

The Multiple Vantage Profile: A Computerized Assessment of Social Organization in Family Therapy

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ABSTRACT. This paper describes the use of a computer program for gathering information regarding social organization in family therapy. The method elicits multiple views of relationship structure and addresses all relationships within a treatment system, including those between therapist and family members. Various ways the computer organizes the assessment data are described and clinical exemplifications demonstrate its usefulness to practicing therapists.

In recent years it has been argued that family therapy clinicians and researchers need to be more responsive to assessing the full complexity of social organization of systems in treatment. Several articles have suggested the importance of assessing multiple levels of social organization, including the behavior of individuals, social relationships indicated by dyadic interaction, and social group structures that organize the relations among dyadic interactions (Keeney, 1983; Keeney & Cromwell, 1979; Cromwell and Peterson, 1981, 1983). Further, Gurman and Kniskern (1978) have stressed the importance of assessing these system levels from multiple perspectives. For example, rather than simply assessing the problem of a particular family member from his or her own perspective, the perspectives of other family members, significant others, the therapist or therapy supervisors can be discerned.

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A more encompassing level of social organization is included when one adopts an ecosystemic approach to assessment. The ecosystemic view (Keeney, 1979) fully acknowledges the participation of the therapist as an active member of the system being assessed and treated. This view suggests that the individual behavior of the therapist as well as the relationships between the therapist and family members are an appropriate domain for assessment. The majority of instruments assessing social organization currently available do not attend to the therapist's participation in the system being diagnosed.

When complexity is addressed through the assessment of multiple levels of the therapist-family system from multiple perspectives, a set of data is obtained which has until recently been nearly impossible to organize. Recognizing this problem, Gurman and Kniskern (1978) presented a model to help researchers prioritize and limit the targets assessed. We propose that recent advances in computer technology provide new ways of managing data in family assessment. Because of the computer's ability to easily handle large amounts of information, it is no longer necessary to eliminate potentially useful assessment data due to limited time and resources.

The computer's efficiency in handling complex sets of data makes it particularly valuable to clinicians. For the data from an assessment instrument to be optimally beneficial to a therapist, it must be readily available so the therapist can use it to guide his actions in the ongoing course of a session. Using computers in the assessment process enables diagnostic information, including graphical displays, to be available to the therapist seconds after the assessment data have been gathered.

In 1982, a special project was formed at Texas Tech University for the purpose of exploring the use of computers in assessment in marriage and family therapy. While initial efforts focused upon more efficiently assessing marital interaction (Atkinson & McKenzie, in press), more recent efforts have been directed toward computer assessment of the whole therapist-family system in treatment. A specific computer program called the Multiple Vantage Profile (Atkinson & McKenzie, 1983) has been developed which illustrates the use of computers in efficiently organizing complex sets of diagnostic data.

THE MULTIPLE VANTAGE PROFILE

The Multiple Vantage Profile (MVP) is a measure of social organization. Specifically it measures how systems in treatment perceive their relationship structure.¹ The MVP assesses relationship structure across dyadic relationships which may be used for making inferences about the organization of the whole family. In addition, the MVP allows the option

of assessing perceptions of how the therapist participates in these relationship structures. A unique aspect of the MVP is the method used to assess each relationship from the multiple vantage points of all other members of the system.

The MVP systematically asks each member of the system to indicate their view of the relationship structure of dyads within the system. For example, in a treatment system which includes a family of four and a therapist (mother, father, son, daughter, and therapist) there are ten possible dyadic combinations:

Mother-Father
 Mother-Son
 Mother-Daughter
 Mother-Therapist
 Father-Son
 Father-Daughter
 Father-Therapist
 Son-Daughter
 Son-Therapist
 Daughter-Therapist

In assessing the perceived structure of these relationships, each member is asked to respond to a series of basic statements regarding each of the above dyadic patterns.

1. How close are person 1 and person 2?
2. How close would person 1 like his/her relationship with person 2 to be?
3. How close would person 2 like his/her relationship with person 1 to be?

The first question is designed to elicit perceptions of the *present* pattern of closeness in a relationship. Questions two and three tap perceptions of the level of *desired* closeness in a relationship.

Depending upon the particular computer format used (formats available are described in the next section), each statement is answered either by using the Likert-type scale shown below:

close					distant
1	2	3	4	5	

or by manipulating the distance between two stick figures (representing family members) on a computer screen. In this procedure, subjects adjust

the distance between the two figures by manipulating a "joystick" which maneuvers two figures on the screen to indicate their perception of closeness in the relationship. An example is given to the subjects to demonstrate that the space between the figures is to be metaphorical for the general level of closeness in the relationship represented by the figures.

The assessment process is complete when each member of the system has addressed all possible dyadic relationships in the system. This process not only helps the therapist hypothesize the general patterns of relationship structure in terms of perceived distance and closeness, but also indicates differences of perception that various family members have about specific relationships. Palazzoli, Boscolo, Cecchin, and Prata (1978) state that these differences of perception are often valuable sources of information about the family, and have pioneered a clinical interviewing technique, called "triadic questioning" designed to elicit these differences between family members.

Computer Options Available

The MVP utilizes computer technology in both the gathering and the organizing of clinical data. Several different MVP programs have been developed, each utilizing different types of computer hardware and processing formats. Each of these formats has its own advantages and disadvantages. Some are more suitable for research purposes, while others have more clinical utility. One format works especially well with younger children, while others require basic sixth grade reading skills. A few of the formats can be administered with an inexpensive home computer. The following is a brief description of the available MVP formats.

1. *Optic Scanning.* This version of the MVP requires family members to complete a questionnaire using a standard computer answer sheet, using the Likert scale previously described. Individual responses are marked and then "read" by a computer via an optic scanner. This computerized scanning system is similar to the grocery store check-out devices used to read universal product codes. The computer is then instructed to organize the data in a manner predetermined by the therapist (e.g., descriptive statistics, graphs, etc.). The advantage of this format is the speed of processing. Most optic scanners can read thousands of computer forms in seconds. Because of this efficiency, most research on the MVP has utilized the optic-scan method. However, the disadvantage of this system lies in the cost and limited availability of optic scanning to most clinical contexts.
2. *Compu-score.* Because most therapists do not have access to equipment necessary to perform optic scanning, another method was developed which involves "reading" family member's responses.

The compu-score method requires that the therapist type in the responses from each MVP answer sheet onto a home computer. A computer program then organizes the data in the manner the therapist desires. Cost factors of this format are minimized since computers are quite often already being utilized by therapists for business or billing purposes. The disadvantage of this method is the time necessary for a therapist or secretary to type in the family's responses (approximately 5 to 10 minutes for a family of five).

3. *Computer Interactive.* This format of the MVP requires that each family member interact with the computer and uses graphic displays that are often entertaining for the family (and therapist). Each individual responds to the computer's questions by manipulating the distance between figures on a computer screen which represent specific members of the system (this process was described earlier). The computer then "reads" the distances between these figures and organizes the data in whatever manner the therapist decides. The advantage to this format is that family members, especially children, are often fascinated by the game-like quality of the MVP. Since this method does not require manual input of data by either optic scanning or terminal input, it is the most efficient format from the therapist's perspective. The disadvantage of this method lies in the time necessary for each family member to complete the task. Unless the therapist has access to several computers, family members must take turns using the computer.
4. *Computer Interactive: No Graphics.* This format is similar to the previous method except no graphics are used. Instead of manipulating figures on the computer monitor, all MVP questions are printed out on the computer screen along with the Likert-type response choices. Each family member responds to the questions by typing in the appropriate answer.

ORGANIZATION OF DATA AND CLINICAL APPLICATION

We have found that the MVP can be valuable both as an initial assessment given before therapy begins, and as an ongoing measure of change administered at several points in the therapy process. Of course, when the MVP is given as a pre-therapy assessment, the therapist and his relationships with family members cannot be included in the assessment because the therapist and family have not yet encountered each other. However, the therapist can be included in all subsequent administrations of the MVP. Some of the ways in which the MVP can help organize clinical data and contribute to the process of therapy will now be illustrated. Our discussion demonstrates how the MVP was used with a treatment family.

The mother of a family of four (mother, father, son and daughter) initially requested therapy, indicating her worry over the son's frequent temper outbursts which had recently escalated to the point that even father could not stop them. The family came to the first therapy session twenty minutes early and completed the optic scanning format of the MVP. The results which follow were available to the therapist before he saw the family.

One of the ways the MVP organizes clinical data is by graphing the average level of perceived closeness in each dyadic relationship. Figure 1 shows such a graph for this family. Note that each bar indicates the *average* perception of closeness for a specific relationship. It is the mean of the perceptions of every family member regarding that relationship. The therapist must be careful in interpreting the meaning of these averages. The computation of an average score is only one means of managing the complexity of all the family data. The cost of this reductive operation is that it may obscure the specific relationship patterns organizing the whole family. On the other hand, differences across average scores may direct the therapist to examine particular relationship configurations that otherwise might be overlooked.

Figure 1 may be interpreted as indicating that family members perceive the relationship between mother and father to be more distant than either the relationship between mother and son or mother and daughter. In addition, the relationship between mother and son may be hypothesized as particularly close, and the relationship between father and son may be hypothesized as the most distant relationship in the family. To the structurally oriented therapist, this profile might further suggest the possibility of a cross-generational coalition between mother and son against father. This information can be used to calibrate and direct the therapist's questions to gather further information which will support or negate this hypothesis about relationship structure. It is important to recognize that the MVP does not "measure" or "prove" the existence of cross-generational coalitions, but may be used by the therapist to build hypotheses from which to operate. Since this process of building and testing hypotheses about family relationship distance, coalitions and alliances is common to several schools of family therapy (Palazzoli, Boscolo, Cecchin, & Prata, 1980; Haley, 1976; Minuchin, 1974), the MVP may be used with a variety of clinical strategies.

Figure 2 presents another form of an average score from which inferences may be drawn that suggest how close each family member is to the family as a whole. From Figure 2 it can be hypothesized that father is the most distant member from the whole family. His score was computed by averaging the scores of each of the dyadic relationships in which father is a member. Scores for the other family members were computer in a

DYADIC CLOSENESS SCORES

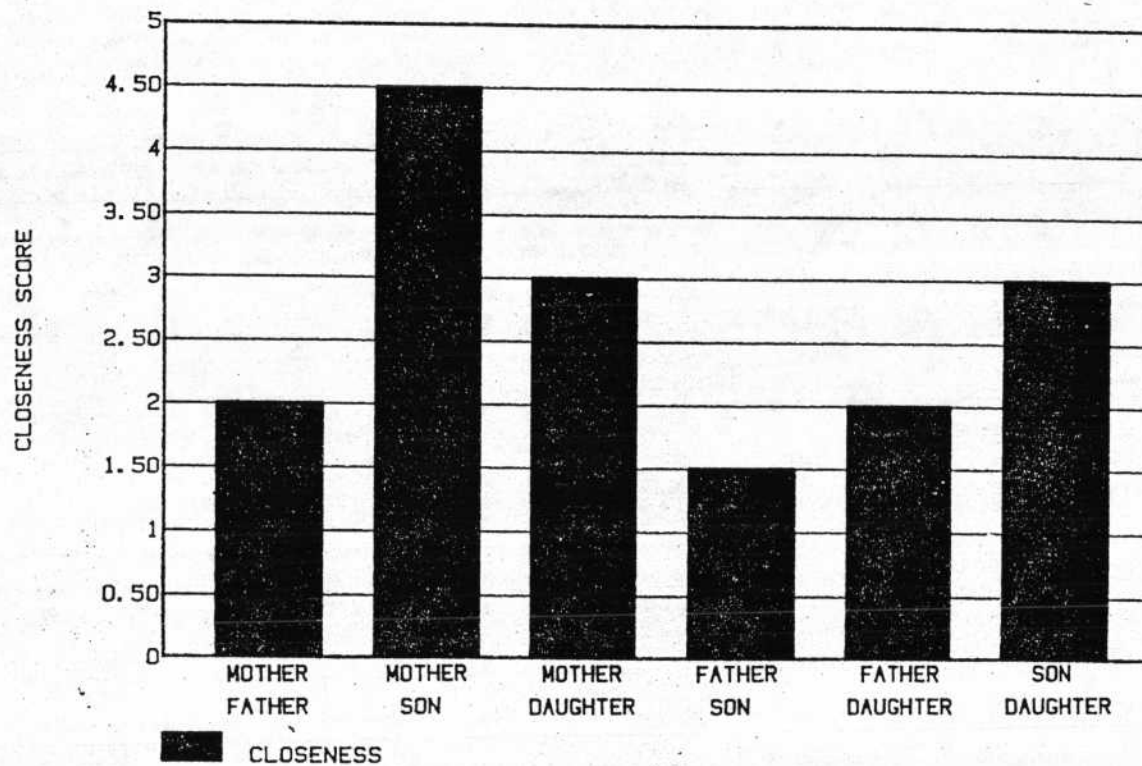


FIGURE 1. Average Dyadic Closeness Scores.

INDIVID-FAMILY CLOSENESS

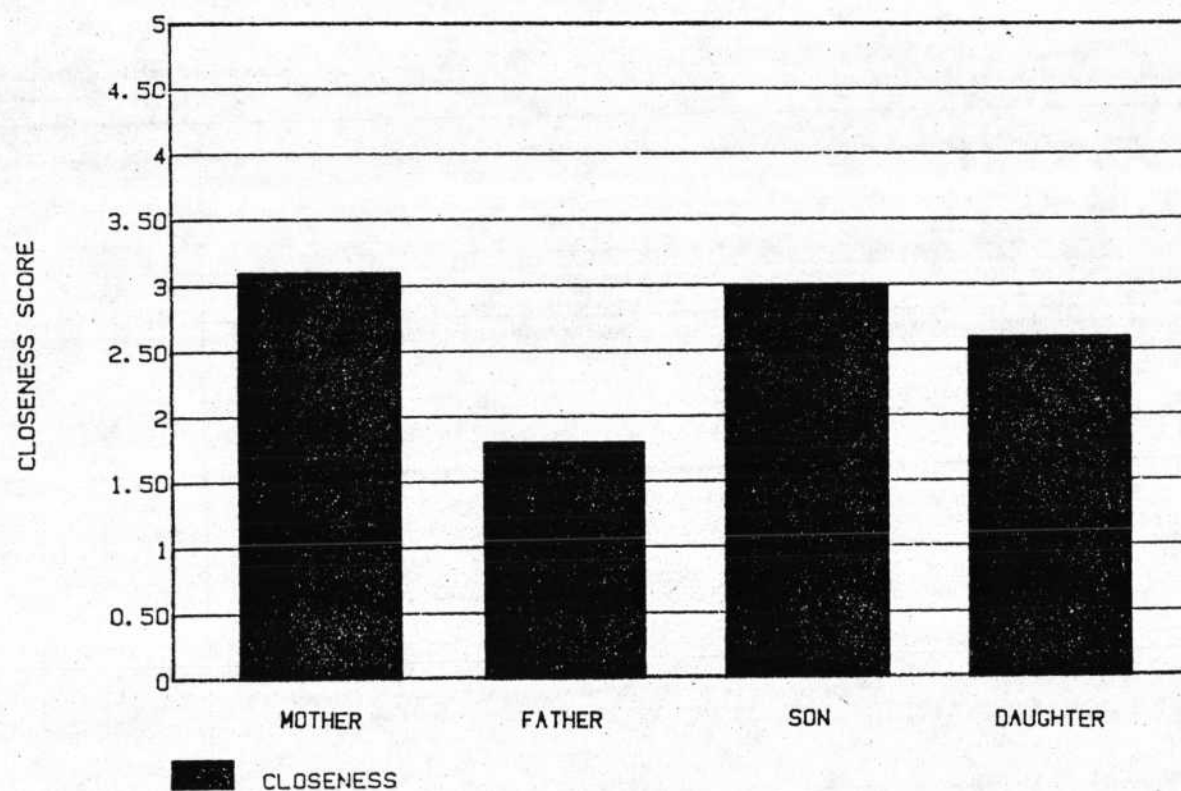


FIGURE 2. Average Individual-Family Closeness Scores.

similar fashion. The graph may be seen as supporting the hypothesis that the father is somewhat generally disengaged from the family, and that the mother is more centrally a part of the family.

It is often valuable for the therapist to check whether family members agree or disagree with each other about their perceptions of the various levels of closeness in dyads. Returning to Figure 1, one may hypothesize that the relationship between mother and father was perceived as being quite distant. The present question is, did the family members uniformly see this relationship as distant, or did some see it as being closer than others? The MVP makes this information available by graphing perceptual discrepancy scores. These scores are the mean deviations of family members' perceptions regarding a specific relationship. The perceptual discrepancy scores for the family are illustrated in Figure 3. It can be seen that there is considerable disagreement among family members regarding the level of closeness in the mother-father relationship as compared with the other family relationships. Whenever the therapist locates considerable disagreement among family members, it is useful to go a step further and find out *which* family members are disagreeing. The MVP makes this information available by graphing raw scores.

Figure 4 depicts the raw scores that each family member gave in response to the question, "How close is the relationship between mother and father?" What is immediately obvious is that all family members describe this relationship as very distant except father, who describes it as being very close. Based on this information, a therapist might begin with the simple hypothesis that the father tends to exaggerate or overestimate the closeness of his marital relationship.² If so, he may also overestimate (or underestimate) other family relationships.

An immediate way of evaluating the latter hypothesis is to compute the average of the closeness scores that father gives to all the possible relationships in the family. This average score, which represents father's tendency to score relationships in a certain direction (close or distant), can then be compared with the tendencies of other members to score all relationships in a certain direction. These scores are called "individual portrayal scores," because they focus more upon an individual's style of portraying relationships than on the relationships actually being portrayed. Figure 5 illustrates the individual portrayal scores of the family described previously. Here it can be seen that father does tend to, on the average, rate all relationships in the family as being closer than other family members rate them. Not only does he give them higher closeness ratings, but, except for the daughter, he also rates more consistently across relationships than other members, as evidenced by the mean deviations. This graph then gives support to the notion that father may see all family relationships in a different manner than do other family members.

Thus far we have considered various ways of examining how family

DISCREPANCY SCORES

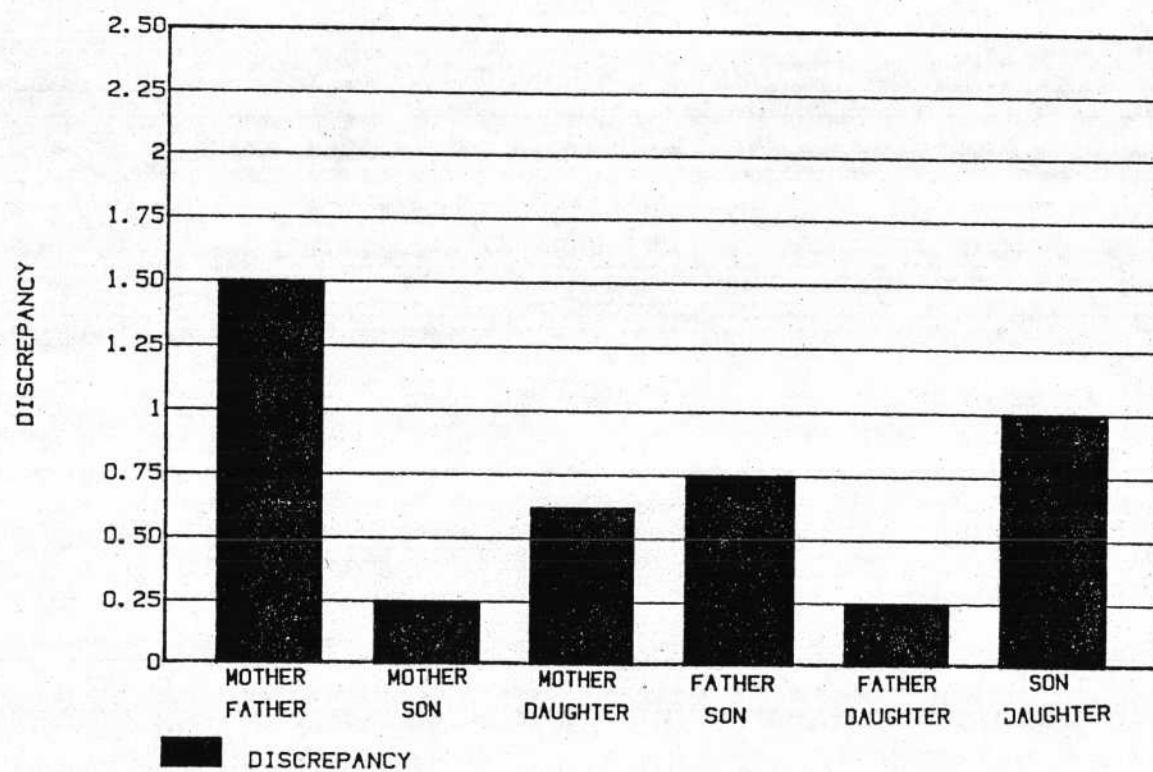


FIGURE 3. Perceptual Discrepancy Scores.

MOTHER-FATHER CLOSENESS

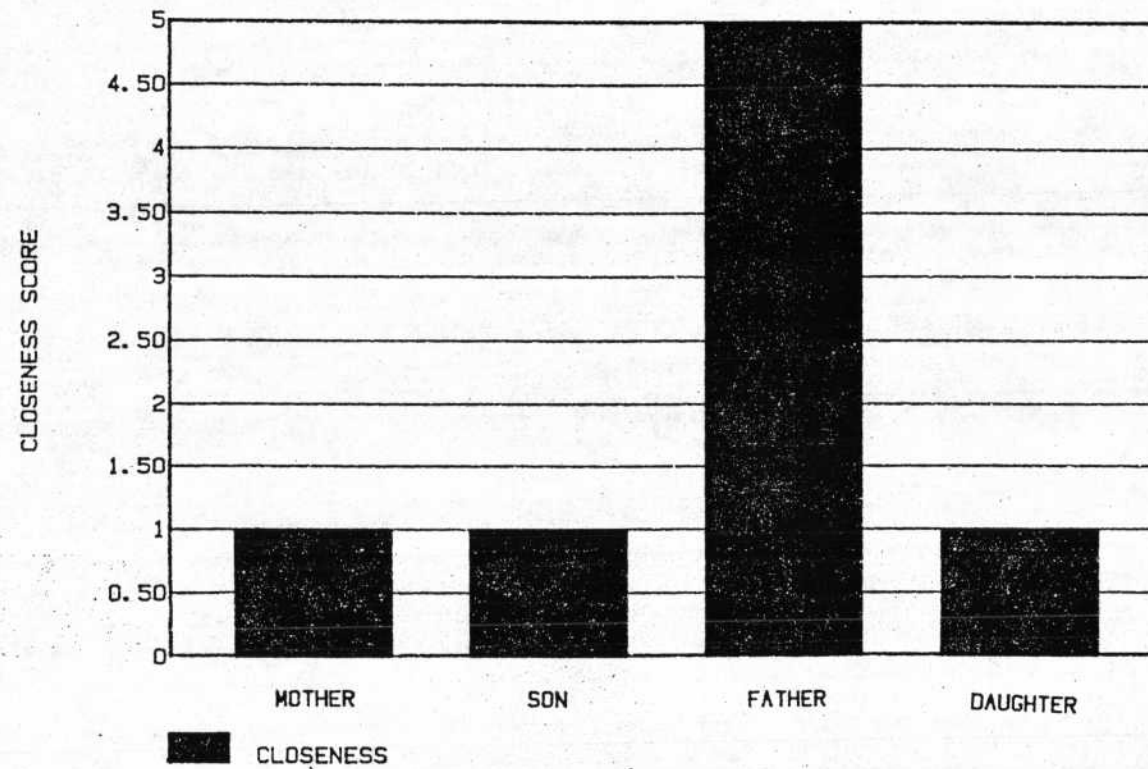


FIGURE 4. Mother-Father Closeness Scores.

INDIVIDUAL PORTRAYALS

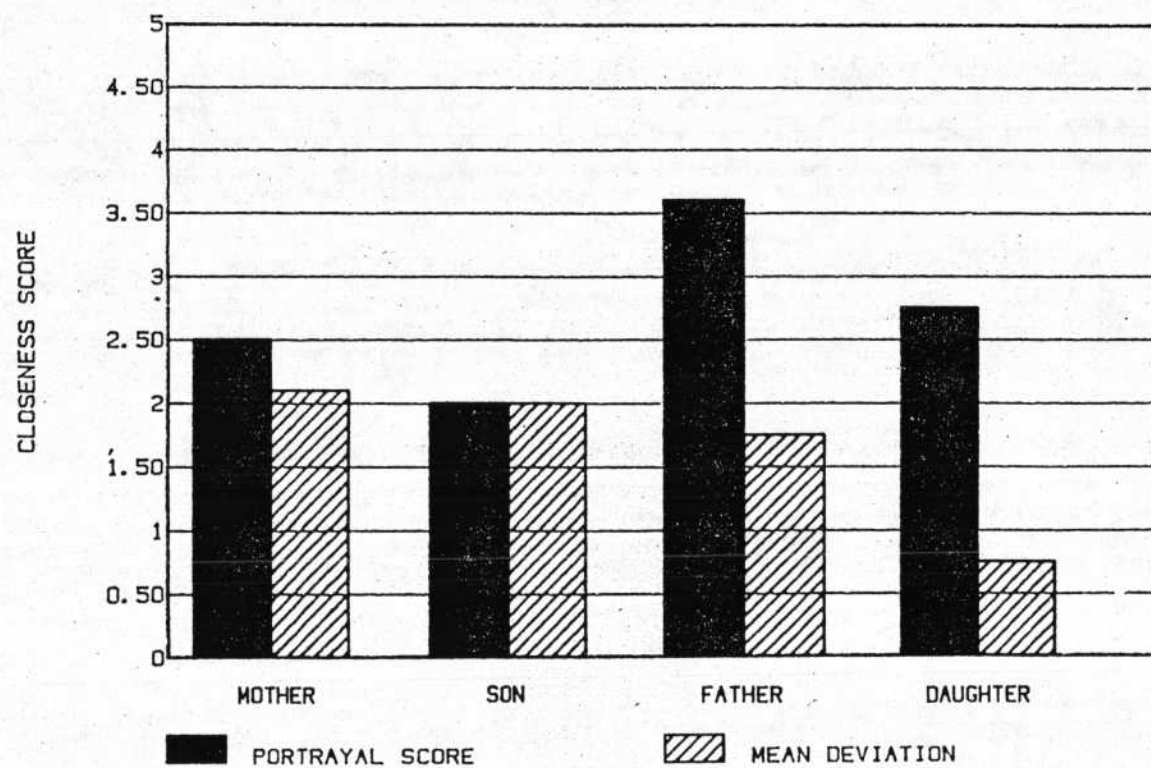


FIGURE 5. Individual Portrayal Scores.

members perceive closeness in their family relationships. This information does not indicate how close family members would like their relationships to be. One reason for considering the changes desired by each person is that those who are desiring the most change may be more motivated to change than those who are content with the present level of closeness in their relationship. The MVP makes this information available for each relationship by graphing the discrepancies between how close family members generally perceive the relationship to be, and how close family members generally believe that the members of that relationship would *like* it to be. The "change desired" scores for each dyad are graphed in Figure 6. Notice that there are two scores for each dyad, one for each member of the dyad. For example, looking specifically at the mother-father scores, the first (solid) bar indicates how much change the *mother* would like in the relationship, while the second (striped) bar indicates how much change the *father* would like in the relationship. It can be seen that mother is perceived as desiring a considerable positive change in closeness (more closeness), while father is perceived as desiring a negative change in closeness (less closeness). Looking across the different dyads, it may be hypothesized that father is desiring very little change in any of his relationships.

The change desired scores may be useful to a wide variety of therapeutic orientations. In particular, therapists using the interactional approach (Fisch, Weakland, & Segal, 1982) may be interested in these scores because these therapists often decide to directly work with those members who are most motivated to change.

In addition to gathering information about who wants to change and how much, the therapist may find it useful to have a portrait of the family's view of the changes its members desire. Figure 7 shows this kind of portrait for the family we have been describing. This portrait graphs the present and desired future levels of closeness in a relationship (as perceived by family members) side-by-side for comparison. The solid bars indicate the level of closeness desired by the person whose name is listed *first* in each dyad. The striped bars are the present perceived level of closeness in each dyad, and the open bars indicate the level of closeness desired by the person whose name is listed *second* in each dyad. Portraying the scores this way enables the therapist to see, for example, that if father's goals were reached, on a closeness scale of 1 to 5, his relationship with mother would be at the 1.5 level of closeness. On the other hand, if mother achieved her goal, the relationship would be at the 4.5 level of closeness. The other dyads can be looked at in similar fashion.

With the information gathered about this family through the various MVP graphs, one might hypothesize that the mother is closer to the children than she is to the father, the father is somewhat distant from the

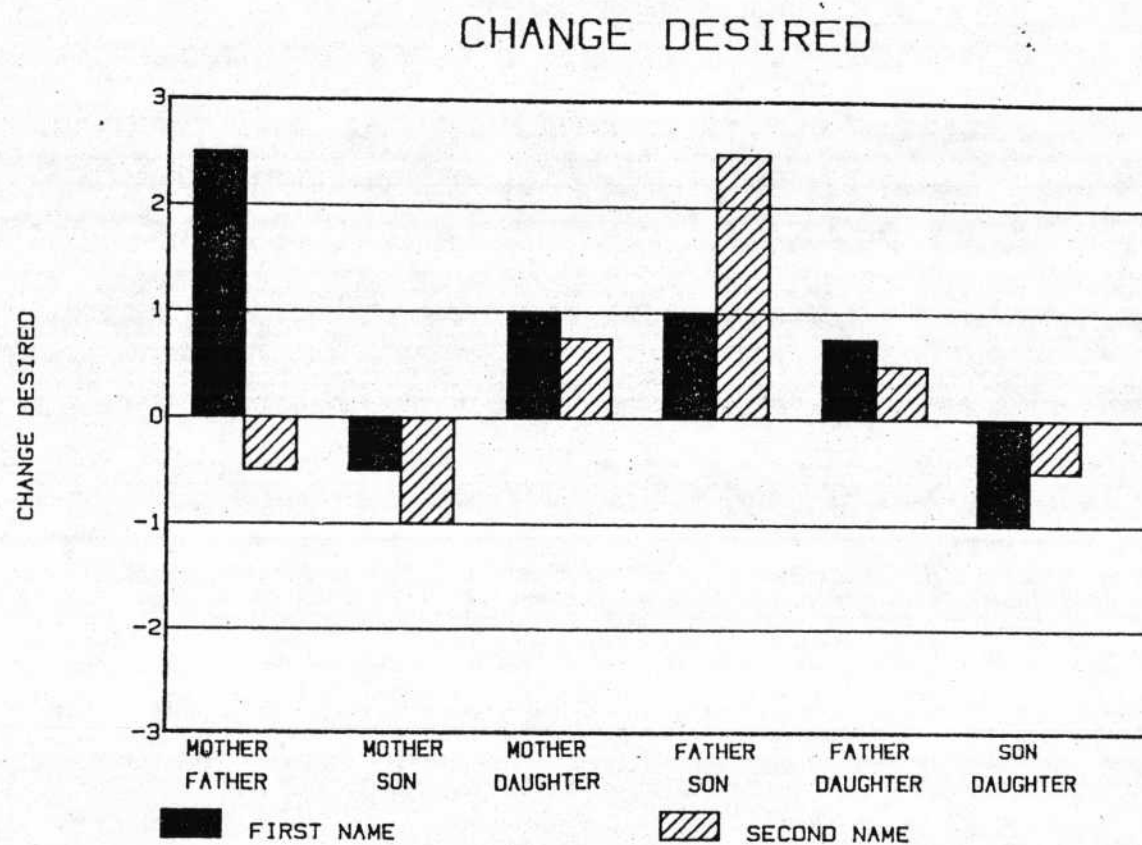


FIGURE 6. Change Desired Scores.

family in general, the father seems prone to idealize relationships in the family (portraying them as closer than other members think they are), and the mother and children would like more closeness from father, but he has not indicated any intention of getting closer.

With these hypotheses about relationship structures, the therapist is in a position to begin constructing a more general (i.e., systemic) hypothesis about the organizational patterns that stabilize the presenting problem. Based on the information generated by the MVP and the knowledge of the presenting problem, the following therapeutic hypothesis might be constructed. The son's outbursts are part of a repeating organizational pattern where father is engaged to calm the son, subsequently providing mother and son more closeness with father. One consequence of father's move toward the family, however, is that the mother becomes worried by the father's intrusion into her close relationship with the son. She then, in post hoc fashion, criticizes the father's previous handling of the son, resulting in father's distancing from the family again. This hypothesis provides a frame of reference the therapist can use to design a therapeutic intervention.³

THE ONGOING MEASUREMENT OF CHANGE

As therapy progresses, the MVP can report changes in any of the types of scores previously described. In the case reported, information was obtained in the first session which led to a hypothesis about the family's relationship structures. The major intervention delivered in the first three sessions consisted of challenging and prescribing the way the family's relationship structures maintained organizational stability (interventions of this sort are described in detail by Keeney & Ross, 1984). In general, the therapist commended the family for coming up with a creative way for father to periodically enter and leave the family. It was then pointed out that the unfortunate cost of this solution was the son's developing anti-social behavior. At the same time, the therapist noted that it was probably best to not interrupt this process until the family was certain they had found an alternative way of preserving their stability.

After three sessions, the family reported that the temper outbursts had stopped. The family again took the MVP, and several changes could be interpreted: Family members rated father's relationships with both children as closer, and father's perceptions of family relationships were more similar to the perceptions of other members, including the view of his relationship with his wife. The family however, still rated the relationship between mother and father as quite distant. Finally, mother's "change desired score" regarding her relationship with father had declined drastically.

Since the present degree of closeness did not appear to have changed between mother and father, the therapist was concerned about the sudden drop in the score reflecting mother's desire for closeness with father. This concern, coupled with father's lower marital closeness score, prompted the therapist to explore the marital relationship more directly in the fourth session. He discovered that since father had become more involved with the children, fights had increased between he and his wife. The marital relationship became the focus throughout the rest of therapy.

The MVP was useful in this situation in that it helped alert the therapist to changing patterns in family relationships. More specifically, it underscored problems emerging in the marital relationship as father's relationship with the children changed.

THE THERAPIST AS PART OF THE SYSTEM

The importance of the therapist joining (and separating from) the family system has been addressed in one form or another by most major schools of family therapy. Usually, the degree of joining (and separation) present in a therapist-family system is determined by the therapist or supervisor. One of the contributions of the MVP is that it provides access to knowing how the family may perceive the amount of closeness between themselves and the therapist.

For example, in Figure 8 the perceptions of the therapist about his relationships with family members are listed side-by-side with the average perceptions of the family after three sessions of therapy. The graph indicates that the therapist perceives himself to be more joined with the son than do other family members. The son has always been very polite to the therapist, smiling at him as they interact, even telling the therapist a joke at the beginning of the third session. This information led the therapist to conclude that he was fairly close to the son. However, other family members were present when the son would make fun of the therapist at home, calling him names, and insisting that he was not going to go to the next therapy session. The family's perspective was different from that of the therapist, and the therapist was alerted to this information when he viewed the MVP scores.

In a similar way, the perceptions of the therapist regarding closeness in other family relationships can be compared with the perceptions of family members. This comparison, in addition to noting the different ways in which family members may perceive the therapist's closeness in family relationships, helps remind the therapist of his participation as *part* of the whole therapeutic system. It naturally follows that the therapist may use this class of information to further shape and polish the therapeutic hypothesis that guides his or her understanding and subsequent action.

THERAPIST'S RELATIONSHIPS

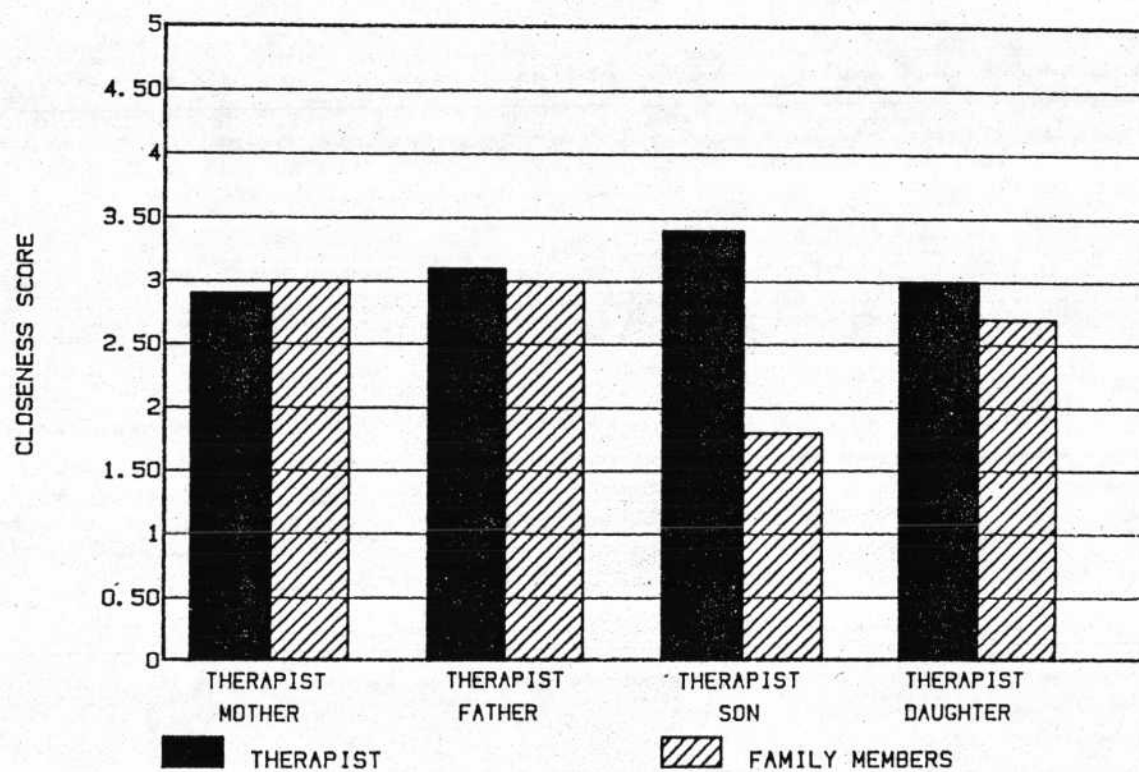


FIGURE 8. Therapist's Relationships.

CONCLUSION

This paper has presented an example of how a computer can be used in the process of assessment in family therapy. The computerized Multiple Vantage Profile generates up to 20 different types of graphic displays for representing assessment data about patterns of family social organization functioning. In addition, multiple perspectives are used in a systematic way to assess relationships within the treatment system. Further, computer processing enables the results from the assessment to be quickly available, thereby contributing to the ongoing organization of therapy.

Before closing it is again necessary to briefly comment on the limitations of using the MVP in family therapy.⁴ It is particularly important to remember that the responsibility of interpreting and utilizing the findings of the MVP always falls upon the therapist. The MVP only compares differences of perception across members of a family-therapist system. How these differences contribute to diagnosis and intervention depends on the therapist's own decision-making and epistemology. In conclusion, although computers can never perform therapy, the wider system of therapist-family-computer may become a pattern that helps organize successful therapeutic outcomes.

NOTES

1. Assessment of relationship structure, whether articulated in terms of distance and closeness, emotional bonding, or more generally as family structure, has been a central theme in theories and assessment models of family functioning. It is central to both the Circumplex (Olson, Sprenkle, & Russell, 1979) and the Beavers-Timberlawn (Beavers, 1976) models, as well as the clinical treatment models developed by Minuchin (1974), Haley (1976), the Milan Associates (Palazzoli et al., 1978), Bowen (1978), and Alexander and Parsons (1982).

2. The therapist's hypothesis should never be seen as suggesting any "objective reality" that operates in the family. As Maturana (1978, p. 50) states: "Representation, meaning, and description are notions that apply only and exclusively to the operation of living systems in a consensual domain, and are defined by an observer to refer to second-order consensual behavior. For this reason, these notions have no explanatory value for the characterization of the actual operation of living systems as autopoietic systems, even though they arise through structural coupling. Because a description always implies an interaction by a member of a domain of consensus, the domain of descriptions is necessarily bounded by the ultimate possible interactions of a living system through the properties of its components." In other words, all hypotheses and interpretations of the MVP are strictly in the domain of the observer and can never be held as operative in the observed family system. The usefulness of any therapeutic hypothesis can only be evaluated in terms of its relation to therapeutic interventions and subsequent outcomes.

3. The reader is again reminded that a multitude of hypotheses may fit the description of this particular case.

4. It is beyond the scope of the present paper to discuss the limitations inherent in using measures concerned with dyadic interaction to evaluate more complex relations. Although social scientists have fantasized about the capability of assessing triadic (and presumably quadradic) relations, in the most formal sense, science and logic has not yet constructed anything beyond a dyadic calculus. Warren McCulloch (1965), the father of modern experimental epistemology, often lamented that our understanding of biological processes (including social events) is constrained by our lack of a triadic calculus. Our point is that we are presently limited to formally assessing dyadic relations, although we may make as many inferences as we wish to more complex patterns of relationship.

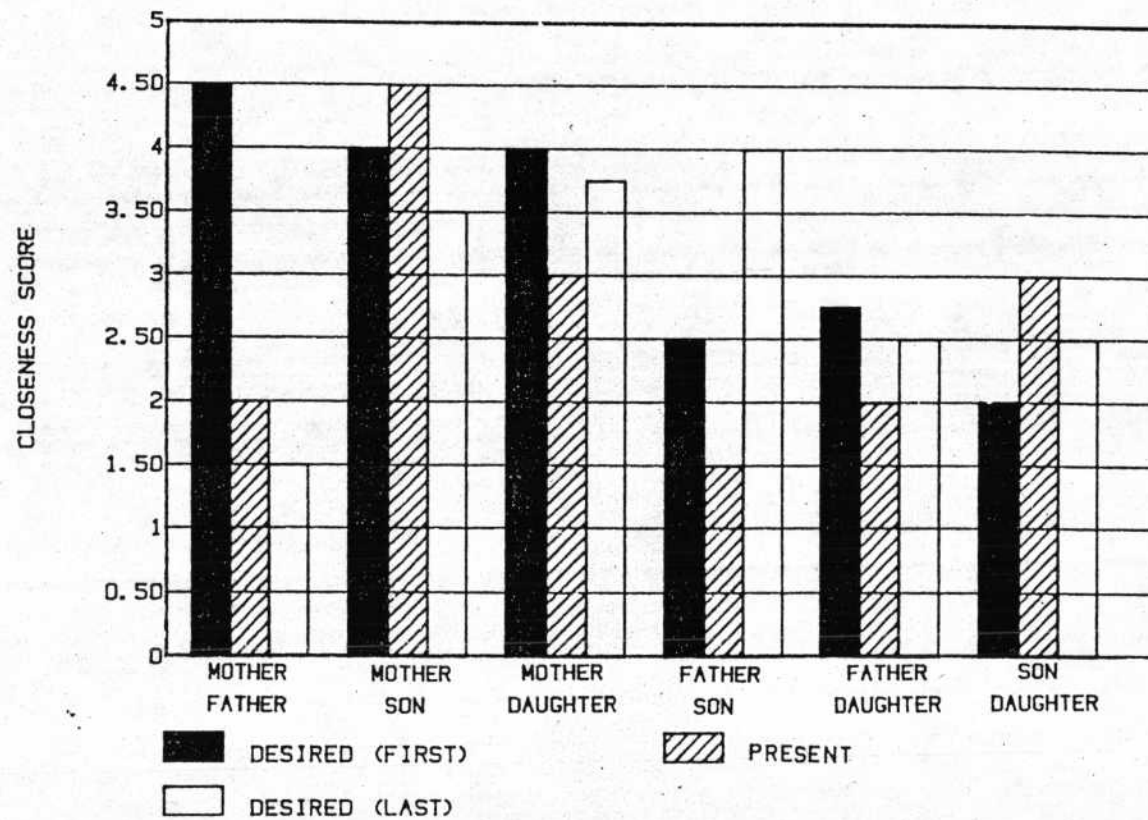


FIGURE 7. Present/Desired Closeness Scores.

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