status are provided as follows:

(1) The sociogram shows the intrapersonal relations of the group, and the interpersonal relations of members of the group. Of the four examples, it gives the most information concerning social status of group members. The greatest disadvantage of this method is the time required to construct the sociogram.

(2) A second technique is that of ranking people from most-liked to

least-liked. As in the sociogram (like method one), each group member is considered. However, this method has the added benefit of having a less tedious scoring procedure. Frequencies for each social position are tallied. Then, depending on the research questions, the analysis can proceed in several directions. A major disadvantage of this method is that it is questionable if social ranking is at all socially significant or empirically valid after the lower and upper extremes are considered.

(3) A third alternative is to measure only the two extremes—an assessment of the most-liked and least-liked members of the group. Scores for an individual group member consist of the summation of times chosen in either category. Those individuals who are not chosen are assigned to a separate category. A score of zero represents being chosen equally in the liked and not-liked categories. The disadvantage of this technique is that it does not reflect the reciprocal impressions of group members.

(4) Fourth, each person may be asked to choose either the most popular person in the group or the least popular. In this type of assessment, only one end of the continuum (popular or not popular) is represented in the analysis. This sort of either-or choice limits selection and represents certain disadvantages. While this method is the most feasible to administer to larger groups, it yields the least accurate mapping of the variability of intra-group relationships, e.g., it represents only one social grouping.

Whatever method of measuring sociometric status is used, the end result describes a social phenomenon of the particular group being studied. As is characteristic of behavior assessments, there are advantages and disadvantages to each method. One method gives a more comprehensive mapping of the social relationships. Another method has greater feasibility of administration with larger groups. The information obtained from each sociometric assessment gives the group facilitator (teacher, therapist, researcher, etc.) and group members information on the social status of individual members. While this type of information is contextually important, further information can be obtained by studying social behavior in relation to other aspects of behavior. Several researchers (Rubin, 1973; Chandler, 1977; Piaget, 1970; Johnson, 1975; Alvy, 1968) have considered the relationship of social behavior to cognitive developmental variables. This sample of research supports the position that the integration of cognitive and social development is important for the study of human behavior.

Developmental Assessment

Sociometry from the philosophical point of view outlined by J. L.

Moreno (1941/1977) proposed that social systems be represented in process. Moreno suggested that social sciences have too long been concerned with end results at the expense of the social movement for the result. Moreno maintained that: "A study of human interrelations proceeding forward from their status nascendi (concept of the moment), instead of proceeding backward from their end-product, has great theoretical advantages" (p. 9). This perspective also posits some basic notions in developmental psychology on cognitive growth.

In order to specify sociometry's potential role in social-psychological research, developmental theory can advantageously be introduced. Jean Piaget's theory of development lends itself to the consideration of the social influences of cognitive development. Piaget (1958, 1959, 1960) focused his research questions on the intellectual development of children. He studied various schemes of thought (i.e., classification, conservation, seriation, volume, relational comprehension, etc.) from preschool through adolescence. The results of his numerous studies showed that certain notions could be traced as a progressive understanding, e.g. stages of development. Although Piaget had not empirically researched social development, he surmised that development necessarily includes biological, social, and cognitive interactions (Piaget, 1971).

According to Piagetian genetic epistemology, one theoretical link between social and cognitive interactions is the construct of decentration. The newborn infant is not decentered; the infant is egocentric and responds in a nondifferentiated manner to the world. The world is viewed as action and is the result of the child's action. Through progressive interaction, spatial objectivism of the world is accomplished. The self is located by successive approximations in the world of objects. As intellectual development progresses, the early egocentrism diminishes. The focus of thought changes to equilibrate for the self as an independent part of the world. This is a continual process from the first interactions to the last. Decentration is the process of moving from one reference system to another. The potential for decentration is effected and affected by the social environment. Although a person may be able to reason from premises other than his/her own, the consequences of acting out the behavior in a social context play an important role in this process. There are, then, instances in which social interactions may not only provide an impetus for cognitive understanding, but may at other times thwart cognitive understanding. A brief article by Z. T. Moreno (1975) underscores the necessity of understanding role-playing from both cognitive and social dimensions. Cognitive differentiation of the world interacts with and is not independent of social development from this frame of reference.

Research Implications

As referenced above, J. L. Moreno and J. Piaget have both emphasized the import of cognitive and social growth as progressive, parallel, and complimentary development. Ideally, research utilizing their theoretical foundations would trace a child's socio-cognitive behavior throughout development. Measures of sociometric status and stage of intellectual development would reflect socio-cognitive behavior and its significance. While longitudinal research yields the most empirically valid information about human development, it often lacks practicality and/or possibility to implement. Modifications of longitudinal designs can be utilized to obtain more quickly relevant information on the progressive development of human behavior.

Recommendations for alternative research designs to assess these behaviors might conceivably account for the developmental level of the individual through his/her progressive performance. The design might well be sensitive to the social structure the individual is a member of and his/her role in the structure. Tasks in problem-solving ability documented for its developmental validity could be used for the assessment of cognitive developmental level (Elkind, 1961, 1962). An assessment of social behavior could well include a measure of the relation of the group to the individual. Assessments of these behaviors could be conducted over a period of educational (social, psychological, cognitive, etc.) training. The analysis then could consist of testing for measureable changes in the different behaviors (i.e., the interaction effect of the variables).

Implications for the Social Sciences

Historically, the social sciences have aged through theoretical views representing a gamut of systems from strict empiricism to phenomenology. A critical analysis of different approaches shows that each theory in its own way attempted to deal with the age-old epistemological dilemma, the relationship between the subject and object (Gibbs, 1978). Recently, there has been a resurgence of interest in theory and in research dealing with the dialectic of individual and social development (Riegel, 1976; Achenbach, 1978).

Sociometry has a definite place in the integration of social and cognitive research. It can provide a measure of an individual's social status in relation to his/her performance at a particular period in development. This paper centers on the dialectic of the socio-cognitive dimension. It provides an avenue to define and differentiate one aspect of the subject-object epistemological dilemma. Hopefully, more research of this sort will

be forthcoming and will provide empirically valid data for the building of socio-cognitive theories.

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