Olson's Circumplex Model: A Review and Extension

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This paper reviews the literature about Olson's Circumplex model, and attempts to resolve two problems that have been discovered by attempts to use the model. The two problems are that: (1) the model theorizes that the relationships in it are curvilinear, but some data and some other theorizing suggest that at least one of the relationships is linear; and (2) the role of communication in the model is problematic. This paper proposes that the solution to the controversy about the shape of the relationships is that the relationships probably have a different shape than previously thought. The solution to the problem of communication being generally excluded from the model is to add a profile method of communicating information about the three factors in the model. Moving to a profile system also makes it easy to expand the model to include other factors, and one way of expanding it is presented.

Olson's Circumplex model is one of the most valuable middle-range theories in contemporary family science. It is only a decade old (Olson, 1976), but it has integrated a large number of partially overlapping concepts into a coherent theoretical model. It has pulled together a half century of theory and research about adaptability and cohesion, and the model is conceptually clear, easy to understand, and easy to communicate. It also has been heuristic in that it has led to over 300 related studies (Olson, 1986 p.337). It has stimulated continual improvement in the measurement of the variables, as the FACES instrument has now gone through three revisions, and there is evidence that its reliability and validity are improving (Olson, 1985). The theory also has helped meet an important need in the field by building bridges between theorists, researchers, and practitioners (Olson, 1976).

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Key words: circumplex, adaptability, cohesion, communication, kindness, listening, consensus, control, anger, support.
As with most theories, there are unresolved problems with Olson's circumplex model, and there are ways it can be improved. This paper is an attempt to review the literature about the model, clarify several of the controversies and limitations of the theory, and make several suggestions which we hope will improve the model and stimulate additional theoretical, conceptual, and empirical work. Hopefully, the suggestions also will make the model more useful to practitioners such as therapists, family life educators, extension specialists, and family scientists using it in business, industry and government.

THE CONTROVERSY ABOUT THE SHAPE OF RELATIONSHIPS

One of the controversies the model has stimulated is that there are different opinions about the shape of the relationships in the theory. Olson (1976) has proposed that adaptability and cohesion are related to family effectiveness with symmetrical and curvilinear relationships. He views the independent variables as having four categories as shown in Figure 1, and theorizes that families in the balanced area have the greatest probability of being effective. Families in the extreme conditions are thought to have higher probabilities of ineffectiveness.

The controversy deals with the relationships that adaptability and cohesion have with family effectiveness. The data from some studies suggest these relationships are curvilinear, but other studies have found relatively linear relationships. Also, some theorizing about the effects of adaptability suggests it has a curvilinear relationship, but other theorizing suggests it is a linear relationship.
Table 1: Means on the Satisfaction Variables of the Individuals in Each Category of Family Cohesion and Family Adaptability in Olson and McCubbin's 1983 Survey.

<table>
<thead>
<tr>
<th></th>
<th>Adaptability Levels</th>
<th>Cohesion Levels</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Rigid</td>
<td>Struc</td>
</tr>
<tr>
<td>Marital Satisfaction</td>
<td>45.8</td>
<td>50.9</td>
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<tr>
<td>(Locke Wallace)</td>
<td></td>
<td></td>
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<tr>
<td>Marital Satisfaction</td>
<td>31.3</td>
<td>36.0</td>
</tr>
<tr>
<td>(ENRICH)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family Satisfaction</td>
<td>40.7</td>
<td>45.6</td>
</tr>
<tr>
<td>Quality of Life</td>
<td>122.0</td>
<td>129.6</td>
</tr>
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</table>

_Empirical Reasons For the Controversy_

The largest and most careful study of the relationships in the model was Olson and McCubbin's survey of 1,000 families (Olson, McCubbin, et al., 1983). The main findings from their study are reproduced in Table 1, and the relationships are all positive. None of the covariation is negative at any point along the range of variation in adaptability or cohesion. It is clear from the data in Table 1 that the relationships are not linear. If the relationships were linear, it would mean that the scores on the dependent variables would increase equally as the scores on adaptability and cohesion increase from one category to another. From data in Table 1, it appears that there is a slightly curved rather than linear relationship. The changes in adaptability and cohesion are associated with greater differences in the dependent variables when the independent variables are in the lower end of their range of variation than when they are in the higher end of their range. The most accurate way to describe these relationships is that they are positive and slightly curvilinear.

Barnes and Olson (1985) did a follow-up study that analyzed a subsample of Olson and McCubbin's (1983) survey of 1000 families, and their study had conflicting findings. The data for the parents fit Olson's model of curvilinearity, but the data for the adolescents had a positive relationship. The discriminant analysis in the study also argued for positive relationships between adaptability, cohesion, family satisfaction, and the quality of their communication.
One other study has data that allows strong inferences about the shape of the relationships in the model. It is Russell's (1979) data on 33 "normal" families. This study supports the curvilinearity suggested by Olson as it found that families who had balanced scores on adaptability and cohesion were having less difficulty with their adolescent child and those who had more extreme scores were having more difficulty.

A number of studies have compared pathological or clinical groups with more normal groups and found the ineffective groups had higher proportions with extreme scores (Craddock, 1983; Garbarino et al., 1984; Clark, 1984; and Rodick et al., 1986, for example). A few studies have found no differences between clinical and normal groups (Alexander et al., 1974; or inconclusive patterns (Spremke & Olson, 1978).

Some of the studies that have compared pathological and normal groups provide useful information about measurement, clinical, and prediction issues, but these studies are of little value in helping us understand the shape of the relationships in the theory. They have two problems that prevent them from being useful in making inferences about the relationships. The first is that the studies combine all four of Olson's extreme types into one group, and this makes it impossible to make inferences about the relationships adaptability and cohesion have with effectiveness.

The second problem is that comparing clinical and non-clinical samples to see differences in the proportions who have balanced and extreme scores does not provide information about how variation in the independent variables is associated with changes in the probability of effectiveness. The finding that clinical and non-clinical samples differ in the proportion who are balanced and extreme can appear if the relationships are positive, and it can appear if the relationships are curvilinear. For example, when a large number of the ineffective families are in any one of the four extreme categories, which is frequently the case (Rodick et al., 1986, for example), it is impossible to know what the relationships are when either of both of the independent variables vary.

The above studies all have quantitative data, and the evidence from them seems to be contradictory. There is also a sizeable body of clinical literature (see Olson et al., 1979, pp. 7-9) that uses qualitative data, and these data are more consistent in arguing for the curvilinearity proposed in the circumplex model. These studies suggest that families who have unusually low or high adaptability or cohesion tend to have higher probabilities of difficulty. Even though these clinically derived observations have not been detected in most of the quantitative research, this type of data is as important as the quantitative data in building and improving theories, and these clinical inferences need to be given serious consideration in any attempt to resolve the controversy.

The conclusion we draw from these studies is that the empirical evidence currently available is controversial and contradictory. We think that it may be possible to resolve the controversy, but before suggesting a resolution, the theoretical reasons for the issue should be identified.

Theoretical Reasons

Olson’s (1979) theory in developing the family by Olson et al. (1979), general systems theory, and family systems theory (Beaver et al., 1971; and Werry, 1983, p. 70-72) are consistent and clear. The cohesion concept is very convincing.

Beavers has suggested a family is quite different between the Beavers and the family by Olson et al. (1979); and Werry (1983, p. 70-72). He argues that family clinicians are concerned with individuals or subsamples on the adaptiveness is a continuum.

A third theory functionally ordered between adaptability and cohesion as an industrialized, highly adaptive child can be excessive it is a high social class lines is considered. Teen-age member, such degree of adaptability is a qualitative or quantitative approach.

Thus, these theories are rather than helping to resolve systems analysis the evidence about curvilinearity, a qualitative account.

A Proposed Resolution

The controversy between the Beavers and Olson is a difference of opinion on adaptability as a continuum ranging from low to high adaptability is a qualitative or quantitative approach.
Theoretical Reasons for the Controversy About the Shape of the Relationships

Olson (1976) used the perspective and insights provided by systems theory in developing and then refining and expanding his model (Olson et al., 1979; Olson et al., 1983; Olson, 1986). He was especially "influenced by general systems theory as described by Von Bertalanffy (1968) and applied to the family by Jackson (1965), Haley (1962, 1963, 1964), Speer (1970), Hill (1971), and Wertheim (1973, 1975)" (Olson et al., 1983 p.71). His explanations (1983, p. 70-72, for example) of the reasons the extremes of adaptability and cohesion create problems in families provides a systems oriented rationale that is very convincing.

Beavers (1977, 1981, 1982; Beavers & Voeller, 1983), on the other hand, has suggested a more psychodynamic and developmentally oriented model that is quite different from Olson's. There are several important differences between the Beavers and Olson models, but if these more complicated aspects are ignored and the differences are boiled down to the relationships. Beavers proposes that the relationship between adaptability and effectiveness is linear. He argues that "adaptability as a continuum is common to the work of most family clinicians and research workers. Whether one is speaking of individuals or families, highly adaptive means capable, and moderate adaptiveness is defined as not so good" (1983:87).

A third theoretical approach was taken by Vincent (1966) in a functionally oriented sociological analysis. He theorized that the relationship between adaptability and family effectiveness is curvilinear. He proposed that "an industrialized society characterized by rapid social change necessitates a highly adaptive family system" (1966:36), but when the adaptability is excessive it is dysfunctional. "An example or illustration which cuts across class lines is to be found in the internal adaptiveness of the family to its teen-age members. When familial adaptation to the needs and wants of its teen-age members reaches the point or degree where parental control is lost, such degree of adaptation becomes dysfunctional..." (1966:36).

Thus, previous theoretical formulations seem to add to the controversy rather than help. There are theoretical models from clinical impressions, systems analysis, and sociological analyses that argue for linearity and curvilinearity, and the plausibility of each of them needs to be taken into account.

A Proposed Resolution of the Controversy

The controversy about the shape of the relationships can be resolved if two changes are made. First, we need to realize that the differences between the Beavers and Olson models is a conceptual difference rather than a difference of opinion about the shape of one relationship. Beavers defines adaptability "as an emerging, ever expansible capability to be placed on a continuum ranging from dysfunctional to optimal" (1983:89). This means that adaptability is defined as capability or adaptive capacity, and this clearly has a qualitative or good-bad quality to it. We agree with him that when...
adaptability is defined in this way it has to have a positive relationship with effectiveness in families. We also believe that the Beavers definitions are so tautological that terms have little value. The Beavers system is saying little more than adapting well is related to functioning well. Olson’s concept is very different. It is a continuum ranging from rigid to flexible, and it does not have the dysfunctional to optimal component that is built into Beavers’ variable. Thus, even though both models use the term adaptability, they are very different concepts. This eliminates one important part of the controversy.

The second change suggested here has to do with finding the point at which adaptability becomes excessive. The key to this change is in the way we think adaptability and cohesion vary. We suggest that it is possible to resolve the controversy if adaptability and cohesion are viewed as continuous variables rather than categorical variables. They can be operationalized as categorical variables in research studies, but it is helpful to view them conceptually and theoretically as continuous factors. From a systems theory point of view, people make slight changes in their bonding, boundaries, coalitions, and closeness; and there are many subtle differences in how much change occurs in rules and system processes. These system processes change in a continuous manner rather than just having four categories, and it will sharpen rather than confuse the thinking of family scientists to view them as continuously varying processes.

Figure 2 is an attempt to diagram the relationships Olson has proposed using continuous variables. Viewed in this way, the further families are from the mean on either variable, the greater the probability of ineffectiveness. The model also suggests that the two independent variables interact in an additive manner.

Viewing adaptability as an additive factor it is possible to take the variables, and the controversy. This is because the possibility of variation in the extreme upper-end.

Our research suggests that distributions in current model relationship between the two variables is higher. The additional research shows that the relationship per centile in the levels of adaptability and effectiveness is 50 percentile. This shows the mode is detected in the upper-end of the adaptability and cohesion.

Our interpretation of the results of the second study is different for each of the three models. One mode is lower for the Beavers model and for the high end of the adaptability. It shows the range of cohesion they seek in the family.

These specific changes in the earlier system proposed by Olson call attention to the fact that adaptability is most of the range change in direct research programs. There is sensitive enough range of distributions. This occurs because they have a stronger role.
additive manner. This means that the distance from the mean in either direction in both distributions can be added together and the greater the total distance from the mean the greater the likelihood of ineffectiveness.

Viewing adaptability and cohesion as continuous variables makes it possible to take into account smaller intervals in the variation of these two variables, and this provides the key that we think is needed to resolve the controversy. The reason we think this approach can resolve the controversy is because the relationships are probably positive for most of the range of variation in the independent variables, but the direction changes in the extreme upper end of the range of their variation.

Our resolution of the controversy is to suggest that the modes in the distributions in Olson's model are not at the 50th percentile as implied by the current model and the research about the model. The mode in the relationship between adaptability and family effectiveness is probably much higher. The exact location of the mode can only be determined with additional research that will allow these discriminations, but it may be as high as the 80th or 90th percentile of a random sample. We suspect that this relationship probably does not become strongly negative until above the 95th percentile in the contemporary Western culture. Also, we suspect that the levels of adaptability that are associated with the highest probability of effectiveness is not a large part of the total range of variation in adaptability. Therefore, our attempt to diagram this relationship in Figure 3 shows the mode to be fairly pointed. Also, we have included the slight curve detected in Table 1 by diagramming a fairly strong relationship between adaptability and effectiveness in the low end of its distribution.

Our interpretation of the data from previous research, and our clinical and educational impressions suggest that the relationship is probably somewhat different for cohesion and effectiveness. This relationship is drawn in Figure 3, and it also shows two directions in the relationship. We suspect that the mode is lower for cohesion than adaptability, and we think that it is a more flat mode. If future data corroborate these theoretical speculations it means that having high cohesion is not as important for effectiveness as having high adaptability. It also means that families can choose among a much wider range of cohesion and still expect to effectively attain the outcomes or goals they seek in their family system.

These speculations seem to be an effective resolution of the differences in the earlier theorizing and research. They allow for the curvilinearity proposed by Olson and Vincent, and they also recognize that the covariation that adaptability and cohesion have with effectiveness is positive through most of the range of variation in the independent variables. The reason the change in direction in the relationship has not be detected in the quantitative research probably is because researchers have not used measures that are sensitive enough to detect the negative covariation in the top part of the distributions. The resolution also allows for the slight curvilinearity that occurs because changes in adaptability and cohesion below their mid-point have a stronger relationship than above it.
The suggestions being made here about these relationships have several implications for the circumplex model. One implication is that the three conditions of balanced, mid-range, and extreme probably should be drawn differently on the circumplex graph than they have been. Figure 4 is an attempt to use the newly suggested relationships to draw these three conditions so they will be more consistent with differences in the probability of families being effective. This drawing uses the same cut-off system Olson and McCubbin used in their 1983 study Olson and McCubbin, 1963 and in the manual for FACES III (Olson et al., 1985) in that there is an attempt to have relatively equal quartiles in each of the four conditions of each variable when a random sample of American families is used. The balanced condition is much higher on the distribution of adaptability, and it includes a smaller total amount of the variation in adaptability than cohesion. The extreme condition includes a larger proportion of the low end of adaptability. The value of these changes in the circumplex graph will only be known as additional data are gathered to see if these speculations are consistent with data and as this revised model is used in therapeutic and educational applications.

Before leaving the issue of the nature of these relationships, a caveat is probably in order. The relationships that are proposed here are undoubtedly influenced by a number of unspecified contingencies. One of these is suggested in Vincent's (1966) analysis. He proposed that the amount of change that is occurring in a culture probably influences the relationships. For example, it is likely that the high level of social change in the twentieth century Western culture tends to push the mode in the relationship between adaptability and effectiveness relatively high in the adaptability variable.
Conversely, it is likely that cultures that are experiencing less change will have a more normal distribution in this relationship. Also, it is likely that the mode for the relationship between cohesion and effectiveness is more pointed during periods of relative stability, and during these periods the mode for adaptability is probably more flat than the relationship we have proposed in Figure 3.

A PROBLEM WITH THE ROLE OF COMMUNICATION IN THE MODEL

A second problem with the circumplex model has to do with the role of communication in the theory. Olson has stated that the theory has three main factors: adaptability, cohesion, and the quality of communication. Unfortunately, though, the practical result has been that it has become a two factor model. Communication is ignored almost all of the time. Olson has suggested that communication is different because it is a "facilitating" variable (Olson and McCubbin, 1983, p.49), but this is not a helpful way to differentiate the roles of the three independent variables. From a systems theory perspective, the same thing can be said for adaptability and cohesion. They are not outcomes or goals. They are transformation processes or system characteristics that help families attain desired outcomes or goals such as satisfaction, affection, stress management, developmental tasks, consensus, and optimal human growth.

It would be possible to make a case for cohesion being viewed sometimes as an outcome in family systems because families sometimes talk about
wanting "closeness"; but adaptability is almost never seen as an outcome. It
would be very unusual for a family to want to become an "adaptable family". Communication also could be viewed as a family goal, but most of the time it is seen by families and family scientists as a facilitating process. Therefore, the reasoning that communication should be treated differently in the theory because it is a facilitating variable is not defensible. It should be treated the same as the other explanatory variables.

We suggest that the reason communication has been treated differently is because of the limitations that are inherent in using the circumplex graph. The circumplex graph gets too confusing when it is expanded to more than two variables. We suggest that the best solution to this problem is to add a profile approach to graphing the characteristics of families. We want to emphasize that we are not suggesting that a profile system replace the circumplex graph. The circumplex graph is a useful device, and it should be used whenever it is helpful. We are suggesting that adding a profile graphing system would be helpful.

A profile method of graphing data can be used easily with 6, 5, or 10 factors, and this means that it would be easy to include one or more communication variables simultaneously with adaptability and cohesion. It also opens up the possibility of including several other variables. For example, the MMPI uses a profile method of summarizing scores and it has 14 factors.

AN EXAMPLE OF A PROFILE METHOD USED IN A FAMILY ENRICHMENT PROGRAM

We have been experimenting with the use of a profile that has adaptability, cohesion, and a communication variable as three of its variables. The system we have been using is illustrated in Figures 5 and 6. The scores are shown on the vertical axis, and eight variables are identified by the horizontal columns. The scores on all the factors are standardized to vary between 0 and 100 to help make them comparable. The factors that are included in this profile are the variables being studied in an ongoing evaluation research program evaluating the effectiveness of a family enrichment program. The enrichment program is the Parent and Teen Workshop (PAT) that was developed by the authors and several other colleagues (Burr et al., 1986).

The eight factors in Figures 5 and 6 are all measured with a self-report questionnaire called the Family Profile (FP). FACES III is included in the Family Profile to measure adaptability and cohesion, and the other six factors are measured by adaptations of several earlier instruments. Copies of the questionnaire are available by writing to the senior author. Data about reliability and validity of the measures of the six factors are not yet available, but data are being gathered and tests of reliability and validity will be made as soon as possible. The conceptural definition of the other six factors are:

- Kindness involves consideration and not going wrong.
- Consensus involves seeking measures called a winning method III.
- Control involves child-centeredness.
- Anger involves anger and anger turn anger into cooperation at the point of view.
- Support means and each other..
- Successes.

The lines participated in several families some of the behaviors that apply for enrichment.

Figure 5 shows the mother and father, perceptions, and the family as listening as the scores were shown. The scores were then on support and recognize that the mother thought kind of information they could adapt deliberately for understanding.

Figure 6 shows the family that is not parents; the son parents; the teen father perceived.
Kindness is the amount family members respond in a caring, loving, considerate and patient manner to each other, especially when things are not going well in the family.

Consensus is the amount the family tries to use a consensus-seeking method of making decisions. This method is sometimes called a win-win method, and Gordon (1970) refers to it as his method III.

Control is how adequately the family is able to gradually transfer to children the responsibility for various aspects of their own lives.

Anger is a measure of how well the family is able to keep tempers and anger from being disruptive in the family and how well they turn anger into constructive uses. It is adapted from Mace’s (1981) point of view of the role of anger in enrichment programs.

Support measures the amount family members provide nurturance to each other through physical contact, helping each other achieve successes, and companionate interaction. It is used the way it was defined in the Rollins and Thomas review (1979), and includes the factors detected in several recent factor analyses of support (Barber and Thomas, 1986).

The lines in Figures 5 and 6 show the data from two families that participated in a PAT Workshop. These families were two of the more troubled families that participated, and the data in these tables illustrate some of the benefits of using the profile system to help understand families that apply for enrichment programs.

Figure 5 shows the data for a family that we will call the Smiths. The Smiths have a single mother and three children, and data were gathered from the mother and a 13 year old daughter. The solid line shows the mother’s perceptions, and the dotted line shows the daughter’s. The mother perceived the family as being fairly good in most areas, but low in cohesion and listening as these scores were between 20 and 30. Some of the daughter’s scores were similar to the mother’s, but the daughter had much lower scores on support and kindness. This information helped the workshop leaders recognize that the daughter felt the family was not as effective as the mother thought; and that the daughter felt alienated and unappreciated. This kind of information helped the workshop leaders and participants find ways they could adapt the workshop to help meet these specific needs. This family deliberately designed activities that would help create interaction, understanding, and feelings of being included by the daughter.

Figure 6 shows the profile of a family that we will call the Jones, a family that is quite different from the Smiths. The Jones family had two parents, one son, and four daughters. Figure 6 shows the scores for both parents, the teenage son, and the teenage daughter. The scores show the father perceived the family to be fairly healthy, as he had no low scores.
He had a fairly flat profile with most of the scores being around 70. The mother and daughter, on the other hand, had much lower scores, especially on cohesion, kindness, listening, and support. Most of the son's scores were between these extremes.

The profiles in Figure 6 reveal that the members of this family defined their family situation very differently. The workshop leaders were concerned about the low scores and the differences in the scores. They also detected non-verbal messages and body language from the daughter that communicated she was usually angry and detached. Initially none of the family provided additional information, but eventually the mother revealed that the father was abusive to the daughter. Arrangements were then made to have the family begin a therapy program.

**IMPROVEMENT**

There is a tendency to use the circumplex model for identifying the probabilities of dyadic interactions (Olson et al., 1980). The "balanced" range of scores within the range of what is predictive reveals a pattern of predictive power.

The limits of the system that have been tested so far are just beginning to be explored.
IMPROVING A THIRD ASPECT OF THE CIRCUMPLEX MODEL

There is another aspect of the circumplex model that can be improved by adding a profile method of summarizing data. The main hypotheses in the circumplex model suggests that balanced families tend to have higher probabilities of effectiveness and extreme families have lower probabilities (Olson et.al., 1983). Grouping several different types of families into the "balanced" category is not a problem because variation in the middle part of the range of variation with most variables has little value in family science. Predictive research since the 1930's has shown that the further people are out on the tails of a distribution the greater the diagnostic, evaluative, and predictive power (Burgess and Cottrell, 1939).

The limitation with the circumplex model is that the theoretical ideas that have been generated and most of the research about the model tend to group all four forms of extreme conditions together. When this is done it
conceals variance that is potentially valuable. In this case, families with certain combinations of extreme conditions may have different probabilities of various types of ineffectiveness. For example, it may be that certain combinations of the independent variables are associated with high probabilities of undesirable outcomes such as violence, substance abuse, or alienation, and other combinations of extreme conditions are associated with other outcomes, such as deviance or inability to establish long-term relationships. Rodick's (1986) data, for example, suggest that delinquency may be more frequent in chaotically enmeshed families than in any of the other extreme types. Profiling these and other variables may help us understand how other combinations of factors are associated with important outcomes in family systems.

The circumplex model distinguishes conceptually between four types of extreme conditions, but for some reason the theorizing and research so far tends to ignore these distinctions. Theorists and researchers tend to focus on the differences between balanced and extreme rather than focusing on different types of extreme conditions. It is likely that adding a profile approach will make it easier to focus on ways the various extreme conditions are associated differently with a number of different types of ineffectiveness.

ADVANTAGES, CAUTIONS AND FUTURE NEEDS

The two profiles in Figures 5 and 6 illustrate that profiles can be very helpful in a number of ways in therapy and in enrichment programs. They can help leaders know how to adapt or modify programs to meet the needs and goals of the participants. They also can help identify families that should be screened out of enrichment programs because they need therapy, and they can be used to monitor progress and evaluate the effectiveness of programs.

Profiles about family variables, such as the one being developed for the PAT Workshop, also can be valuable in a variety of other family science settings. For example, they could be used in family life education courses. Students beginning marriage and family classes could complete questionnaires that would lead to profiles, and this could help them better understand themselves and their families. It also could help them and their instructors in setting goals for their course, and in planning future life events. Profiles of family data also can be used in diagnosis, monitoring progress, and evaluation research in marriage and family therapy.

There are several other advantages of using profiles to communicate data about families. They allow scholars to focus on the tails of distributions. This is helpful because it is the tails that usually provide most useful information. Also, the relationships that are of interest to profiles are changes in the probabilities of outcomes. In other words, this way of thinking is more helpful to practitioners than parameters that make demanding assumptions such as needing normality, and homoscedasticity. Thinking about how changes in variables are associated with profiles is a helpful way to think about these things.

Profiles about independent variables in a way that is compensatory and conducive to therapy as well as problem solving.

When profiles with stochastic behavior are associated with theoretical models of reason and thinking, there is a great advantage because there are many concerns of some family therapists. Thomas and Williams, for example, have suggested that profiles with stochastic behavior are very important for understanding psychological characteristics. Profiles of family data can be used to test the reasonableness of the assumptions of the model.

The development of profile data with stochastic behavior and the use of regression analysis will be used extensively in family therapy. They will help therapists to design and plan for the reasons for change. The next step is to use these profiles to assist in planning and implementing change.

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associated with changes in the probability of outcomes is a comfortable and helpful way to think theoretically, empirically, clinically and educationally.

Profiles also focus attention simultaneously on several different independent variables, and this helps scholars avoid the overly simplistic two-variable models that are so common. It also helps them identify compensatory factors and the interaction of variables, and it is more conducive to thinking in terms of strengths (Stinnett and Defrain, 1985) as well as problems.

When profiles are used, scholars also tend to find themselves thinking with stochastic or probabilistic models. They reason that changes in profiles are associated with changes in the probability of different outcomes. This type of reasoning is helpful in the contemporary scene because it allows precise thinking but avoids the host of problems that come with differences of opinion about causation, determinism, free agency, and positivism that are concerns of some scholars (Osmond, 1981; Harre', Davide, and Nicola, 1985; Thomas and Wilcox, 1987).

Profiles were first used in the family field by Burgess and Wallin (1953), but they have not been used extensively. There are a number of psychological instruments that provide profile data about individual characteristics, but we are only aware of two instruments that provide profiles of family variables. The two are Moos' (1983) family environment scale and the Marital Inventory (MI; Holman et al., 1981). We suggest that, for the reasons cited above, greater use of profiles would be very helpful to the field.

The development of effective, standardized instruments that profile family data will be a long-term process. It will involve a careful review of theoretical models which can direct the process of selecting the variables that should receive attention, and it will include the use of factor analysis to determine redundancy and orthogonality of factors. The instruments will need to be used enough to get norms and determine their reliability and validity, and experience suggests they will need to be developed and then revised before they will be very effective.

The next step is to engage in more of the systematic analysis of concepts, theory, and measurement processes that led Olson to identify adaptability and cohesion as two central variables in family processes. This analysis will help us identify a manageable group of other variables that will provide complementary data. Next, the need will be to develop instruments that effectively measure these factors, develop norms for them, and acquire evidence of reliability and validity. Fortunately, the theory in the field and the technology for instrument development are now sophisticated enough that it is possible to move ahead with this type of work at a rapid pace.
REFERENCES


