FAMILY COHESION AND ADAPTABILITY AS CORRELATES OF OVERCONTROLLED OR UNDERCONTROLLED BEHAVIORS OF CHILDREN

by

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CHAPTER I

Introduction

About 1960 many psychological researchers began to conceive of families in terms of the interchanges between individuals within a family group. This family interaction orientation represented a new epistemological foundation in family research and derived many of the principals from general systems theory (Buckley, 1967). Prior to that time it had been consistently observed that a psychiatric patient's improvement was concomitant with changes in the behaviors of other family members (Jackson & Weakland, 1959, 1961; Jackson & Yalom, 1964). Jackson (1961) also observed this tendency in patients who were identified as schizophrenic. He noted that significant change on the part of the patient in therapy usually produced disruptions at home. Also he suggested that the behavior of the other family members functioned in such a manner as to produce more schizophrenic behavior on the part of the patient. As the behavior of the identified patient became less schizophrenic the behavior of other members would change in such a way that one or more individuals began to develop symptoms of stress.

In order to describe such phenomena the language and concepts of general systems theories were initially employed. However, as family interaction research continued to expand, a language system more suitable for psychological research was developed. The term "family homeostasis" was coined by Jackson (1957) in order to describe the consistency of family behavior patterns and to suggest that they are maintained by a continuous interplay of dynamic forces. The family interaction patterns in dysfunctional families were compared to a closed information system, in which variations in behaviors (output of information) are fed back into the system in order to correct a response. Therefore, in a pathological family homeostasis functions to maintain the pathological behaviors. Such a system is an error-activated system which responds to inputs that are not consistent with the status quo. Such feedback is negative. Bateson (1961) considered the error-activated system to be a part of a more general concept, "biosocial integration." Bateson suggested that all biosocial systems maintain stability by negative feedback loops. He offered the following analogy in order to illustrate his ideas. The heating system within a house was able to maintain a constant temperature using the mechanism of negative feedback. Family stability is similarly achieved

by feedback processes that continually monitor the state of that system. When the family's steady state becomes compromised it is moved toward balance by such mechanisms. It appeared to Bateson that neurotic and schizophrenic behavior function as homeostatic mechanisms using negative feedback in an error activated system.

Haley (1962b) suggested that negative and positive feedback loops operate within families for deviation correction and deviation enhancement respectively. When feedback serves to decrease the deviation from a base rate as in a room thermostat the feedback is characterized as negative and it is depicted as a deviation correction system.

However, when feedback serves to increase the deviation from a base rate the feedback is referred to as positive. Jackson and Yalom (1964) suggested that the families maintain dysfunctional behavior primarily through deviation amplifying feedback systems. It was thought then that the lack of deviation corrective behaviors contributed to the family dysfunction. Jackson tends to view deviation amplifying systems as maladaptive because they are problem enhancing systems. However, Buckley (1967) viewed positive feedback as a constructive process that was system enhancing by sustaining growth and innovation. Greenberg (1977) considered both positive

and negative feedback systems essential for family health and viewed them as neutral in valence.

Olson, Sprenkel & Russel (1979) have adopted the family systems approach and have applied the concepts of positive and negative feedback loops to family functioning. They suggest that healthy families have both positive and negative feedback loops and change their power structures moderately in response to situational and developmental stress.

A discussion of positive and negative feedback loops has heuristic value and is also warranted because they have provided a foundation for family systems theory, but it is at a risk of oversimplification. A social learning perspective can help clarify these issues. Consider the following example discussed by Patterson (1976) where family members learn to control by "pain." A family member may engage in aversive behavior in order to terminate the noxious behavior of another family member. The termination of the noxious stimulus is reinforcing and increases the probability that the aversive (conditional response) will occur again. This aversive response acts as negative feedback designed to instigate a change back to the status quo before the noxious stimulus occurred. On the other hand, suppose both members escalate the rate of coercive behaviors.

That is, the first child emits noxious stimuli (teasing for example) and the second child responds with aversive behavior (hitting). The aversive behavior is a conditional response because previously it resulted in termination of the first child's teasing. However, in time the aversive response, hitting may become a noxious stimulus to elicit more of the first child's teasing behavior. This can occur if such teasing has resulted in termination of the other child's hitting. Both children could concomitantly have each other on a partial reinforcement schedule. Sometimes the hitting is terminated first, thus reinforcing the other child's teasing, and sometimes the teasing is terminated first resulting in strengthening of the hitting behavior of the other child. In a situation like this the behaviors form a positive feedback loop characterized as deviation amplifying (deviation from the base rate of no teasing and no hitting).

There are elements of both positive and negative feedback loops in the interaction between the two children. At first the hitting or teasing functions as negative feedback (deviation correcting) and later as positive feedback (deviation amplifying). The positive feedback loop is a subset of the overall negative feedback loop.

Recent trends of research in psychopathology emphasize the role of the nuclear family in the etiology as well as the maintenance of maladaptive behavior. Many family interaction studies consider dimensions along which disturbed and normal families differ, and reviews of such research have brought heated disagreements among practitioners and academicians alike. Jacob (1975) has suggested that methodological inconsistencies between studies have impeded conclusions about patterns of interactions between family members. "At best, it can only be hoped that future investigators will more clearly and specifically describe and design characteristics and that subsequent studies will clarify the complex relationships among these variables and their effects on emergent patterns of family interactions" (p. 56). He further suggested that family interaction studies have not yet isolated family patterns that can reliably discriminate between disturbed and normal patterns. There have been difficulties in applying the classical experimental methods to research on family systems (Riskin and Faunce, 1972). Such difficulties occur when concepts like independent and dependent variable with implications of causality are applied to a systems theory where causal influences are circular. This issue is also evident in this re-

search where family typologies are of central concern. Jacob therefore stressed the need for data on the observable behaviors of families as they interact.

Olson et al. (1979) described two dimensions on which they felt families with different dynamics can be differentiated. The first dimension is called family cohesion. He described this dimension as "the emotional bonding members have for one another and the degree of individual autonomy a person experiences in the family system" (p. 5). At one end of the continuum a family member may be considered enmeshed with the other family members, i.e., there is an over-identification with the family. Enmeshed family members may be expected to spend lengthy periods of time together, be unable to make personal decisions without help from other family members, have few friends outside of the family structure, engage in most activities with other family members and experience high dependency on other family members. At the other extreme a family member may be disengaged from the other family members, and that family member has under-identified with the rest of the family. In such a case low bonding and high autonomy occurs. Disengaged family members spend lengthy periods of time away from the family, make most decisions

without help from other family members, share few or no outside friends with other family members, engage in few activities with other family members and are highly independent of other family members.

The other dimension on which families may be discriminated is adaptability. Buckley (1967) described adaptability of a sociocultural system in terms of positive and negative feedback. Positive feedback can help a family system employ constructive and self-enhancing behaviors which enable the family system to be innovative when necessary. On the other hand negative feedback seeks to maintain status quo. This provides for the stability within the family system. At one extreme of the adaptability dimension a family is very chaotic, and at the other extreme a family system will tend to be rigid. A chaotic family system has little or no leadership, has inconsistent or no discipline, engages in endless negotiation, has erratic role shifts and has few explicit rules. However, a rigid family system has authoritarian leadership, has strict discipline practices, engages in limited or no negotiation, has rigid or stereotyped roles, and many explicit rules. The most adaptable or viable family systems are those which can maintain a balance between change and stability.

To date most family interaction studies sought to

differentiate clinic vs normal families, and the great majority of these studies investigated families with a schizophrenic member. Research which seeks to differentiate subtypes of clinic families is lacking (Jacob, 1975).

Achenbach & Edelbrock (1978) have used multivariate techniques to derive taxonomies which offer greater clinical and research utility than the usual experimental groups including "clinic" and "normal" families. They derived broad-band syndromes labeled externalizing (undercontrolled) and internalizing (overcontrolled) which seem to have some utility in describing behavioral symptoms of children. This will be discussed in more detail and operationalized in a review of the literature which follows in Chapter II. However, a brief introduction should include the following description. A child who is undercontrolled tend to be aggressive, acting out and possibly under-socialized. On the other hand, an overcontrolled child may be inhibited, shy and anxious.

In conclusion, the previous discussions attempted to offer a brief theoretical background including an historical account of general systems theory and a statement about the state of current research in family interaction patterns. A social learning perspective was

introduced because it accounts best for behaviors for family members which are often circular in causality. Because, studies in family interaction need to be more clearly deliniated as to specific characteristics of families (Jacob, 1975) concepts like family cohesion, and family adaptability were introduced. Also subject characteristics like overcontrolled and undercontrolled were introduced.

Through multivariate analysis of variance and linear discriminant functions, this research has attempted to study the association between family patterns (cohesion and adaptability) and syndromes of child and adolescent behavior (overcontrolled and undercontrolled). Patterson (1976) has previously reported on the functional analysis of directly observed and coded behaviors in family interactions of families of aggressive and non-aggressive children. He assumed in the initial stages of such research that there were interdependencies between the behaviors of family members and the target child. In the social learning perspective as presented by Patterson (1971) parents teach their children and children teach their parents through systems of modeling, social reinforcement, punishment and the like. Because this dynamic interplay between parents and children is complex it is difficult for many parents

to act as "behavior managers" of their children with results they desire. Much learning is accidential or unintended.

CHAPTER II

Review of Literature

Methodological Issues

Family interaction studies have typically been characterized by the paradigm of systematic observation and data recording of interactions between family members as they engage in an experimental task. As suggested by Jacob (1975) direct observation methods rely on fewer assumptions than self report data. Verbal exercises such as those presented by Watzlawick (1966) are often used to collect these observational data. For example, Watzlawick suggested that the "plan something together" task is one such verbal exercise. Here the family was given the instructions to plan something together, something that they all could do together as a family. They were left alone for about five minutes to plan the family outing, and the interaction was taped. It is not so much the final results of the task, but the process used in accomplishing such a task which is of interest to the experimenter. This method has also been used by Leighton, Stollak, & Ferguson (1971), Lewis, Gossett, & Phillips (1971a, 1971b, 1971c), Riskin & Faunce (1970) and Terrill & Terrill (1965). Riskin and Faunce (1970) offered

detailed scoring instructions for this task.

Some tasks were designed to elicit verbally expressed differences. For example, the unrevealed differences questionnaire designed by Ferreira and Winter (1965) was used to evoke differences of opinion among family members. Such a questionnaire was given to each family member and a discussion among the family members regarding the differences in their answers followed.

Finally, projective techniques and other personality measurements have been adapted for interactional use among family members. The most common examples are the use of the Rorschach by Wynne & Singer (1963a, 1963b), and the use of the Thematic Apperception Test by Winter, Ferreira, & Olson (1966). Doane (1978) acknowledged the importance of the direct observational methods but she suggested that many studies which do not use direct observation provided some interesting findings in the field of family interaction patterns. Studies of communication deviance, a set of differentiating characteristics of clinic and normal families postulated by Singer & Wynne (1963), provide such examples. Therefore, it is likely that a multi-method approach employing both direct observations and questionnaires completed by the family members will provide a powerful tool for data

collection.

It is evident that many of the earlier studies in the area of family research have concentrated on those families which contain a schizophrenic member. However, more recent studies have concentrated on families that do not have a schizophrenic child, but have a neurotic or delinquent child (Jacob, 1975). Very little attention has been given to clinical subtypes. Only 13 of the 57 studies reviewed by Jacob included schizophrenic, non-schizophrenic disturbed, and normal family groups. At this stage of development in family interaction research it is very difficult to make differentiating statements about clinical subtypes of families such as those suggested by Achenbach and Edelbrock (1978).

Because the methodological inadequacy of family interaction studies affects the substantive conclusions which can be drawn, Jacob (1975) endorsed the use of a number of methodological controls. He noted that these have been used inconsistently in the past and have limited the generalizability of conclusions as well as the comparisons between studies. First, he suggested that certain demographic variables have been found to be related to different patterns of family interactions. These include: age of the child, sex of child, birth order of the child, family social class, religion and ethnicity,

family size, and parents' age. Failure to equate groups on such variables will greatly increase error variance.

Jacob suggested that raters of the behavioral data should be ignorant of the family's diagnostic data. For example, Haley (1972) found that the experienced family therapists were unable to blindly identify (beyond chance) families which contained a schizophrenic vs. disturbed vs. normal child. Such raters were using tape recordings of family discussions and had no formal rating scale on which to judge these families. Jacob also suggested that the interrater reliability should be fairly high and if such is not accomplished serious questions can be raised about the usefulness of the dimension being studied. Jacob also suggested that data which include male and female subjects be analyzed separately as a function of the child's sex. He suggested that a child's sex has been associated with different patterns of family interaction and that sex of child and diagnostic status (disturbed vs. normal) can generate complex interactions.

Jacob indicated that the experimental setting has an important influence on the outcome of research. For example, O'Rourke (1963) found that family interaction patterns are significantly different at home and at the laboratory. It was argued that studies which collect data on experimental and control families in different settings have

increased error variance between family groups.

A final issue which concerned Jacob (1975) is the lack of control on psychiatric history. He suggested it is important to minimize the possibility that the observed difference between groups is due to the institutionalizing of the patient or to past or to present psychiatric treatment experiences.

This brief discussion of methodological issues was intended to clarify the present emphasis of family interaction research. Although family members' behaviors differ in the laboratory and at home, data is more easily collected and controlled in the laboratory. Therefore, many researchers collect data by rating the ongoing behavior of family members engaged in an interaction task while in the laboratory. This way error variance due to different settings is reduced. Also, this satisfies the need to use direct observation methods which relies on fewer assumptions than self report data.

Cohesion Studies

Minuchin (1974, p. 54-55) emphasized the importance of two dimensions on which dysfunctional families can be differentiated. The first dimension he discussed was the dimension of affiliation which he referred to as "the

disengaged-enmeshed continuum". The second dimension was referred to as family adaptation. He emphasized the importance of these two dimensions in the treatment of family dysfunction and he also recognized the importance for family developmental stages. For example, the mother-infant relationship is characterized by being highly enmeshed, but children tend to grow toward autonomy expecially in their adolescent years. In addition to the change on these two dimensions as a function of the developmental status of the family, Minuchin also felt that families which function consistently at the extremes of these two dimensions often become pathological.

> A highly enmeshed subsystem of mother and children, for example, can exclude father, who becomes disengated in the extreme. The resulting undermining of the children's independence might be an important factor in the development of symptoms . . .. Members of disengaged subsystems or families may function autonomously but have a skewed sense of independence and lack feelings of loyalty and belonging and the capacity for interdependence and for requesting support when needed . . .. Both types of relating cause family problems when adaptive mechanisms are evoked (Minuchin, 1974, p. 55).

Minuchin said that stress creates a need for change within the family system. Also the families undergoing family therapy are in the process of transition either develop-

mentally or situationally, and they require help in adapting to the change. He was rather guarded about the label "pathology" and he suggested that it should be used for families who, when faced with stress, tend to become more rigid in their behavior patterns and also discourage exploration of alternatives.

Olson et al. (1979) offered the following conceptual definition of family cohesion:

> The definition of family cohesion used in this model has two components: the emotional bonding members have with one another and the degree of individual autonomy they personally experience in the family system (p. 5).

Olson suggested that the high end of the family cohesion dimension represents enmeshment, where there is an over-identification with the family that results in intense bonding and little development of individual autonomy. The low extreme of the cohesion dimension is represented by disengagement and is characterized by low bonding and high autonomy development.

Sociologists studying family systems have long been interested in the dimension of cohesion among family members. For example, Hill (1949) investigated what he called family integration among families who had experienced war separations and reunions. He investigated the

strong emotional ties between family members, pride in family traditions, and amount of mutual participation in family activities. He found that "highly" integrated families were so emotionally interdependent that they were disrupted more than the "moderately" integrated families by the crisis of war separations. On the other hand, the highly integrated families had the best adjustment to war reunions. Therefore, families that are not highly enmeshed make the best adjustment to separation.

Small group theorists and social psychologists have been interested in the dimension of cohesiveness as it relates to small groups, marital pairs and families. For example, Yalom (1970) recognized the positive influence that cohesiveness had in the process and outcome of group psychotherapy. He felt that group cohesion was essential for the effective treatment of the individuals within the group. Since Yalom had direct experience with group cohesion in his clinical practice and explored the dimension in the literature and found sufficient support, he developed his own grading scale to measure group cohesion and found that it was positively related to the outcome of psychotherapy (Yalom, 1970).

Rosenblatt & Budd (1975) explored cohesion as it relates to cohabitating and married couples as well as families. They suggested that families and couples try

to find an optimal balance between time together and time apart. Some families avoid togetherness while maintaining an outside appearance of being together. They suggested that the social pressure for families to appear "together" is due to the American norm of "togetherness." It is not unusual for families to isolate themselves within the home structure, and this territoriality is maintained more in married than in unmarried cohabiting couples. He noted that when families are forced together as in a family vacation the stress increases and the individual's tolerance to frustration decreases.

Some previous research on family cohesion factors has been conducted on families with an identified patient. Such studies include families with normal, delinquent, and schizophrenic members. That is, schizophrenic and delinquent families refer to families with at least one member identified as schizophrenic or delinquent. Minuchin, Montalvo, & Guerney (1967) reported data from an outcome study of family therapy conducted with delinquent children. In this research program he intended to shed light on the dynamics of disadvantaged families which had produced more than one acting-out child. The team of researchers used two measures: the Wiltwick Family Interaction Apperception Technique (FIAT) and the Family Task.

The FIAT is similar to the Thematic Apperception Test and was specifically designed for this research. This pictorial, apperceptive, projective technique was individually administered to all control and experimental family members during both pre- and post-treatment phases. The coding system used to rate the FIAT stories included nurturance, behavior control, guidance, aggression, co-operation, affection, family harmony, and acceptance of responsibility.

The Family Task was designed to assess the same variables at the level of overt behavior in an interactional setting. Only family members participated. The task included five discussion questions, and one non-verbal task. The behaviors were coded by raters behind a one-way mirror. Minuchin recognized that the families with a delinquent child tended to be either enmeshed or disengaged. That is, their scores were at either of the two extremes of this continuum rather than at moderate levels. Minuchin found that this dimension was particularly useful in differentiating families with delinquent children from those without referral for psychological or legal problems. He found that at both extremes the mothers tended to have little responsibility for the children's behavior and they discouraged exploration of the environment by the children. The mothers' discouragement

of the development of autonomy was often met by extreme rebelliousness on the part of the children. Also, he noticed some differences between the enmeshed and the disengaged families. Enmeshed families tended to react to one member's attempts to change with extreme resistance. In contrast the families which were characterized as disengaged seemed to be oblivious to each member's actions or change. Here family members seemed to have long moments where they remained or moved in isolation from other family members.

A very important study on the dimension of cohesion within families was conducted by Reiss (1971a, 1971b) on families without referral for behavioral or psychological problems and those with a delinquent or schizophrenic member. In these studies Reiss was concerned with family problem solving effectiveness, coordination among family members, and penchant for closure on family issues. In a card sorting procedure he isolated three patterns of behavior which he described as "environment-sensitive" in normal families, "interpersonal-distance sensitive" in delinquent families and finally "consensus-sensitive" in schizophrenic families. In an explanation of these labels he suggested that normal families experience their environment as logical and able to be mastered. Problems from outside the family were not reacted to personally,

i.e., it was not degrading to their personal esteem to have problems which were "outside" of the family. Their final solutions on the task were based on input from all family members rather than on an isolated few. This is highly suggestive of a moderately cohesive family. Reiss went on to describe the interpersonal distance-sensitive (delinquent) families as personally involved in the solution of the task at hand. That is, when a family member offered ideas to the solution of a task which were rejected by other family members the rejection was taken as a rejection of the person. Reiss noticed that the individuals in these families tended to be isolated and they often tried to make independent judgments about the solution of the task at hand rather than taking into account the information offered by others within the family. It was difficult for these families to come to mutual decisions. In contrast to the interperson-distance-sensitive families which are low on the cohesive dimension, the consensus-sensitive (schizophrenic) families are highly cohesive. They tended to maintain a high level of agreement and dissidence was discouraged. These families tended to reach solutions to the task rather quickly without regard to the quality of their solution. It appears that their primary goal was to maintain group harmony. In conclusion, Reiss' study suggested that the

environment-sensitive family category was comprised mainly of normal family groups, moderate on the cohesion dimension. On the other hand interpersonal-distant sensitive families were composed of delinquent families and were very low on the cohesion dimension. Finally, consensus sensitive families, composed mainly of schizophrenic families, were very high on the cohesion dimensions.

An early study conducted by Glueck and Glueck (1950) found that juvenile delinquents were at the low end of the cohesion dimension characteristic of high individual autonomy and low identification with the family group. In this study, field workers collected data on the quality of the relationships among the family members of juvenile delinquents and non-delinquents. The results suggested that 16% of the families with a delinquent member compared to 61.8% of the families without delinquent members could be described as cohesive. Also, 24% of the families of delinquents were described as having members whose self-interests exceeded the group interest. Less than 1% of the families without delinquent members could be described in this way.

In conclusion, a number of earlier studies in both psychology and sociology suggest the importance of the cohesion dimension in understanding family and group interaction patterns. It is evident that much of the

data are equivocal as is exemplified in the contrasting results of the Minuchin (1967) study and the studies by Reiss (1971a, 1971b) and Glueck and Glueck (1950).

Minuchin (1967) used a family interaction task and rated the behaviors of the family members during that task as well as an individually administered projective task for each family member. Responses were rated according to nurturance, affection, family harmony and other behaviors thought to be related to cohesion. He found delinquents to be enmeshed with the family or disengaged, but certainly not at moderate levels of the cohesion dimension. However, he interpreted a mother's attempts to control and restrict a child's behavior as highly cohesive which is not conceptually related to the high level of cohesion in the Reiss (1971a, 1971b) study or the Glueck & Glueck (1950) study. For example, in the Reiss (1971a, 1971b) study high cohesion was more related to a family's mutual need to maintain an implicit level of agreement with a high level of harmony, this was more indicative of schizophrenic families. The delinquents of this study were more likely to maintain interpersonal distance from other family members (low cohesion). Authoritative attempts to control were more likely met with hostile interchanges. This would fit with Olson's et al. (1979) conceptual definition of low cohesion.

Finally, Glueck & Glueck (1950) used judgments of field workers and psychiatric reports to rate delinquent families at three levels: 1) good-group interests, cooperativeness and affection; 2) fair-some cohesiveness but some members pulling away; 3) poor-unintegrated, self interest exceeds group interest. Since this is not directly observed behavior it may represent the least reliable data (Jacob, 1975), but never the less families with a delinquent member were consistently rated as poor.

Patterson (1976) feels that family members teach each other coersive behaviors. He labeled any process where family members try to control each other by pain as coersive. Coersive behaviors include hostility, expressions of disapproval, aggression and distructive behavior. In the Olson et al. (1979) framework, these behaviors would be considered low on the cohesion dimension. Children in his "aggressive subject pool" tended to be referred to mental health facilities for a social and acting-out behaviors. He found a +.65 correlation among family members in their exchanges of coersive behaviors, thus supporting the notion that this is a family interactive problem. He suggestedthat coersive behaviors are learned because they are negatively reinforced by the termination of preceding aversive stimuli. He offered strong evidence to support his case. Therefore, it seems

reasonable to postulate that low cohesion behaviors can also be instrumental in the termination of aversive stimuli encountered at the home.

Adaptability Studies

The second dimension which Minuchin (1974) recognized was referred to as family adaptability. He suggested that families going through situational or developmental changes often need help in adapting to the transition. Successful adaption often depends on a balance between morphogenesis and morphostasis. Maruyama (1963) described morphogenesis as the process by which the family system can grow and change. Positive feedback is required for these system-enhancing behaviors. Morphostasis is the process by which systems maintain status quo. Negative feedback is needed for such a deviation-correction system. It is by morphostatic (negative feedback) systems that family homeostasis can be maintained. Early theorists (Haley 1959, 1962a, 1963; Jackson 1957) felt that families behave primarily according to morphostatic units.

"When an organism indicates a change in relation to another, the other will act upon the first so as to diminish and modify that change" (Haley, 1959, p. 281). At that time these morphostatic systems were associated with

adaptive family functioning. Jackson (1957) offered the opinions that the homeostatic mechanisms which serve to maintain a morphostatic unit provided the basis for adaptive family functioning, whereas positive feedback or deviation-enhancing mechanisms provided the basis for family dysfunction. Many recent theorists have taken issue with this view of adaptive family functioning, because of its simplicity. Speer (1970) feels that morphostatic units can be dysfunctional. He offered the example of the identified patient whose symptoms serve a homeostatic function of keeping the family together. He suggested that the restriction of the family behaviors mitigates against the growth and development of families. Also he suggested that system-enhancing behaviors, being morphogenic processes, can lead to motivation and change.

"At a time when there is an ever increasing interest and conceptual investment in the interpersonal growth, changing basic structures and institutions, social innovations, and creativity, there is something paradoxical and incongruent about a family system approach based on change-resistant or change-minimizing concepts" (Speer, 1970, p. 261). Also contrary to the early theorizing of Haley and Jackson, Wynne (1958) went further to suggest that the rigid status quo family system is likely to be pathological. He suggested that families who try to

rigidly maintain the status quo in a homeostatic or deviation-correcting system are highly disturbed and atypical. Since families go through successive developmental phases they are required to adapt to change, therefore success in maintaining family homeostatis over a long period of time can be regarded as indicative of disorder in families. Not only is extreme morphostasis indicative of pathology in families going through developmental phases, extreme morphogenesis would result in a family system which is maladaptive. Without some optimal degree of morphostasis, the family system could not survive as a cohesive, viable social unit. Extreme morphogenesis, tantamount to constant change, would preclude building up of even a minimum set of common meanings, values and expectations, essential to communications and the survival of an intimate, face-to-face group (Wertheim, 1973).

These notions of family morphogenesis and morphostasis adopted from general systems theory are very similar to the theories of Hill & Rodgers (1964). Their developmental approach to family systems described healthy families as capable of change and innovation. They suggested that the reordering of the family structure is often necessary in order to adapt to shifts in the family developmental status. For example, changes in the family

composition, i.e., birth and death result in a need of a redefinition of the rules within the family. A family which seeks rigid homeostasis is in danger of becoming dysfunctional. Olson et al. (1979) indicated that a balance between morphogenesis and homeostasis is required for adaptive family functioning:

> There will be a mutually assertive style of communication; equalitarian leadership; successful negotiations; positive and negative feedback loops; role sharing and role making; and rule-making, with few implicit rules and more explicit rules. Conversely, more dysfunctional family systems will fall at either extremes of these variables (p. 13).

Olson et al. (1979) offered the following conceptual definition of family adaptability:

> Adaptability . . . is the ability of a marital/family system to change its power structure role relationships, and relationship rules in response to situational and developmental stress (p. 12).

The assumption is that an adaptive system requires balancing of morphogenic and morphostatic processes.

A number of studies underscore the importance of adaptability in family functioning. Minuchin et al. (1967) suggested that exploration of family adaptability include: the lines of power and leadership, the assignment of family members to particular roles, family subgroup

alliances, and the flexibility of assigned roles and labels. In the therapeutic treatment of family systems Minuchin et al. (1967) said that changing the rigid family system to a more flexible one is important in order that morphogenic and morphostatic processes may be more balanced.

If adaptive family systems need to have a balance between morphostasis and morphogenesis then power relationships within the family need to be flexible if the family is to function adaptively. Families which are consistently and extremely authoritarian in their leadership styles would be maladaptive. Sprenkle and Olson (1978) studied marital interactions of 25 clinic and 25 non-clinic couples. The couples were studied while they were involved in a family interaction game called Simulated Family Activity Measurement (SIMFAM). This family interaction task was created by Straus and Tallman (1971). It is a structured game which involves family members in the task of discovering the rules of a game similar to shuffleboard. A 9 x 12 foot court is marked off on a tile floor, and the equipment includes a pusher, balls, two backboards and a score board. A light board displays a red light or a green light for each player. There are eight innings in the game separated by rest periods during which time the family members can discuss strategy. The family members must discover the rules of the game by

observing the pattern of red or green lights they receive as they try new strategies. The red light signals a violated rule and the green light signals a rule obeyed. Thus, a red light acted as morphogenic feedback because it indicated that the previous sequence of responses were wrong (not adaptive) and induced the subjects to try a new set of responses (morphogenesis). On the other hand, the green light indicated that the previous sequence of responses were correct (adaptive) and induced the subjects to continue that set of responses (morphostasis). They noted that as the stress level increased non-clinic couples were more responsive to each other's attempts to control. They were more likely to share the responsibility of leadership. On the other hand, the clinic couples seemed to maintain a wife-dominant leadership pattern in stress and non-stress conditions. Therefore, non-clinic couples were characterized by mutual support and equalized leadership patterns whereas clinic couples tended to be rigid in their leadership patterns.

In this study, note the use of "clinic" couples without any further typological differentiation. This limited their conclusions and the generalizability of their study. Whereas clinic couples tend to be less adaptive as a group (more rigid on the adaptability continuum), it is possible that some subtype of clinic couples

may be less adaptive in the opposite direction (more chaotic on the adaptability continuum). At either extreme, problem solving ability could be impaired.

Further support for this notion comes from Tallman and Miller (1974). They studied the leadership patterns within families and the relationship to effective problem solving. They found that white collar workers tended to be more egalitarian in their leadership patterns and also performed best at certain problem solving tasks. On the other hand blue collar workers tended to be more rigid and authoritarian in their leadership patterns and were less effective with certain problem solving tasks. Further analysis of the data indicated that blue collar families were dominated by the husband/father and that any other leadership pattern was perceived as inadequate by the members of that family. The task used in this study was the SIMFAM game which is more effectively performed using egalitarian leadership patterns. It appears that blue collar families had difficulty using this kind of leadership pattern.

Several other studies have supported the contention that flexible leadership patterns within families is important for problem solving. Bahr & Rollins (1971) found that couples with more democratic leadership patterns were more likely to exhibit greater flexibility in their

leadership roles in the SIMFAM game. This led to more effective problem solving. Also, Miller and Westman (1966) found that flexible leadership patterns could discriminate between families in a control group and families in which there was at least one member who performed poorly in school and presented behavioral problems. They suggested that flexible leadership patterns were more adaptable for family problem solving and they speculated about the different behavioral problems which might result from highly authoritarian and inflexible leadership patterns.

Mishler and Waxler (1968) studied the amount of intrusions, interruptions and laughter in clinic and non-clinic families. Their clinic families consisted of families with one schizophrenic male offspring. They found that there were more disruptions and fragmentation of speech patterns due to intrusions and laughter in non-clinic families. They suggested that this finding indicated a greater flexibility and spontaneity in normal family systems where individual members are able to offer input. They further suggested that non-clinic families were characterized by the sensitivity that each member showed toward the inputs of other members. Recall that Reiss (1971a, 1971b) had characterized families with at least one schizophrenic member as consensus-sensitive

maintaining a high level of agreement. They were inclined to reach solutions to problems rather quickly without regard to the quality of their solution. The primary goal was to maintain group harmony. Their problem solving style was fairly rigid and therefore less adaptive.

There are some studies which offer evidence suggesting that clinic families are characterized by greater interruptions. Such data have been offered by Riskin and Faunce (1970). There is a strong likelihood that this curvilinear relationship between adaptive family functioning and the flexibility-rigidity dimension can be accounted for by the clinical subtypes which comprise the subject samples of the various studies. If the clinical subtypes can be specified more clearly it may be found that non-clinic "normal" families are intermediate in the amount of interruptions and spontaneous speech which are offered during the experimental procedures. Minuchin et al. (1967) offered the opinion that the curvilinear relationship does exist between the adaptability dimension and family functioning. Extremes on the adaptability dimension are likely to be associated with poor family functioning where as moderate scores on this dimension are likely to be associated with healthy family functioning.

Now consider the learning aspects of family adapt-

ability. A highly chaotic system may be characterized by inconsistent reward/punishment contingencies. Solomon (1964) showed that the frequency of the conditioned stimulus and unconditioned stimulus pairings as well as the intensity of the unconditioned stimulus were significant parameters determining the effectiveness of a conditioned punisher in controlling behavior. Parents of problem children less often follow up on their threats of withdrawal of a reinforcer. Also, parents of acting-out, coersive children are more likely to apply intense punishment (spankings for example) which is not paired with an unconditioned stimulus (threat).

In contrast to chaotic families high on the adaptability continuum described by Olson et al. (1979) as rigid families are low on this continuum. Parents in rigid families may tend to apply strict, inflexible rules beyond their situational or developmental propriety. Families with high rates of pain control techniques across most disciplinary situations as well as across a broad age range of the children tend to engage in fewer recreational activities together, have disrupted problem solving abilities and tend to avoid social interactions (Weiss, Hops, & Patterson, 1973). Patterson (1976) has suggested that such avoidance behaviors are effective in the termination of aversive stimulation.

The Circumplex Model of Family Functioning

Olson et al. (1979) have begun to use family adaptability and family cohesion measures in order to form a family typology. After the two dimensions of family cohesion and adaptability were determined to be important empirically Olson et al. (1979) decided that there were advantages in identifying types of families on both dimensions simultaneously. They called the simultaneous use of these older constructs a Circumplex Model. One of the earliest studies which sought to define families on two dimensions simultaneously was conducted by Angell (1936). He conceived of "family integration" and "family adaptability" as it related to the way in which families coped with depression. He defined family integration as a cohesive bond running through family life. This cohesive bond was characterized by common interest, affection and economic interdependence. Family adaptability was defined as the flexibility with which families could meet certain difficulties. This related to a family ability to adjust to changes and the manner in which it made decisions. With these two dimensions he defined nine family types by dividing each dimension into three categories of high, medium and low. Angell decided that forming family typologies on the basis of one single

variable was inadequate.

In 1970 the Group for the Advancement of Psychiatry conducted a survey among 290 family therapists, a subject pool which consisted of 40% social workers, 40% psychiatrists and psychologists, and 20% marriage counselors. These respondents were offered a list of eight goals in therapy and were asked to indicate what they thought were primary goals. The results indicated that three dimensions were implicated as important. They were family cohesion, family adaptability and family communication. Among the goals recognized as important were: improved autonomy and individualization, flexible leadership patterns, improved role agreement, and improved individual task performance. These are related to the dimensions of family cohesion and adaptability, and they are important goals for family therapy.

Recently McCubbin, Boss, Wilson, & Lester (1979) attempted to expand on the earlier studies by Angell (1936) and Hill (1949). They studied families that were forced into separation due to the occupations of the parents, i.e., military or business involvements. They studied the coping patterns that these families used in the management of stress of separation. A second order factor analysis found that the coping behaviors of the wives centered around two dimensions: first they sought

to maintain family integration, and second they tried to promote the individual members' independence and self-sufficiency. Therefore, the successful management of stress involves the maintaining of a balance between individual development and family unity.

Russell (1979) used the same method to study 31 families with female adolescents who were divided into two levels of functioning, high and low. The families were placed in high or low functioning groups on the basis of priest/counselor ratings on the subjects' behavior. High functioning adolescents had not considered running away from home (in the raters' judgment), could both lead or follow, and moderately identified with parents but not to the extent that the adolescent was cut off from the peer group. On the other hand, a low functioning adolescent considered running away from home, had no leadership role in the family, and over- or under-identified with parents as to interfere with adequate peer relations. Using the simulated game called SIMFAM she found that the high functioning family had moderate scores on family adaptability and cohesion and that low functioning families had more extreme scores on these two dimensions. All of the low functioning families fell into the extreme areas but only 10 of the 15 high functioning families had the moderate scores. The study also

offered general support for the curvilinear relationship between family functioning and the two dimensions previously discussed. A pre- and post-family oriented treatment study was conducted by Druckman (1979) using the dimensions of family cohesion and family adaptability. Her subject pool consisted of 29 families with a female juvenile offender in each. They were assessed using the Moss Family Environment Scale (Moss & Moss, 1976) in order to determine their scores on the cohesion and adaptability dimensions. Prior to therapy these families had low family cohesion scores and high family adaptability scores representing families that were fairly disengaged and highly chaotic. The results of the family oriented therapeutic intervention were more moderate scores on both dimensions. Again with some reservation, these findings tend to support the curvilinear relationship between family functioning and the two dimensions of adaptability and cohesion. However, the reader should note that extreme scores at pretest will most likely result in more moderate scores at retest by chance occurrence. There is a greater likelihood that a retest score will be more moderate. Therefore, the therapeutic effectiveness is questionable from that standpoint. Since overall recidivism was lower post therapy some claims can be made with caution since long-

term follow-up is desirable.

Olson et al. (1979) discussed 16 possible types of marital or family systems on the dimensions of cohesion and adaptability (see Figure 1). Of these 16 possible

Insert Figure 1 about here

family types, the four at moderate levels of cohesion and adaptability are considered. The most viable family systems. The 12 types of systems at extreme levels of cohesion and adaptability represent the more unhealthy family systems. Also, Olson et al. (1979) provided a list of inter-related concepts for the various levels of cohesion (see Table 1) and adaptability (see Table 2).

Insert Table 1 and Table 2 about here

In the previous discussions the constructs of family cohesiveness and adaptability were explored. The dimension of cohesiveness is related to the emotional onding members have with one another and the degree of individual autonomy. Adaptability, on the other hand, is related to the ability of a family system to change its power structure, role relationships and rules in response of situational and developmental stress. Olson

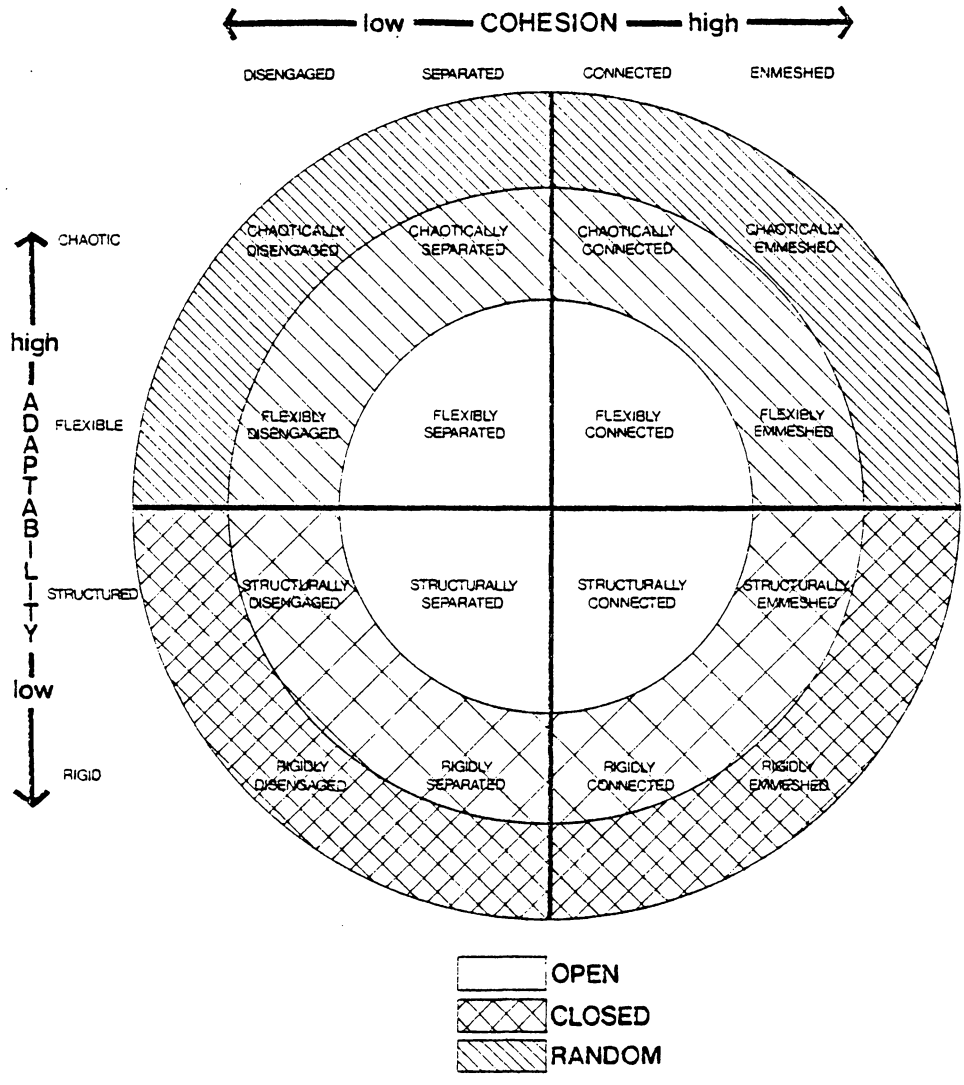

FIGURE I: SIXTEEN POSSIBLE TYPES OF MARITAL AND FAMILY SYSTEMS DERIVED FROM THE CIRCUMPLEX MODEL

Table 1

FAMILY COHESION DIMENSION: INTER-RELATED CONCEPTS

	DISENGAGED (Very Low)	SEPARATED (Low to Moderate)	CONNECTED (Moderate to High)	EMMESHED (Very High)
Emotional Bonding	Very Low	Low to Moderate	Moderate to High	Very High
Independence	High independence of family members.	Moderate independence of family members.	Moderate dependence of family members.	High dependence of family members.
Family Boundaries	Open external boundaries. Closed internal boundaries. Rigid generational boundaries.	Semi-open external and internal boundaries. Clear generational boundaries.	Semi-open external boundaries. Open internal boundaries. Clear generational boundaries.	Closed external boundaries. Blurred internal boundaries. Blurred generational boundaries.
Coalitions	Weak coalitions, usually a family scapegoat.	Marital coalition clear.	Marital coalition strong.	Parent-child coalitions.
Time	Time apart from family maximized (physically and/or emotionally).	Time alone and together is important.	Time together is important. Time alone permitted for approved reasons.	Time together maximized. Little time alone permitted.
Space	Separate space both physically and emotionally is maximized	Private space maintained; some family space.	Family space maximized. Private space minimized.	Little or no private space at home.
Friends	Mainly individual friends seen alone. Few family friends.	Some individual friends. Some family friends.	Some individual friends. Scheduled activities with couple and family friends.	Limited individual friends. Mainly couple or family friends seen together.
Decision Making	Primarily individual decisions.	Most decisions are individually based, able to make joint decisions on family issues.	Individual decisions are shared. Most decisions made with family in mind.	All decisions, both personal and relationship must be made by family.
Interests and Recreation	Primarily individual activities done without family. Family not involved.	Some spontaneous family activities. Individual activities supported.	Some scheduled family activities. Family involved in individual interests.	Most or all activities and interests must be shared with family.

Table 2

FAMILY ADAPTABILITY DIMENSIONS: INTER-RELATED CONCEPTS

	ASSERTIVENESS	CONTROL	DISCIPLINE	NEGOTIATION	ROLES	RULES
CHAOTIC (Very High)	Passive and Aggressive Styles	Limited leader-ship	Laisses-faires Very lenient	Endless negotiation. Poor problem solving	Dramatic role shifts	Dramatic rule shifts. Many implicit rules. Few explicit rules. Arbitrarily enforced rules.
FLEXIBLE (High to Moderate)	Generally Assertive	Equali-tarian with fluid changes	Democratic; Unpredictable Consequences	Good negotiation; good problem solving	Role making and sharing. Fluid change of roles	Some rule changes. More implicit rules. Rules often enforced
STRUCTURED (Moderate to Low)	Generally Assertive	Democratic with stable leader	Democratic; Predictable consequences	Structured negotiations, good problem solving	Some role sharing	Few rule changes. More explicit than implicit rules. Rules usually enforced
RIGID (Very Low)	Passive or Aggressive Styles	Authori-tarian leader-ship	Autocratic; Overly strict.	Limited negotiations; Poor problem solving	Role rigidity; Stereo-typed roles.	Rigid rules; Many explicit rules. Few implicit rules. Strictly enforced rules.

et al, (1979) has suggested that healthy families are at moderate levels of these two dimensions. Some research was reviewed in support of this.

Also the reader was introduced to the nature of the learning/modeling environments which are possible in the various family types. In a cohesive family, opportunities for modeling and observational learning are rich, whereas in a fragmented, non-cohesive family fewer opportunities exist within the family unit. According to Bandura (1977, p. 65) emotional responses can also be acquired through observation. "Many intractable fears arise not from personally injurious experiences, but from seeing others respond fearfully toward, or be hurt by threatening objects. Similarly, evaluations of places, persons, or things often originate from exposure to modeled attitudes." Berger (1962) demonstrated that observers began to respond emotionally to a previously neutral tone when they saw another person exhibit pain reactions to that tone.

Consider also the nature of reinforcement and punishment contingencies as related to the dimension of family adaptability. In a chaotic family (high on the adaptability continuum) reinforcements as well as punishments may be inconsistently paired with a target response resulting in no learning or accidental learning. In a

highly rigid family (low on the adaptability continuum) these contingencies may not change when appropriate.

In the next section, different response styles in children will be considered.

Taxonomy of Childhood Psychopathology

The study of family interaction patterns would be enhanced by an empirically based taxonomy for the classification of childhood psychopathology. It would lead to better experimental control. Such an empirically based taxonomy must circumvent the problems created by the previous adult classification system, the Diagnostic and Statistical Manual of Mental Disorders, (DSM-II). The DSM-II was referred to as an adult classification system because it served little use in differentiating children and adolescents who exhibit behavioral problems. The word syndrome is used here as suggested by Achenbach & Edelbrock (1978): "We use the term syndrome generally to designate groups of behavior problems found to be statistically associated with one another. No assumptions about the ideologies or appropriate conceptual models for behavior disorders are intended." The DSM-II was comprised of highly generalized descriptions of behavior which are not operationalized. Agreement among diagnosticians for major categories,

i.e., neurotic, psychotic, etc., was approximately 60%. Agreement on specific disorders was much poorer (Freeman, 1971).

In the development of DSM-III more emphasis was given to the classification of childhood disorders than DSM-II. In a two phase field study from September 1977 to September 1979, 12,667 patients were evaluated by 550 clinicians diagnosing 126 children and adolescents. Reliability was expressed using the Kappa statistic which indexes chance-corrected agreement. The overall Kappa coefficient for axis I disorders was .68 and axis II was .66. The reliability coefficients ranged from -.03 to 1.0 for major classes of disorders. As can be seen there is widely variability.

More recently multivariate techniques have allowed the exploration of empirically based taxonomies. According to Achenbach (1978), empirically based taxonomies have been derived from three primary sources: reports from mental health workers, reports from school teachers, and reports from parents. Jenkins & Glickman (1946) did a comprehensive factor analytic study of the behavioral problems reported in the case histories of 300 children and adolescents of both sexes. Seventy-four items for boys and 73 items for girls were subjected to a principal components analysis and two

principal components were derived. The first principal component was bipolar, and Achenbach labeled it internalizing-externalizing (overcontrolled-undercontrolled). The second principal component was unipolar and labeled severe and diffused psychopathology. Furthermore in the analysis there were six rotated factors for the boys and nine for the girls which met Achenbach's criterion of items with loadings of .30 or higher. Four of the factors rotated were similar for both sexes and were labeled aggressive behavior; obsessions, compulsions and phobias; somatic complaints; and schizoid thinking. Children whose problems were primarily aggressive behavior were classified as externalizers, whereas children whose problems were primarily somatic complaints, obsessions, compulsions, and phobias were classified as internalizers. Achenbach did not classify children whose problems matched those of the schizoid thinking factor.

Achenbach concluded that certain narrow band syndromes, e.g., aggressive behavior, somatic complaints, phobias, etc. were clearly subtypes if the first principal bipolar component labeled externalizing-internalizing. Achenbach found that the externalizing and internalizing components represent clear

and empirically derived behavioral syndromes.

Other empirically derived syndromes have been found using reports of teachers about the student's classroom behavior. For example, the Teacher Referral Form (Clarfield, 1974) was designed to evaluate children in a mental health project carried out by the Rochester Public Schools. A principal component - varimax analysis of the 49 items on the Teacher Referral Form yielded factor loadings which were labeled problems, acting out, and shy-anxious. Note the similarity between the shy-anxious factor and the internalizing factor derived by Achenbach (1966), and the similarity between the acting out factor and the externalizing factor also derived by Achenbach (1966). It is important to note that the three factors discussed by Clarfield correlate significantly with the three factors derived from an 11 item check list (Cowen, Dorr, Clarfield, Kreling, Mc Williams, Pokracki, Pratt, Terrell, & Wilson, 1973). They labeled the factors aggressive-outgoing, moody-internalized, and learning disabilities.

The importance of the correlation is in the similarity between the Cowen et al. (1973) factors labeled aggressive-outgoing and moody-internalizing, and the Clarfield (1974) factors labeled acting out and

shy-anxious. These factors seem to have generality in different factor analytic studies.

A further indication of this generality is found in a principal components - varimax analysis of the Preschool Behavior Questionnaire (Behar & Stringfield, 1974). Two factors were found to be similar to factors previously found in other studies: hostile-aggressive and anxious-fearful.

Finally an example will be given of empirical syndromes derived from the reports of parents. The most comprehensive and clear example was described by Achenbach (1966, 1978). Achenbach used the Child Behavior Checklist (CBCL) which consists of 118 behavior problem items and 20 social competence items completed by parents of 450 clinic children. A principal components - varimax analysis produced what Achenbach referred to as two broad-band factors. He labeled these factors internalizing and externalizing.

In conclusion, the brief examples given from the three sources of data derived from mental health workers, teachers and parents suggest that there is a generality of syndromes among these different sources. The two broad-band syndromes, labeled by Achenbach (1978) as externalizing (undercontrolled) and inter-

nalizing (overcontrolled) are evident in all three sources of data. Achenbach & Edelbrock (1978) gave several examples of rated behaviors which contributed to each syndrome and were common to all rating sources: parents, teachers and mental health workers. For example, laziness, daydreaming and inattentiveness were indicative of school problems. Also, shyness, fearfulness and inhibited behaviors were also observed by teachers, parents and mental health workers and were indicative of the internalizing syndrome. Finally, aggressiveness, rebelliousness and coersive behaviors were indicative of the externalizing factor and commonly rated by the same three sources.

It has been demonstrated previously that groups selected from clinic populations have higher problem behavior rating scores than do normal comparison groups (Achenbach, 1978; Achenbach and Edelbrock, 1979; Cowen et al., 1973; Ferguson, Partyka, & Lester, 1974). In 1966, Achenbach set a criterion for these problem behavior ratings in order to classify clinic children as overcontrolled or undercontrolled. He classified children as overcontrolled if 60% or more of their reported problems came from the internalizing

syndrome, and he considered them undercontrolled if 60% or more of their problems came from the externalizing syndrome. By this criterion externalizers outnumbered internalizers by two to one among boys, but internalizers outnumbered externalizers by two to one among girls. Internalizers were generally shown to be adapting better as suggested by school performance, teacher and peer ratings, performance on the experimental measures of impulsivity and delay of gratification as well as standardized tests (Achenbach & Lewis, 1971; Rolf, 1972; Weintraub, 1973). Internalizers have also been shown to have difficulties with self-concept and they have more self-depreciating thoughts (Katz, Zigler, & Zalk, 1975). Finally, internalizers are more likely to remain in therapy longer than externalizers, and they are more likely to improve in psychotherapy (Achenbach & Lewis, 1971).

Some important work has been done with the parents of clinic children who have been classified as internalizers or externalizers. For example, parents or internalizers tend to have less overall pathology than parents of externalizers. Also, they seem to

be more strict, concerned, and involved with their children than parents of externalizers. They tend to have fewer marital separations, fewer social problems and they exhibit different profiles on the MMPI (Achenbach, 1966; Achenbach & Lewis, 1971; Anderson, 1969; Weintraub, 1973).

Hafner, Quast, & Shea (1975) reported some initial findings from the 25 year follow-up of 1,000 psychiatric and pediatric patients. They found that internalizers exhibited better academic performance as suggested by their grades in school, the number of grades completed, and the frequency with which internalizers completed high school. Internalizing males tended to have better job stability and a higher socioeconomic status. Also they had fewer divorces and fewer incarcerations than externalizing males. Among the internalizing females, they found that there was a lower divorce rate and a lower rate of hospitalization in mental hospitals. An interesting contrast to this finding was the finding of Roff, Knight, and Wertheim (1976) who found that internalizing schizophrenics had poorer outcomes than externalizing schizophrenics.

Jenkins (1966) compared children who are characterized as shy=seclusive with children who were considered

undomesticated and social delinquent types. He found that the shy-seclusive types (similar to internalizers) were less likely to come from broken homes, and were less likely to have hostile mothers than children characterized as undomesticated. It appears that undercontrolled children (externalizers) tend to come from families which are characterized by more open conflict and which are less socially competent.

Concluding Remarks

Family cohesion and adaptability as defined by Olson et al. (1979) have been shown to be relevant dimensions for research on family interaction patterns. However, little research has been conducted on the relationship between these family interaction patterns and the psychological difficulties which result in the children of families with pathological interaction patterns.

One problem which has inhibited such research is the lack of reliability in the taxonomy on mental illness used in most mental health settings. As early as 1966 Achenbach began a comprehensive factor analytic study on the behavioral problems reported in the case histories of 300 children and adolescents. As a result of the extensive study over the past thirteen years, Achenbach

has developed a system for the classification of childhood pathology. Achenbach & Edelbrock (1979) published the Child Behavior Checklist (CBCL) which classifies children and adolescents on two dimensions according to their behaviors. As previously discussed, internalizing individuals are generally over anxious, shy and inhibited whereas externalizing individuals are undersocialized and act out more. The use of this classification system can help clarify family interaction patterns, the behavioral manifestation of various pathological patterns in the children, and the nature of change in family systems as a result of therapeutic intervention.

A summary table of the differences found in previous research between internalizing and externalizing children will help clarify (see Table 3).

Insert Table 3 about here

Consider some possible relationships between family cohesion and adaptability and the dimensions of internalizing and externalizing. There are several characteristics of overcontrolled (internalizing) children and their parents which suggest that more cohesive patterns are found within those families. For example, there are

Table 3

Characteristics of Undercontrolled and Overcontrolled Children and their Families

	Overcontrolled (Internalizers)	Undercontrolled (Externalizers)
1.	usually female	usually male
2.	better in school	worse in school
3.	less impulsive	more impulsive
4.	delay gratification	immediate gratification
5.	better on standardized tests	worse on standardized tests
6.	more self-depreciating	less self-depreciating
7.	stay in therapy longer	leave therapy faster
8.	parents have less overall pathology	parents have more overall pathology
9.	parents more strict with discipline	parents less strict with discipline
10.	parents more involved with children	parents less involved with children
11.	parents have fewer marital separations	parents have more marital separations
12.	adult internalizers have fewer divorces	adult externalizers have more divorces
13.	mothers less hostile	mothers more hostile
14.	less open conflict in families	more open conflict in families
15.	more dependent	less dependent
16.	less aggressive	more aggressive

Table 3 (Continued)

17. more often depressed	less often depressed
18. higher education of parents	lower education of parents
19. higher socioeconomic status	lower socioeconomic status

(Achenbach & Edelbrock, 1978)

fewer marital separations among their parents and fewer divorces among themselves when they become adults. Also parents of overcontrolled children are more involved with the children. These are related to family coalitions as well as shared interests. These are less true of the families of undercontrolled (externalizing) children.

Overcontrolled/internalizing children are more self-depreciating than their undercontrolled/externalizing counterparts (Katz et al., 1975). According to Bandura (1977) this is a dysfunctional self-evaluative system. Children tend to adopt evaluative standards modeled by others. That is they judge their own performance relative to those standards and reinforce themselves accordingly (Bandura & Kupers, 1964). When they are exposed to models with high standards they adopt such standards for themselves. Also the converse is true. Children will adopt lower standards when exposed to models with lower standards. This is possibly the mechanism by which overcontrolled children become more self-devaluative than undercontrolled children. There is some evidence that the parents of overcontrolled are higher achievers, because of their high socioeconomic status and education. The converse seems to be true of undercontrolled children and their families.

Overcontrolled children tend to be more dependent than undercontrolled children. Bandura & Walters (1959, p. 139) have defined dependency as a "class of responses that are capable of eliciting positive attending and ministering responses from others." Some studies show that parental warmth and affection are high among families with dependent children (Sears, Maccoby, & Levin, 1957; Bandura, & Walters, 1959). These are more characteristic of high cohesive rather than low cohesive families. Dependency behaviors have been shown to increase or decrease experimentally depending on the reward or punishment associated with it (Bandura & Walters, 1959). Finally, there is a joint reinforcement and modeling effect for dependent behaviors. Parents who encourage and reward dependency also serve as nurturant models for their children. Nursery-school children who sought help and affection relatively often also tended to offer frequent affectionate, protective or reassuring responses in their interactions with peers (Hartup & Keller, 1960). It is interesting that in the Bandura & Walters (1959) study, aggressive preadolescent boys tended to emit dependency responses which elicited mild or severe punishment from others. It appears then that high cohesive families are more likely to reinforce dependency behavior in their children than low cohesive families.

Bandura, & Walters (1959, p. 114) suggested that "aggression may be defined as a class of pain-producing or damage-producing responses or as responses that could injure or damage if aimed at a vulnerable object." They indicated that it is preferable to avoid intentionality as it is not directly observable and has to be inferred from the response itself. Bandura (1962) found that parents of inhibited (nonaggressive) boys exhibited a nonpermissive and nonpunitive attitude toward aggression. This offered little opportunity for aggression to be learned either through direct reinforcement or through imitation. Of course, the converse was true of aggressive boys.

Bandura & Walters (1959) reported that boys whose parents used punitive methods of discipline in order to suppress undesirable aggressive behaviors without using reinforcement of incompatible responses tended to have aggressive boys who expressed more aggression to peers and adults outside of the family although they expressed less direct aggression toward parents. Finally, parental permissiveness toward aggression was positively correlated with direct expressions of aggression (Sears, et al., 1957). Recall that low cohesive families have parents who are less involved with children and have more hostile interchanges. This allows some speculation about hostile

interchanges being modeling events for children to imitate aggression and the less involvement may indicate some permissiveness. Also, recall that low cohesive families are less strict with discipline (possibly high on the adaptability dimension).

Parents often provide abundant schedules of positive consequences (positive or negative reinforcement) for their children's coercive behaviors (Patterson, 1976). They can do so by being permissive toward aggressive behaviors. For example, an aggressive or coercive behavior may be strengthened by the removal of the aversive stimulus which precedes it. A request for a child to do a chore, met with coersiveness/anger from that child, followed by a withdrawal of the request has strengthened the coersive/aggressive response. An unwillingness for the parent to follow through on stated intentions indicates a low adaptability component, i.e., the rules of the authority changes and the power structure changes eratically. In this situation the parent presents him/herself as an authority but the power immediately shifts to the child with an effective reportoire of coersive or aggressive behaviors. As stated previously, families low on the adaptability dimension have rules which are ill defined, and roles which shift often.

The purpose of this study was to explore the relationship between family interaction patterns and behavioral symptoms of children. The family interaction patterns of cohesion and adaptability were considered the most important dimensions to study because they are well represented in the literature and past research suggests that these dimensions are relevant to healthy family functioning. Also, undercontrolled and overcontrolled children were studied because these behavioral syndromes have been supported with more validity research than any other symptom dimensions. In exploring the relationship between family interaction patterns and behavioral symptoms of children it was hoped that more effective treatment planning could result.

CHAPTER III

Methods

Subjects

Subjects consisted of forty mother-father-child triads who entered Dallas County Mental Health and Mental Retardation screening and referral service because of behavioral/psychological difficulties of the child and/or parents. The families were usually referred by the schools, juvenile probation department, other mental health agencies or friends of the family. The breakdown of sex and ethnicity of the population served by Dallas County Mental Health seen in Table 4.

Insert Table 4 about here

The children were between the ages of eight and 16 years. The lower age limit of eight allowed for sufficient school experience as many items on the CBCL pertain to school experiences and performance, and 16 is the maximum age on the CBCL. Both male and female subjects were included, but subjects were excluded if there was any evidence of mental retardation, brain damage, severe

Table 4

Sex and Ethnic Breakdown of Dallas County Mental Health Clients

	Female	Male
Black	16.8	15.8
White	30.0	29.2
Mexican American	3.4	4.1
Other	.2	.5

physical disabilities, or psychotic thought processes because symptoms with possible organic origin were not of interest in this study.

The subjects were matched for age, sex, and socioeconomic status. Age matching was within plus or minus three months, and socioeconomic status was matched according to the sliding fee scale of Dallas County Mental Health. Fee assessment is made on a percentage basis of total fee depending on net weekly income of parents and the number of members in the family. Twenty-eight families were assessed at less than 25% of the total fee; sixteen families were assessed at between 25% and 50% of the total fee; eight families were assessed at 50% - 75% and no families were above 75%. In each of the two groups formed there were eight Caucasian, eight black and four chicano families. In short for each age, sex, race and socioeconomic level in one group there was a matching subject in the other group. There were 10 males and 10 females in each group who were divided equally among ethnic groups.

Procedure

Subjects were assigned to groups according to their score on the Child Behavior Checklist (CBCL). They were

assigned to an overcontrolled group if their T score was above 70 on that scale and below 40 on the undercontrolled scale. They were assigned to an undercontrolled group if their T score was above 70 on that scale and below 40 on the overcontrolled scale. Both parents filled out the CBCL separately and those that did not match in T score above 70 and below 40 were not used for the study. About 235 families who made it through initial screening were not included for the reason of disagreement among parents.

Initial screening took place as the subjects and families completed an intake interview with mental health para professionals. These paraprofessionals were aware of the different needs of each group and if in their judgement the subject had appropriate characteristics the parents were asked to fill out the CBCL separately. The CBCL's were then scored by one of 12 mental health professionals on the staff. If found to be an appropriate subject they were encouraged to continue through to completion of the experimental tasks. Of the 2,083 families seen during the 20 month period of data collection less than 500 families made it through the initial screening by the paraprofessionals. Of those screened through scoring of the CBCL, undercontrolled subjects outnumbered overcontrolled subjects about 2 to 1.

After passing through the CBCL screening, parents were asked to fill out another questionnaire called the Family Adaptability and Cohesion Evaluation Scale (FACES). Parents were asked to do this as a joint project and to reach agreement on the answers. FACES is the self-report inventory which was used by Olson, et al. (1979). FACES was used to help differentiate the family interaction patterns of families of overcontrolled children from those of undercontrolled children. The parents were being asked to read the written instructions in order to complete it. FACES contains 111 items and takes about 20 minutes to complete (see Appendix II). Parents were asked to emphasize the interaction between them and their "patient" child because different interaction patterns within the same family necessitate this (Olson et al., 1979). A description of the CBCL and FACES will follow.

After completion of the FACES questionnaire, the family triads entered the office of the experimenter who was unaware of their group assignment. They were given instructions for completing the Family Activities Form, and following its completion they were given instructions for the Guess the Rules Game. Detailed descriptions of these follow in another section.

The family triad then engaged in a structured clinical

interview which is standard procedure for Dallas County Mental Health, Child and Adolescent Services (see Appendix VI). Their verbal interactions were recorded on audio tapes. Usually the structured interview requires about one hour and thirty minutes to complete. Also, audio tapes recorded the interaction during the completion of the Family Activities Form, and the Guess The Rules Game. Verbal behaviors were scored by selecting three 10 minute segments from the audio tapes representing the beginning, middle and end of the triads recorded verbal interactions. Two independent raters scored the interactions according to the system developed by Alexander (1973) which involves defensive and supportive communications. The raters heard ten second segments of tapes and then were given five seconds to score the behavior present or absent. They rated all subsequent 10 second segments of the tapes in the same manner. In all there are 180 tape segments that were rated for each triad. They were rated on the following behaviors which are explained more fully in Appendix VII:

Defensive

1. Judgmental-dogmatism
2. Control and Strategy
3. Indifference
4. Superiority

Supportive

1. Genuine Information Seeking/Giving
2. Spontaneous Problem Solving
3. Empathic Understanding
4. Equality

Prior to the experimental procedure the raters were trained to 90% agreement on the major dimensions of defensiveness and supportiveness by using practice tapes obtained while collecting pilot data. One rater was a 26-year-old white female mental health worker and the other was a 32-year-old white male school teacher.

This system has been used by Alexander (1973) to demonstrate lower rates of supportive communications in families with run-away children. Also, higher rates of defensive communications have been shown in such families. During his study he made 47 reliability checks which resulted in a mean reliability of .94 for supportiveness and .85 for defensiveness.

Measures

CBCL. The CBCL was developed by Achenbach and others (Achenbach, 1966; Achenbach, 1978; Achenbach and Edelbrock, 1979) to portray patterns of behavioral competencies and problems of children between ages four to 16.

Second-order factor analysis has shown that the behavior problems scales form two broad-band groupings which Achenbach called internalizing (overcontrolled) and externalizing (undercontrolled). There are a total of 113 items on the behavior problem scale and requires about 17 minutes to complete (see Appendix I).

Achenbach (1978) conducted studies on the CBCL to determine the inter-parent agreement and the long-term stability of his questionnaire. He had 37 mothers and fathers of "clinic boys" independently fill out the CBCL. He then performed Pearson correlations between scores obtained from mothers' and fathers' CBCL's on the 12 profile scales, internalizing score, externalizing score and the total behavior problem score. The correlations ranged from .58 for the Activities scale to .87 for the School scale (all ps < .001), with a mean correlation of .74.

A different set of 46 parents of children seen at child guidance clinics filled out the CBCL upon entry into the clinic and again after an average of 14.8 months (range = 9-17 months). Pearson correlations ranged between .26 for Somatic Complaints and .79 for Delinquent Behavior, with a mean of .63.

Short-term test-retest reliability (mean interval of 7.3 days) of mothers of normal children (Achenbach &

Edelbrock, 1979) ranges between .82 for boys to .90 for 12-16 year old girls. They also found that scores tend to decrease as a result of short-term psychotherapy (average of 15 clinical sessions). The decrease in scores from intake to follow-up were significant at $p < .001$ for the boys and 6 to 11 year old girls.

FACES. FACES was developed by Olson et al. (1979) to study family interaction patterns. In order to determine the construct validity of the items on FACES, 35 marriage and family counselors were given definitions of cohesion and adaptability and asked to rate each item on the following scale (Olson, et al., 1979):

1	2	3	4	5	6	7	8	9
Low Cohesion or Low Adaptability								High Cohesion or High Adaptability

In order to assess the empirical validity of FACES, Olson, et al. (1979) used a population of 410 young adults. They were students in family relationship courses, half at the University of Minnesota and half at Iowa State University. These subjects answered each item on the basis of its applicability to their family using a four point scale:

4 = true all the time
3 = true most of the time
2 = true some of the time
1 = true none of the time

Analysis of the two data sets began with the computation of the items means, modes, standard deviations, and percent scores. The student data percent figures showed the distribution of the response choices for each item. These data were used to select items that had a good distribution of responses. With the counselor data, the percent figures showed what portion of the counselors ranked each item low (1 - 3 ranking), moderate (4 - 6 ranking) and high (7 - 9 ranking). These data were used to select items that had good agreement among counselors.

The next step was to factor analyze the data from the 410 students. The varimax orthogonal rotation option was chosen to keep the factors as unique as possible. Factor analysis enabled the researchers to see if the items fit together empirically as they were conceptually designed to. The eigen values and the percent of variance accounted for by the factors that emerged from the data can be found in Appendix II.

Also, split-half and alpha reliabilities were computed on the dimensions of cohesion and adaptability as well as the content areas. Only the major dimensions will be reported as the individual content areas are not relevant to this study. Cohesion split-half reliability was .49 (significant at the $p < .001$), and the cohesion alpha reliability was .57. Adaptability split-half

reliability was .42 (significant at the $p < .001$), and the alpha reliability was .57.

Based on the analysis, the following conclusions can be made about FACES (Olson, et al., 1979):

1. The underlying factor structure closely parallels the conceptual strength levels within the dimension (high, moderate, low). These factors have moderate to moderately high reliabilities;
2. On the dimensional level, the scale has acceptable split-half and alpha reliabilities;
3. As separate units of measure, the content areas did not receive a great deal of support. They did not hold up in factor analysis, they do not have good split-half reliability, and while alpha reliabilities can be increased dramatically by reflecting items, the results are inconsistent and therefore inconclusive.
4. Scores on the cohesion dimension are likely to be contaminated with social desirability. This is because the cohesion content areas, especially Emotional Bonding, Independence, Friends and Interests/Recreation are related to societal expectations for and beliefs about the "ideal" family. This conclusion is supported by the correlations between responses to these four sets

of items and the social desirability items. Additional support comes from the first factor run that had items from those four areas leading with the S. D. items.

Family Activities Form. A paper-and-pencil measure, the Family Activities Form which measured cohesive family interaction was created by the author of this study. The parent-child triads were given the following instructions: "Pretend the three of you are on a family outing which offers many choices of activities listed on the Family Activities Form. There is an opportunity to engage in one activity each hour of the day between the hours of 7:00 AM and 9:00 PM. Each of you may engage in these activities together or separately. You may assume if your child is young that there is appropriate supervision for each activity. The father will place an "F", the mother will place an "M" and the child "C" next to the activity of his or her choice. Since there is only one Activity Form for the three of you, you must share it while making your choices."

The cohesive measure here was the number of activities engaged in together at any one hour of the day. Two people together will score two and three people will score three. Cohesiveness was operationalized as the

total score on the Family Activities Form (see Appendix III). Since there were 15 hours in which to engage in activities, there is a maximum score of 45 and a minimum score of zero.

Guess the Rules. The Guess the Rules game, created by the author of this study to measure adaptive family functioning required the parent-child triad to discover the rules of a game which consists of a sheet of paper with five one-digit numbers in a row and 30 rows (see Appendix IV). They received the following instructions: "This is a game where you have to guess the rules. Please choose one of the five numbers in the first row after all family members have mutually agreed upon the choice."

"I will then tell you if the guess is correct or incorrect. Using that information, choose a number from the second row. After each guess you will be told if the choice is correct or incorrect. After several trials you will be able to determine the rules of the fame. Please work together on this task."

The parent-child triad was not told after a series of three correct choices that the rules changed, they had to adapt to the rule change in order to again guess correctly. The first rule was the smallest digit as a correct response. The second rule was the digit in the

fourth position from the left as the correct response. The third rule was the first response made by the child as the correct response provided that choice was not prompted by a parent. Operationalized family adaptability was a low score on the number of trials required to reach criterion.

The first rule was easy and was intended to introduce the family triad to the task and to provide them with a response set such that the characteristics of the digits were the important variables. The second rule violates this response set and low adaptive families (as defined by FACES) should be more rigid and therefore should require more trials to reach the criterion after the rule change. The third rule followed the same principle but goes further in requiring input from that family member least likely to be considered, the child (Russell, 1979). Adaptive families tend to accept input from family members before successful problem solving occurs.

Hypotheses

I. Cohesion is a characteristic of family interactions most likely to be exhibited to a greater extent (often in extreme) in family triads with

an overcontrolled child than in family triads with an undercontrolled child:

A. will score higher cohesion scores on FACES than the families with an undercontrolled child.

B. will score higher cohesion scores on the Family Activities Form than families with an undercontrolled child.

C. will be rated by two independent observers as less "judgmental/dogmatic" in their interactions on the Communication Based Coding System than families with an undercontrolled child.

D. will be rated by two independent observers as having greater "information giving/seeking" qualities in their interactions on the Communication Based Coding System than families with an undercontrolled child.

E. will be rated by two independent observers as exhibiting less "indifference" in their interactions on the Communication Based Coding System than families with an undercontrolled child.

F. will be rated by two independent observers as exhibiting more "empathetic understanding"

in their interactions on the Communication Based Coding System than families with an undercontrolled child.

II. Adaptability is a characteristic of family interactions most likely to be exhibited to a greater extent (often in extreme) in family triads with an undercontrolled child than in family triads with an overcontrolled child. Family triads with an undercontrolled child:

A. will score higher adaptability scores on FACES than families with an overcontrolled child.

B. will be rated by two independent observers as exhibiting more "control" strategies in their interactions on the Communication Based Coding System than families with an overcontrolled child.

C. will be rated by two independent observers as exhibiting less "spontaneous problem solving" in their interactions on the Communication Based Coding System than families with an overcontrolled child.

D. will be rated by two independent observers as exhibiting greater "superiority" in their interactions on the Communication Based Coding

System than families with an overcontrolled child.

E. will be rated by two independent observers as exhibiting less "equality" in their interactions on the Communication Based Coding System than families with an overcontrolled child.

Data Analysis

The testing of the hypotheses as well as testing for rater agreement were accomplished through multivariate analysis of variance (MANOVA) using the Statistical Package for the Social Sciences (Nie, Hull, Jenkins, Steinbrenner & Bent, 1975). The data consisted of measures on 12 variables: two FACES scores, eight DSC scores, and one Family Activities Form score and one Guess the Rules score.

First, homogeniety of the dispersion matrices was tested with Box's M (Morrison, 1976). Second, Wilk's Lamda (Morrison, 1976) was used to test the effects of the four covariates: age, sex, race, and socioeconomic status. A MANOVA was used to test the null hypothesis of the differences between the two groups, and then Bonferroni confidence intervals were used to test each

hypothesis. Bonferroni confidence intervals are based on the univariate t-statistic.

In order to determine interrater agreement the differences between the two ratings were computed and a Hotelling's T^2 was used to test that difference. Since the ratings were not independent observations across all variables a Pearson correlation was computed for interrater reliability for each variable.

CHAPTER IV

Results

MANOVA Test for Covariate Influence

The collection of data resulted in some observations which were not independent. The Defensive and Supportive Communication coding system (DSC) consisted of categories of behaviors which were conceptually related, and the same raters were used to code behaviors in all categories for each subject. For these reasons a multi-variate analysis of variance (MANOVA) was used to analyze the difference between the two groups of family-triads on 12 observations:

1. FACES Cohesion
2. FACES Adaptability
3. DSC Judgmental Behavior
4. DSC Control
5. DSC Indifference
6. DSC Superiority
7. DSC Information Seeking and Giving
8. DSC Problem Solving
9. DSC Empathy
10. DSC Equality

11. Family Activities Form

12. Guess the Rules game.

Also, a MANOVA was used to determine the influence of the four covariates:

1. Age
2. Sex
3. Ethnicity
4. Socioeconomic status

The MANOVA is first conceptualized by the following model (Morrison, 1976):

$$Y_{ijh} = \mu_j + T_{jh} + \beta_{1j}U_{ih,1} + \beta_{2j}U_{ih,2} + \beta_{3j}U_{ih,3} + \beta_{4j}U_{ih,4} + E_{ijh}$$

h = group of overcontrolled or undercontrolled

i = subject 1 through 20 for each group

j = variable 1 through 12

μ_j = overall mean for the j^{th} variable

T_{jh} = effect of j^{th} variable on h^{th} group

$U_{ih,1}$ = value of age for i^{th} subject in group h

$U_{ih,2}$ = value of sex for i^{th} subject in group h

$U_{ih,3}$ = value of ethnicity for i^{th} subject in group h

$U_{ih,4}$ = value of socioeconomic status for i^{th} subject in group h

β_{1h} = regression coefficient for age in group h

for each group were simultaneously zero (Morrison, 1976):

$$H_o: \begin{bmatrix} d_1 \\ d_2 \\ d_3 \\ d_4 \\ d_5 \\ d_6 \\ d_7 \\ d_8 \end{bmatrix} \quad \begin{bmatrix} o \\ o \\ o \\ o \\ o \\ o \\ o \\ o \end{bmatrix}$$

d_i is the difference in the judges ratings divided by two for the i^{th} variable. The variables are judgment (1), control (2), indifference (3), superiority (4), information (5), problem solving (6), empathy (7), and equality (8). Since the analysis for each group was done separately there was no need to test the homogeneity of the dispersion variance-covariance matrices. The Bonferroni confidence intervals with an alpha level of .05 were used. Since all of these intervals included zero, the null hypothesis was not rejected. It should be noted that the critical value for $t_{19, \frac{.05}{16}} = 3.3826$. See the confidence intervals in Table 5.

Insert Table 5 about here

β_{2h} = regression coefficient for sex in group h

β_{3h} = regression coefficient for ethnicity in group h

β_{4h} = regression coefficient for socioeconomic status in group h

E_{ijh} = error term

Note that this model reflects an analysis of variance that takes into account the possible effect of the four covariates on the observations (variables 1 through 12). Since it was possible that the covariates had no appreciable effect it was necessary to test the relationship of the covariates to the 12 observed variables prior to testing the significance of the MANOVA.

As previously mentioned, two raters were used to code data on the DSC coding system. The average rating for the two judges in each category of behaviors on the DSC for each subject was used in the MANOVA. Determination of rater agreement and interrater reliability will be discussed later.

First, the variance-covariance matrices were tested to determine if they were the same for both groups. The test used for the homogeneity of the dispersion matrices was Box's M (Morrison, 1976). Results of this test indicated that there was not sufficient evidence to conclude that the variance-covariance matrices were different: $F(136,4459) = .96079$, $p = .608$.

Second, Wilk's Lamda was used to test the effect of the covariates on the 12 observed variables. Results indicated that there was no sufficient evidence to conclude that the covariates had an effect on the observed variables: $F(48, 90.64) = 1.21907$, $p = .20789$. That is to say, not only was there no significant effect of the covariates on the observed variables of both groups combined, there was no significant effect of the covariates on observed variables of each group considered separately.

Since there was insufficient evidence to conclude that the covariates effect the groups differently, the significance of the MANOVA was tested using a new model without the covariates:

$$Y_{ijh} = \quad_j + T_{jh} + E_{ijh}$$

(Notations have the same meaning as previously listed.)

Interrater Agreement

In order to test the agreement between the two judges, the difference between their respective ratings was computed. In the previous analysis the average of the two judges' ratings were used to compute the MANOVA. Now the difference, $\frac{x_1 - x_2}{2}$ was used as the observation and a Hotelling's T^2 was used to test if the differences

Table 5

Bonferroni Confidence Intervals

UNDERCONTROLLED

VARIABLE	Mean Difference (d_i)	$\frac{S_i^2}{20}$	Lower Limit	Upper Limit
1. Judge	.375	.429	-1.076	1.826
2. Control	-.350	.518	-2.102	1.402
3. Indifference	.475	.521	-1.287	2.237
4. Superiority	-.125	.346	-1.295	1.045
5. Information	-.350	.308	-1.392	.692
6. Problem Solving	-.375	.303	-1.400	.650
7. Empathy	-.500	.274	-1.427	.427
8. Equality	.350	.414	-1.050	1.750

OVERCONTROLLED

VARIABLE	Mean Difference (d_i)	$\frac{S_i^2}{20}$	Lower Limit	Upper Limit
1. Judge	-.925	.379	-2.207	.357
2. Control	-.325	.298	-1.333	.683
3. Indifference	-.200	.427	-1.644	1.244
4. Superiority	.025	.441	-1.467	1.517
5. Information	-.400	.228	-1.171	.371
6. Problems Solving	-.225	.367	-1.466	1.016
7. Empathy	.625	.264	- .268	1.518
8. Equality	-.350	.337	-1.490	.790

There is not sufficient evidence to indicate that the average response of the judges is different.

Also to give the reader some impression of inter-rater agreement, Pearson correlation coefficients were computed for each behavior rated. The results can be seen in Table 6. The average Pearson coefficient was approximately .77.

Insert Table 6 about here

MANOVA Without Covariates

As stated earlier the covariates age, sex, ethnicity, and socioeconomic status had no appreciable effect on the observed variables. Therefore, a new model for the testing of significant differences between the groups was used. However, before considering a test of significance it was necessary to test for the homogeneity of the dispersion (variance-covariance) matrices. Again Box's M was used for this test. As before, there was not sufficient evidence to conclude that the variance-covariance matrices were different: $F(78, 4559) = 1.02371$, $p = .425$.

Since the variance-covariance matrices were not significantly different, the MANOVA is appropriate to test the null hypothesis that the two average responses

Table 6

Pearson Correlations Interrater Agreement

Behavior	r	n	p
Judgmental	.85	40	.001
Control	.92	40	.001
Indifference	.71	40	.001
Superiority	.66	40	.001
Information	.87	40	.001
Problem Solving	.67	40	.001
Empathy	.92	40	.001
Equality	.61	40	.001

of the two groups (overcontrolled versus undercontrolled) are the same. Using Wilks Lamda the null hypothesis was rejected: $F(12, 27) = 24.07997$, $p < .05$ to reject the null hypothesis simultaneously. That is, each interval involved a two-tailed t critical point. The probability that each of the intervals does not include a true difference between the means, but a difference which occurs by chance is.05/12. Since there are 12 intervals the simultaneous probability that the differences occur by chance is 12(.05/12) = .05. The data have 38 degrees of freedom so the t.00208, 38 = 3.05. The Bonferroni confidence intervals are given in Table 7.

Insert Table 7 about here

In all cases the overcontrolled mean was subtracted from the undercontrolled mean so that intervals less than 0 indicate that the overcontrolled group scored higher on that particular variable than the undercontrolled group. From this table it can be determined that the groups differed significantly on four variables:

1. The overcontrolled group scored significantly higher than the undercontrolled group on FACES

Table 7

Confidence Intervals

Variable	Confidence Interval Lower Limit	Upper Limit
FACES Cohesion*	-67.634	-25.66
FACES Adaptability	-23.138	33.738
DSC Judgmental*	3.718	12.782
DSC Control*	13.33	19.620
DSC Indifference	- 1.387	7.837
DSC Superiority	- 1.906	5.206
DSC Information	- 6.788	1.588
DSC Problem Solving	- 3.869	2.469
DSC Empathy*	-11.996	-3.254
DSC Equality	- 2.023	4.523
Family Activities	- 9.433	1.333
Guess the Rules	- 8.839	8.539

*significant at $p < .05$

cohesion.

2. The overcontrolled group was rated as exhibiting less judgmental behavior on the DSC coding system than the undercontrolled group.
3. The overcontrolled group was rated as exhibiting less control behavior on the DSC than the undercontrolled group.
4. The overcontrolled group was rated as exhibiting greater empathy toward each other than the undercontrolled group on the DSC.

There was insufficient evidence to indicate differences between the group means on the remaining eight variables.

The above analysis accomplished the appropriate tests of the stated hypotheses, however, for further clarification it may be appropriate to display the correlations between those variables which were significantly different on the MANOVA and subsequent computation of Bonferroni confidence intervals (see Table 8). The Family Activities Game was included because of high correlations observed.

Insert Table 8 about here

Table 8

Correlation Between Significant Variables

		1	2	3	4
1.	FACES Cohesion				
2.	DSC Judgmental	-.84			
3.	DSC Control	-.33	.30		
4.	DSC Empathy	.87	-.74	-.40	
5.	Family Activities	.92	-.75	-.21	.84

Finally a discriminant function was computed using those variables which contributed most to the accurate prediction of group. That is, if given certain information about a subject (omitting the covariates) except in which group he belongs, the discriminant function allows maximum prediction of group membership. The following discriminant function was derived:

Cohesion-.77 Control-.72 Family Activities+.44 Information Giving and Seeking

Using this equation subjects can be accurately classified in either the overcontrolled or the undercontrolled group 92.5% of the time (37 hits, 3 misses). This requires information on only four variables for each subject. Note that the variables were also the ones with the highest correlations in the correlation matrix of Table 6.

However, this procedure is biased because the same data being used to derive the function is being predicted by the discriminant function. Therefore, a more unbiased procedure was followed in a second discriminant function which was derived from randomly selected data to predict the remaining data. A stepwise variable selection was used and 17 subjects were randomly selected to derive the function. The following function was derived:

.2 Cohesion+.13 Adaptability+.2 Judgmental-.29 Superiority -.11 Problem Solving+.1 Family Activities

With this equation only 82.6% of the subjects were accurately classified (19 hits, 4 misses).

Finally, the means and standard deviations of the FACES cohesion and adaptability scores are worth noting for further discussion. See Table 9 for this information.

Insert Table 9 about here

In addition to the means and standard deviations, the median score for FACES adaptability and FACES cohesion were computed and a scattergram was plotted (see Figure 2).

Insert Figure 2 about here

The median scores are 183 and 238 respectively. As can be seen, 16 of the 20 overcontrolled triads were above the FACES cohesion median where as, only four of the undercontrolled triads were above the cohesion median. Both groups were almost evenly divided above and below the FACES adaptability median. Since the behavioral

Table 9

Means and SD of FACES Scores

	Cohesion		Adaptability	
	Mean	SD	Mean	SD
Undercontrolled	217.8	20.6	183.4	34.8
Overcontrolled	264.5	22.9	178.1	23.0

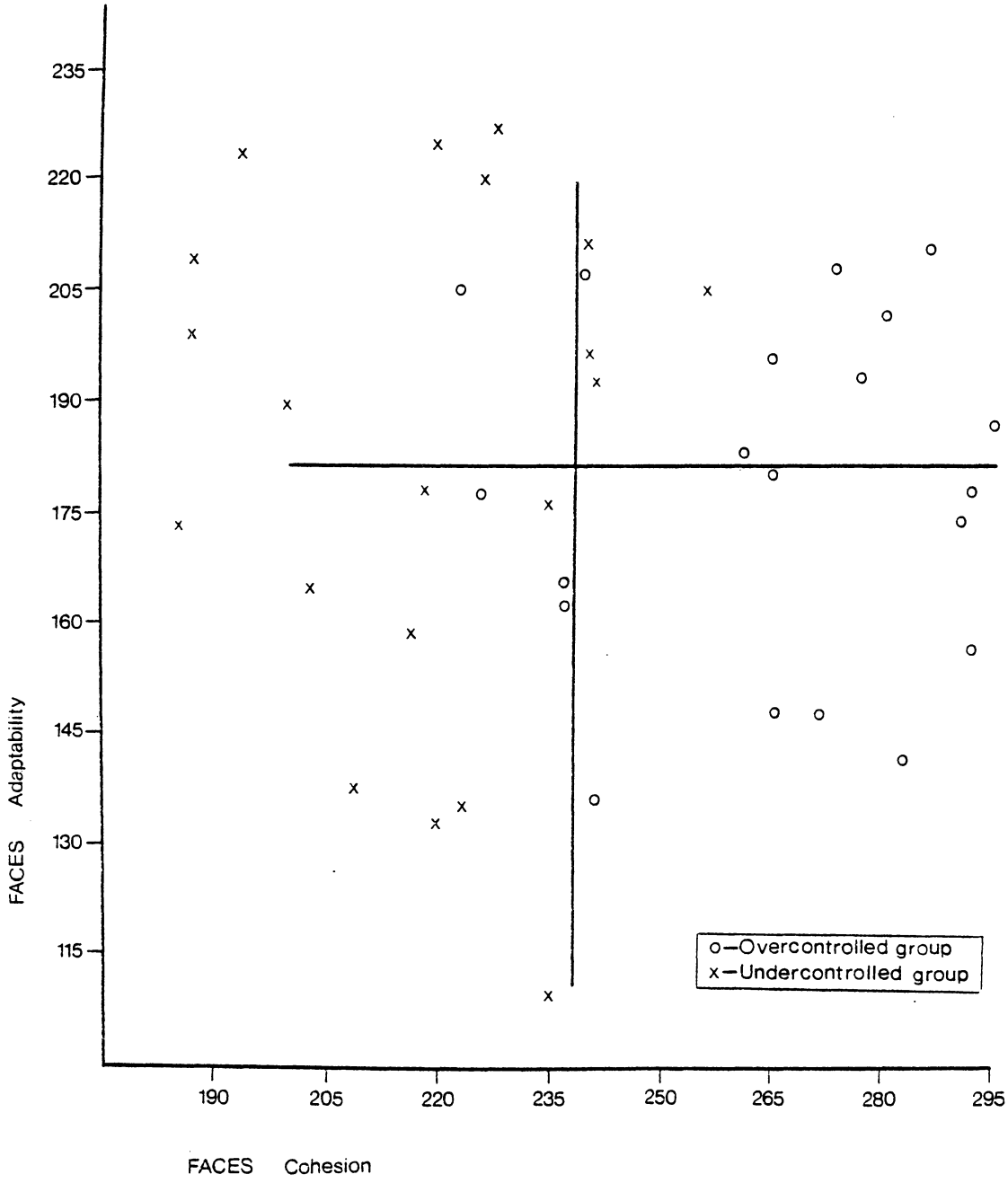

Figure 2

FACES Adaptability and Cohesion with Median Splits

rating, DSC control, had a strong influence in the first linear discriminant function, its median score was computed and plotted with FACES cohesion (see Figure 3).

Insert Figure 3 about here

DSC control median is 15.5 with both groups combined. As can be seen, 16 of the 20 undercontrolled triads were above the DSC control median and below the FACES cohesion median. Only one overcontrolled triad is in this quadrant. Also, 14 of the 20 overcontrolled triads were simultaneously above the FACES cohesion median and below the DSC control median score. Only two undercontrolled triads were in this quadrant.

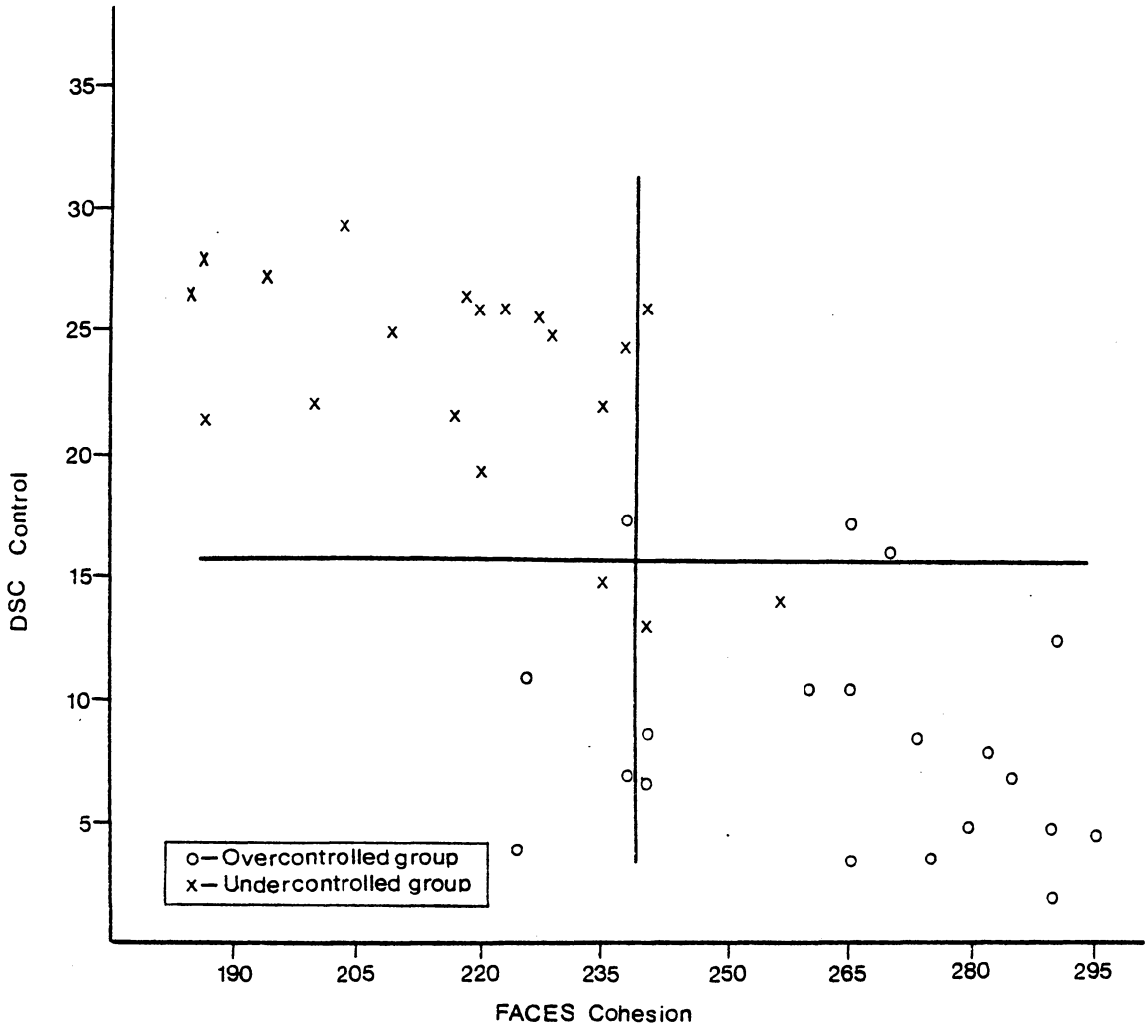

Figure 3

FACES Cohesion and DSC Control with Median Splits

CHAPTER V

Discussion

Overview

This study was designed to test some theories derived from the Circumplex Model of family functioning (Olson et al., 1979). A body of research in the past has suggested that the two dimensions of adaptability and cohesion are important variables to consider when studying family interaction patterns. Olson has postulated that high functioning families tend to score at moderate levels on these two dimensions and that low functioning families tend to score at extreme levels. The independence of the two dimensions of cohesion and adaptability was demonstrated by Russell (1979) in factor analytic studies using 30 family triads in one study and 20 family triads in another study. She used both behavioral observations and self report measures for both dimensions and found that adaptability and cohesion measures loaded on separate factors. FACES was created to measure levels of adaptability and cohesion, and normative samples of 53 families in counseling, 31 families of runaway adolescents and 117 non-problem families (Olson, et al., 1979) were used to

develop cutting points for their descriptive terms.

Insert Table 10 about here

To date, some research has clarified characteristics of families at various levels of cohesion and adaptability but still much is needed. Previously empirically derived behavioral syndromes of children have not been used in research on the Circumplex Model in order to validate that model. Therefore, the CBCL (Achenbach & Edelbrock, 1978, 1979) was used to select the subjects of each group in this study.

The hypotheses of this research were divided in two main categories. A first set of hypotheses related to cohesion and the characteristic which a cohesive family exhibits. It was suggested that overcontrolled children, who tend to be inhibited, shy and anxious are likely to experience greater cohesion when involved in interactions with their parents. This cohesion was measured by using a paper and pencil self-report scale called FACES (Olson, et al. 1979). It was completed by both parents simultaneously during the initial phase of the procedure. Olson, et al. (1979) suggested that cohesion within families involves the emotional bonding

Table 10

FACES Scores and Cutoff Points

Cohesion	Scores	% of Sample
Disengaged	162-230	15
Separated	231-250	36
Connected	251-270	35
Enmeshed	271-303	14
Adaptability		
Chaotic	199-236	14
Flexible	183-198	35
Structured	167-182	37
Rigid	109-166	13

Adaptability	Cohesion
Mean = 183	Mean = 251
S.D. = 15	S.D. = 19
Range = 109-236	Range = 162-303

between members of that family and the amount of individual autonomy each family member could exhibit within that family system. For example, a highly cohesive family would be more likely to engage in activity together than a non-cohesive family. Also a cohesive family may tend to exhibit more empathetic understanding toward each member. Finally, it is likely that cohesive family members would be less judgmental of other members' behavior therefore exhibiting less negative criticism. Since the literature is unclear about the nature of cohesiveness within the families with an overcontrolled or undercontrolled child these notions were not only studied using FACES, but also the Defensive and Supportive Communication base coding system (Alexander, 1973), and a family activity interaction game called The Family Activities game devised by the author of the present study.

The second set of hypotheses related to family adaptability. Olson et al. (1979) studied adaptability of families as the ability to change power structure or role relationships as a result of situational or developmental stress. FACES was also used to study this process. In addition, the Defensive and Supportive Communication base coding system was used to study independently rated observations of control strategies

within families and acts of family members to maintain superiority over other family members. Also it was felt, though not hypothesized, that the Guess the Rules game, devised by the author, would measure a family triad's ability to adapt to changing rules within a game of logic.

In order to theorize relationships between the family interaction patterns (cohesiveness and adaptability) and behavioral syndromes of the children (overcontrolled and undercontrolled), coercive interactions in families were considered. Patterson (1976) has indicated that coercive behaviors (similar to undercontrolled behaviors) are learned or suppressed through general social learning principles. For example, he found that children who use coercive behaviors generally have coercive models in the family (possible low on the cohesion dimension), and that such behaviors are maintained through inconsistent use of punishment, weak conditioned punishers as consequences of coercive behaviors or in many cases, withdrawal of a noxious stimulus after the occurrence of a coercive behavior. These behavioral control techniques would likely be considered low on the adaptability dimension.

Similarly, dependency (an overcontrolled behavior) is maintained through certain social learning principles.

Sears et al. (1957) has demonstrated that mothers who were affectionate with their children (possibly high cohesion) had children who were more dependent than mothers who were not. Dependency behaviors of children tend to be positively reinforced by warm nurturing mothers (Bandura & Walters, 1959). Like dependency, anxiety is also learned and maintained through similar principles (Bandura, 1977). In fact, increased anxiety increases modeling of behavior which is cognitively complex. Sarason, Pederson, & Nyman (1968) used a serial learning task and found that subjects high or moderate in trait anxiety modeled more than subjects who were low in trait anxiety. Bauer & Schlottmann (1979) observed this with state anxious subjects who watched models performing fast or slow on a difficult pencil maze. Finally, anxiety may increase dependent behavior. Spector & Sistrunk (1979) found that the presence of companions in an anxiety arousing situation helped reduce a subject's anxiety. In highly anxious, over-controlled children close proximity to parents (overt dependency) may help them manage their anxiety.

Cohesion: FACES

FACES cohesion scores indicated that indeed over-controlled children identified as patients within a

community mental health setting are more likely to come from families which are more cohesive than families of undercontrolled children. Note also that the cohesion score mean for the undercontrolled group (See Table 9) is 217.8. This is similar to the group labeled disengaged by Olson et al. (1979). His disengaged group scored between 162 and 230 on FACES cohesion scale (see Table 10). On the other hand, the mean for the overcontrolled group is on the other side of the continuum (see Table 9) indicating relatively high cohesive families. This offers some support for Olson's et al. (1979) Circumplex Model of family interaction. A graphic presentation of this effect can be seen in Figure 2 where the median split for combined FACES cohesion scores is plotted in a scattergram of FACES cohesion and adaptability scores. Sixteen of the 20 overcontrolled triads are above the cohesion median whereas only four of the undercontrolled triads are above that median. This is a logical result of the selection criteria used. As previously stated, overcontrolled children exhibit greater dependency than undercontrolled children (Achenbach & Edelbrock, 1978). Greater dependency among family members is also expected in families high on the cohesion dimension (Olson et al. (1979). Also, since overcontrolled children exhibit greater

anxiety, greater dependency was the likely outcome. The Circumplex Model is more clearly defined and validated with this finding. Olson et al. (1979) hypothesized that high cohesive families were more interdependent and indeed greater dependency is a trait of overcontrolled children. Undercontrolled children, being less dependent, are associated with families low on the cohesion dimension as measured by FACES. This also serves to validate the Circumplex Model.

Cohesion: DSC

The Defensive and Supportive Communication base coding system was designed to rate behaviors which are conceptually related to cohesion within families. Judgmental behavior (a low cohesive behavior) was defined as statements which were evaluative in nature and passed judgment on others character. Such features tend to be accusing, complaining, blaming or otherwise exhibiting negative criticism. It was hypothesized that family triads with an overcontrolled child would be rated as exhibiting less judgmental behavior between members than the families of undercontrolled children. This hypothesis was supported at a significant level. Since judgmental behavior is conceptually related to low cohesive behaviors (face validity) it also offers

support for the Circumplex Model. It helps validate the construct of cohesion as measured by FACES by offering another method of measurement, a method which includes ratings of directly observed behaviors. Judgmental behaviors are often hostile in nature and it was noted by Jenkins and Glickman (1946) that mothers of inhibited children (similar to overcontrolled children) were rarely openly hostile to their children. On the other hand, mothers of aggressive children (similar to undercontrolled children) were often openly hostile to their children. They concluded that parental hostility stimulates hostile, rebellious and aggressive responses on the part of the child.

The Defensive and Supportive Communication base coding system defines empathetic understanding as communications between family members which carry empathy, respect and value for the feelings of a listener. Within this system independent raters supported the hypotheses by rating family triad interactions of overcontrolled children as significantly more empathetic than the interaction of undercontrolled children with their parents. Again the Circumplex Model was validated with measures of directly observed behaviors. Thus, judgmental and empathetic behaviors are characteristic of families with undercontrolled and overcontrolled children

respectively, and the relationship between FACES cohesion and judgmental as well as empathetic behaviors has face validity. The correlation of -.84 for judgmental behavior and FACES cohesion adds empirical validity. Recall that dependency behaviors tend to be positively reinforced by warm nurturing mothers (Bandura & Walters, 1959). It is likely that maternal warmth and nurturance are positively related to empathetic behaviors and negatively related to judgmental behaviors. Achenbach (1966) showed that mothers of overcontrolled children are more concerned about their children's problems than mothers of undercontrolled children. These concerned and empathetic behaviors would be more instrumental in fostering dependency and judgmental behaviors would be less instrumental.

It was also hypothesized that the family triad with overcontrolled children would engage in more genuine information exchange than family triads with an undercontrolled child. Genuine information exchange was defined in the DSC as features which are characterized by exchange of information about feelings which require behavior change on the part of the listener. Such communications are often guilt inducing. However, when such a communication is considered genuine a person may be conscious of the guilt inducing nature of the commun-

cation and qualify a speech accordingly in order to reduce the blame aspect. On the other hand, features rated low on this behavior are often laden with hostility. The hypothesis was not supported.

Within the DSC indifference behavior was defined as communications which indicate that one person communicating was not interested in the other's feelings. Such communications are often characterized by rejection or disinterest. This hypothesis (i.e., that family triads with overcontrolled children will exhibit less indifference than family triads with undercontrolled children) was not supported.

Cohesion: Family Activities

Finally, the Family Activities Game which was designed by the present author to measure the number of family activities which the family would choose to engage in together was not supportive of the hypothesis. The hypothesis suggested that family triads with an overcontrolled child would engage in a greater number of activities together than family triads with an undercontrolled child. This hypothesis was not supported by the data of this study.

Adaptability: FACES

The results of the study of adaptability were much

less clear. First of all, the FACES adaptability score yielded non-significant results and no trend which could be discerned as marginally supporting the hypothesis. The reader can observe in Figure 2 that the FACES adaptability scores of both overcontrolled and undercontrolled family triads are fairly evenly distributed above and below the FACES adaptability median score. In addition, the average adaptability scores for each group (see Table 10) places both groups in a healthy range according to Olson, et al. (1979). The overcontrolled group with an average score of 178.1 corresponds to the structured normative sample of Olson, and the undercontrolled group with an average score of 183.4 corresponds to the flexible normative sample of Olson (see Table 10).

Adaptability: DSC

The Defensive and Supportive Communication base coding system yielded one result of interest. Control strategy was defined as one's attempt to impose one's will upon another in a very direct fashion by making explicit demands. This was exhibited to a significantly greater extent in family triads with an undercontrolled child. These behaviors are very similar to the coercive behaviors reviewed by Patterson (1976). He noted that coercive behaviors are attempts to control others in

the environment by providing an aversive stimulus which terminates after an instrumental response on the part of another. Although many of these coercive behaviors are direct demands made upon others they are often noxious in tone and volume. Parents often have difficulty managing these behaviors because they are inconsistent in their punishment or they reinforce it. The inconsistent contingency relationship is a high adaptability issue. Also the family triad with the undercontrolled child may be engaging in psychological reactance as a result of each members' attempts at control. Brehm (1966) stated that when an individual's freedom is threatened, the individual will experience motivation to re-establish that freedom. He suggested that the individual will more likely engage in the threatened behavior. The behaviors rated on the DSC as "control" are those behaviors which would arouse psychological reactance. Also, undercontrolled children are the ones more likely to exert their personal autonomy, i.e., they are selected on that basis. On the other hand, overcontrolled children are less likely to exert their personal autonomy. This creates a situation where their perceived freedoms would not be threatened. Psychological reactance would be less likely to occur here. Therefore, several factors may contribute to the high

level of control behavior by the family triads of under-controlled children. They are selected for this study because of behavioral acting out, and their lack of cooperation with authority extends to the experimental situation. Their similarity to Patterson's "coercive families" suggests the inconsistent use of punishments for these behaviors or negative reinforcement of coercive behaviors. There is greater need for parents to control within the structure for experimental situation than in the less structure environment of home. Such attempts at control may result in psychological reactance on the part of the person whose freedom is threatened, thus further increasing the need for control.

The other results were not significant. The superiority rating is conceptually related to a control strategy and is defined as features which indicate a person's higher status, physical powers, and intellectual ability as being greater than another person's status or skills. Also explicit in this is the other person's inadequacy or inferiority within that communication. The other two behaviors rated on the Defensive and Supportive Communication base coding system were spontaneous problem solving and equality. Spontaneous problem solving was defined as the ability of groups to solve problems and refrain from attack on other personalities. The equality

was defined as communications in which one's status or worth showed little evidence of being important in solving a problem. Neither of these behaviors showed significant results and therefore were not supportive of the hypotheses. It should be mentioned that the Pearson coefficient of interrater agreement for a control behavior was .92 whereas the Pearson coefficient for superiority, problem solving, and equality were much lower.

Adaptability: Guess the Rules

Finally, the Guess the Rules game which was designed by the present author to measure a family's ability to adapt to rule changes in a logical game was not supportive of the hypotheses.

Conclusions

This line of research begins to shed light on the relationship between family interactions and behaviors of children. As mentioned previously, family systems theory as espoused by Haley (1959), Jackson (1957, 1961), Riskin & Faunce (1972), Yalom (1970) and others creates problems for traditional research due to the circular nature of the predictions. Cause and effect relationships become obscure when applied to family systems theory. For example, the relationship between family cohesion and the behavioral symptoms of overcontrolled

children is evident but the direction of causality is not since family members reinforce each other's behaviors. That is, whether the level of cohesion or adaptability causes the under- or overcontrolled behavior of the child or vice-versa is difficult to determine since each family member contributes to the family system and is in turn influenced by that system. The best alternative is the study of the sequential events within the family system.

In this study, cohesive measures were taken on family-triads while isolated from other family members. Also parents were asked to stress their relationship with their "identified-patient" child while completing the FACES self-report measure. Therefore, this study was actually conducted on a family subsystem. Other subsystems can exist within the same family as is evident from the fact that families contain both overcontrolled and undercontrolled children. Also members of one family may have cohesive relationships with each other whereas other members of the same family may be fairly distant and uninvolved. Thes obviously are issues for future research.

Another issue relevant to the interpretation of this research is the nature of cohesion as measured by FACES. Although Olson, et al. (1979) purported to

measure emotional bonding with FACES they may be measuring the overt manifestation of one aspect of emotional bonding which occurs along the continuum: enmeshment-estrangement. It is possible and likely that strong emotional bonding during childhood results in estrangement (low cohesive score on FACES) during adolescence. Again this is an issue for future research.

The significant findings in this study help to further validate Olson's et al. (1979) Circumplex Model of family interactions. The cohesion dimension was most clearly defined empirically. Family triads high on the cohesion dimension were more likely to contain overcontrolled children within that triad. Also they were more likely to exhibit less judgmental behavior and greater empathetic behavior. On the other hand, family triads low on the cohesion dimension were more likely to contain an undercontrolled child within that triad. Also, those triads exhibited greater judgmental behavior and less empathetic behavior.

Data on the adaptability dimension were much more ambiguous than those for cohesion. Only one significant finding was obtained, i.e., family triads with an undercontrolled child exhibited more control behaviors on the DSC than triads with an overcontrolled child.

referral sources the most common symptom constellation of the child is undercontrolled behavior. This behavior tends to inflict discomfort on others whereas overcontrolled behavior does not. It is this discomfort others experience (e.g. school officials, parents, etc.) that induces parents to seek help from a mental health agency.

Regarding intra-agency cooperation, there are many parties within an agency such as Dallas County MHMR which have an interest in any research being conducted. A research committee must determine what ethical concerns there may be; a legal committee must determine agency liability; and the professionals evaluating and treating clients who are subjects in such studies have an interest in the data collected because it may reflect on their clients state of health. Overall, many professionals throughout the agency have expressed their appreciation for the information this study provided.

Unfortunately since no significant difference was found on FACES adaptability scale the significant finding on the DSC does not serve to add empirical validity to FACES adaptability.

Two factors may account for the differences between groups and provide more clarification of the Circumplex Model. As illustrated in the scattergram with DSC control and FACES cohesion (see Figure 3), 16 of the 20 undercontrolled triads are above the median split for DSC control and below the median split for FACES cohesion. The opposite is true for the overcontrolled group. Fourteen of the triads are above the FACES cohesion median split and below the DSC control median split. These two groups tend to cluster at opposite ends of two dimensions. It is likely that in cohesive families there is greater cooperation such that overt methods of control are less frequent even unnecessary. Also, there is a greater tendency for individuals in a cohesive family triad to please each other, thus making overt control less useful. Overcontrolled children contribute to cohesive family functioning by providing interactions that do not elicit hostility or judgmental behavior but do elicit empathy. Conversely, undercontrolled children emit behaviors that are conducive to hostile interactions and elicit control efforts from their parents. These

control efforts are responded to by psychological reactance such that the hostile, judgmental and controlling interactions are escalated.

This obviously leaves issues for future research. For example, it is unknown what symptom constellation is the child would be associated with moderate levels of cohesion and moderate levels of control. Theories derived from the Circumplex Model would suggest that healthy family functioning would occur at these moderate levels. Also, therapy strategies for these different family types and childhood symptoms are unanswered questions. Olson et al. (1979) said that the Circumplex Model helps define areas of dysfunctional family interactions and thereby helps determine treatment goals. For example, a low cohesive family with an undercontrolled child may undergo treatment which results in a higher level of cohesion. Here the treatment goal (higher cohesion) is stated but the treatment strategy is not. Research on such treatment strategies may help refine such constructs.

Conducting this research provided new insights to the author of this study. A greater understanding of the client population was acquired as well as a greater understanding of intra-agency cooperation which was necessary before the study began. Inspite of the diverse

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APPENDIX I

THE CHILD BEHAVIOR CHECK LIST

Department of Health, Education, and Welfare

CHILD BEHAVIOR CHECKLIST - - For ages 4 – 16

CHILD'S AGE	CHILD'S SEX	RACE	PARENT'S TYPE OF WORK *(Please be specific–for example: auto mechanic, high school teacher, homemaker, laborer, lathe operator, shoe salesman, army sergeant, even if parent does not live with child.)*
	☐ Boy ☐ Girl		

THIS FORM FILLED OUT BY:
☐ Mother
☐ Father
☐ Other *(Specify):*

DATE

FATHER'S TYPE OF WORK: _____

MOTHER'S TYPE OF WORK: _____

I. Please list the sports your child most likes to take part in. For example: swimming, baseball, skating, skate boarding, bike riding, fishing, etc.

☐ None

	Compared to other children of the same age, about how much time does he/she spend in each?				Compared to other children of the same age, how well does he/she do each one?			
	Don't Know	Less Than Average	Average	More Than Average	Don't Know	Below Average	Average	Above Average
a. _____	☐	☐	☐	☐	☐	☐	☐	☐
b. _____	☐	☐	☐	☐	☐	☐	☐	☐
c. _____	☐	☐	☐	☐	☐	☐	☐	☐

II. Please list your child's favorite hobbies, activities, and games, other than sports. For example: stamps, dolls, books, piano, crafts, singing, etc. (Do not include T.V.)

☐ None

	Compared to other children of the same age, about how much time does he/she spend in each?				Compared to other children of the same age, how well does he/she do each one?			
	Don't Know	Less Than Average	Average	More Than Average	Don't Know	Below Average	Average	Above Average
a. _____	☐	☐	☐	☐	☐	☐	☐	☐
b. _____	☐	☐	☐	☐	☐	☐	☐	☐
c. _____	☐	☐	☐	☐	☐	☐	☐	☐

III. Please list any organizations, clubs, teams, or groups your child belongs to.

☐ None

	Compared to other children of the same age, how active is he/she in each?			
	Don't Know	Less Active	Average	More Active
a. _____	☐	☐	☐	☐
b. _____	☐	☐	☐	☐
c. _____	☐	☐	☐	☐

IV. Please list any jobs or chores your child has. For example: Paper route, babysitting, making bed, etc.

☐ None

	Compared to other children of the same age, how well does he/she carry them out?			
	Don't Know	Below Average	Average	Above Average
a. _____	☐	☐	☐	☐
b. _____	☐	☐	☐	☐
c. _____	☐	☐	☐	☐

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V. 1. About how many close friends does your child have? ☐ None ☐ 1 ☐ 2 or 3 ☐ 4 or more

2. About how many times a week does your child do things with them? ☐ less than 1 ☐ 1 or 2 ☐ 3 or more

VI. Compared to other children of his/her age, how well does your child:

	Worse	About the same	Better
a. Get along with his/her brothers & sisters?	☐	☐	☐
b. Get along with other children?	☐	☐	☐
c. Behave with his/her parents?	☐	☐	☐
d. Play and work by himself/herself?	☐	☐	☐

VII. 1. Current school performance—for children aged 6 and older:

☐ Does not go to school

	Failing	Below average	Average	Above average
a. Reading or English	☐	☐	☐	☐
b. Writing	☐	☐	☐	☐
c. Arithmetic or Math	☐	☐	☐	☐
d. Spelling	☐	☐	☐	☐
Other academic subjects: e. _____ (for example: history, science, foreign language, geography).	☐	☐	☐	☐
f. _____	☐	☐	☐	☐
g. _____	☐	☐	☐	☐

2. Is your child in a special class?

☐ No ☐ Yes—what kind?

3. Has your child ever repeated a grade?

☐ No ☐ Yes—grade and reason

4. Please describe any academic or other problems your child has had in school.

☐ None

III. Below is a list of items that describe children. For each item that describes your child *now* or *within the past 12 months*, please circle the *2* if the item is *very true* or *often true* of your child. Circle the *1* if the item is *somewhat* or *sometimes true* of your child. If the item is *not true* of your child, circle the *0*.

0	1	2	1.	Acts too young for his/her age
0	1	2	2.	Allergy (describe): _____
				_____
0	1	2	3.	Argues a lot
0	1	2	4.	Asthma
0	1	2	5.	Behaves like opposite sex
0	1	2	6.	Bowel movements outside toilet
0	1	2	7.	Bragging, boasting
0	1	2	8.	Can't concentrate, can't pay attention for long
0	1	2	9.	Can't get his/her mind off certain thoughts; obsessions (describe): _____
				_____
0	1	2	10.	Can't sit still, restless, or hyperactive
0	1	2	11.	Clings to adults or too dependent
0	1	2	12.	Complains of loneliness
0	1	2	13.	Confused or seems to be in a fog
0	1	2	14.	Cries a lot
0	1	2	15.	Cruel to animals
0	1	2	16.	Cruelty, bullying, or meanness to others
0	1	2	17.	Day-dreams or gets lost in his/her thoughts
0	1	2	18.	Deliberately harms self or attempts suicide
0	1	2	19.	Demands a lot of attention
0	1	2	20.	Destroys his/her own things
0	1	2	21.	Destroys things belonging to his/her family or other children
0	1	2	22.	Disobedient at home
0	1	2	23.	Disobedient at school
0	1	2	24.	Doesn't eat well
0	1	2	25.	Doesn't get along with other children
0	1	2	26.	Doesn't seem to feel guilty after misbehaving
0	1	2	27.	Easily jealous
0	1	2	28.	Eats or drinks things that are not food (describe): _____
				_____
0	1	2	29.	Fears certain animals, situations, or places, other than school (describe): _____
				_____
0	1	2	30.	Fears going to school
0	1	2	31.	Fears he/she might think or do something bad
0	1	2	32.	Feels he/she has to be perfect
0	1	2	33.	Feels or complains that no one loves him/her
0	1	2	34.	Feels others are out to get him/her
0	1	2	35.	Feels worthless or inferior
0	1	2	36.	Gets hurt a lot, accident-prone
0	1	2	37.	Gets in many fights
0	1	2	38.	Gets teased a lot
0	1	2	39.	Hangs around with children who get in trouble
0	1	2	40.	Hears things that aren't there (describe): _____
				_____
0	1	2	41.	Impulsive or acts without thinking
0	1	2	42.	Likes to be alone
0	1	2	43.	Lying or cheating
0	1	2	44.	Bites fingernails
0	1	2	45.	Nervous, highstrung, or tense
0	1	2	46.	Nervous movements or twitching (describe): _____
				_____
0	1	2	47.	Nightmares
0	1	2	48.	Not liked by other children
0	1	2	49.	Constipated, doesn't move bowels
0	1	2	50.	Too fearful or anxious
0	1	2	51.	Feels dizzy
0	1	2	52.	Feels too guilty
0	1	2	53.	Overeating
0	1	2	54.	Overtired
0	1	2	55.	Overweight
			56.	Physical problems without known medical cause:
0	1	2		a. Aches or pains
0	1	2		b. Headaches
0	1	2		c. Nausea, feels sick
0	1	2		d. Problems with eyes (describe): _____
0	1	2		e. Rashes or other skin problems
0	1	2		f. Stomachaches or cramps
0	1	2		g. Vomiting, throwing up
0	1	2		h. Other (describe): _____

Please see other side

0	1	2	57.	Physically attacks people	0	1	2	84. Strange behavior (describe): _____
0	1	2	58.	Picks nose, skin, or other parts of body (describe): _____				_____
				_____	0	1	2	85. Strange ideas (describe):
								_____
0	1	2	59.	Plays with own sex parts in public				
0	1	2	60.	Plays with own sex parts too much	0	1	2	86. Stubborn, sullen, or irritable
0	1	2	61.	Poor school work	0	1	2	87. Sudden changes in mood or feelings
0	1	2	62.	Poorly coordinated or clumsy	0	1	2	88. Sulks a lot
0	1	2	63.	Prefers playing with older children	0	1	2	89. Suspicious
0	1	2	64.	Prefers playing with younger children	0	1	2	90. Swearing or obscene language
0	1	2	65.	Refuses to talk	0	1	2	91. Talks about killing self
0	1	2	66.	Repeats certain acts over and over; compulsions (describe): _____	0	1	2	92. Talks or walks in sleep (describe):
				_____				_____
					0	1	2	93. Talks too much
0	1	2	67.	Runs away from home	0	1	2	94. Teases a lot
0	1	2	68.	Screams a lot				
					0	1	2	95. Temper tantrums or hot temper
0	1	2	69.	Secretive, keeps things to self	0	1	2	96. Thinks about sex too much
0	1	2	70.	Sees things that aren't there (describe):				
					0	1	2	97. Threatens people
				_____	0	1	2	98. Thumb-sucking
				_____	0	1	2	99. Too concerned with neatness or cleanliness
					0	1	2	100. Trouble sleeping (describe):
0	1	2	71.	Self-conscious or easily embarrassed				
0	1	2	72.	Sets fires				_____
0	1	2	73.	Sexual problems (describe):	0	1	2	101. Truancy, skips school
					0	1	2	102. Underactive, slow moving, or lacks energy
				_____	0	1	2	103. Unhappy, sad, or depressed
				_____	0	1	2	104. Unusually loud
0	1	2	74.	Showing off or clowning				
					0	1	2	105. Uses alcohol or drugs (describe):
0	1	2	75.	Shy or timid				
0	1	2	76.	Sleeps less than most children				_____
					0	1	2	106. Vandalism
0	1	2	77.	Sleeps more than most children during day and/or night (describe): _____	0	1	2	107. Wets self during the day
					0	1	2	108. Wets the bed
				_____				
0	1	2	78.	Smears or plays with bowel movements	0	1	2	109. Whining
					0	1	2	110. Wishes to be of opposite sex
0	1	2	79.	Speech problem (describe): _____				
					0	1	2	111. Withdrawn, doesn't get involved with others
				_____	0	1	2	112. Worrying
0	1	2	80.	Stares blankly				
								113. Please write in any problems your child has that were not listed above:
0	1	2	81.	Steals at home				
0	1	2	82.	Steals outside the home	0	1	2	_____
0	1	2	83.	Stores up things he/she doesn't need (describe):	0	1	2	_____
				_____	0	1	2	_____

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PLEASE BE SURE YOU HAVE ANSWERED ALL ITEMS

THE CHILD BEHAVIOR CHECKLIST AND CHILD BEHAVIOR PROFILE

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The Child Behavior Checklist is designed to record in a standardized format the behavioral problems and competencies of children aged 4 through 16, as reported by their parents or parent-surrogates. The Checklist can be self-administered or administered by an interviewer. It can also be readministered in order to assess changes in reported behavior over time or following treatment. If it is to be readministered after less than 12 months, the instructions to the respondent on page 3 of the Checklist should be changed to specify the shorter period on which the ratings are to be based.

Responses to the Checklist are scored on the social competence and behavior problem scales of the Child Behavior Profile. Separate editions of the Profile have been standardized for each sex at ages 6-11 and 12-16, and for boys aged 4-5. The behavior problem scales have been derived through factor analysis of Checklists filled out by parents of children referred for mental health services. Norms for the scales of each edition are based on the Checklist responses of randomly selected parents of normal (nonreferred) children.

The Profile can be scored using either a computer program or handscoring forms. The program and the handscoring forms, plus instructions and scoring templates, are available without charge from the author at the above address, or phone . Limited quantities of the Checklist are also available without charge, and users are permitted to duplicate the Checklist if they wish. However, the Checklist should not be used in altered form without permission from the author. Please send reports of use and findings to the author at the above address. Until we have standardized the Profile for girls aged 4-5, we would appreciate receiving Checklists filled out for clinically-referred girls of this age. We will return a Profile scored from each Checklist after we complete standardization. Each Checklist should bear a case number (no names) that we will then place on the Profile which we return to the sender.

References

Achenbach, T.M. The Child Behavior Profile: I. Boys aged 6-11. Journal of Consulting and Clinical Psychology, 1978, 46, 478-488.

Achenbach, T.M., & Edelbrock, C.S. The Child Behavior Profile: II. Boys aged 12-16 and girls aged 6-11 and 12-16. Journal of Consulting and Clinical Psychology, 1979, 47, 223-233.

Achenbach, T.M. The Child Behavior Profile: An empirically based system for assessing children's behavioral problems and competencies. International Journal of Mental Health, 1979, 7, 24-42.

Edelbrock, C.S., & Achenbach, T.M. Child Behavior Profile patterns of children referred for clinical services. Paper presented at the American Psychological Association, Toronto, August, 1978.

Achenbach, T.M., & Edelbrock, C.S. The classification of child psychopathology: A review and analysis of empirical efforts. Psychological Bulletin, 1978, 85, 1275-1301.

INSTRUCTIONS FOR HAND SCORING THE CHILD BEHAVIOR PROFILE

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The Profile portrays patterns of behavioral competencies and problems scored from the Child Behavior Checklist. It can also be used to assess changes in reported behavior over time.

The Profile consists of social competence scales and behavior problem scales. The behavior problem scales have been derived through factor analysis of Checklists filled out by parents of children being evaluated in mental health settings. Each scale has been given a descriptive label, but diagnostic decisions should be based on the child's entire behavior pattern and history rather than on scores for individual scales. Second-order factor analysis has shown that the behavior problem scales form two broad-band groupings, which have been labeled Internalizing and Externalizing.

Profiles are standardized separately for each sex at ages 4-5, 6-11, and 12-16 years. Percentiles shown to the left of the Profile and normalized T scores (standard scores with mean = 50, standard deviation = 10) shown to the right of the Profile are based on normal children.

Instructions for hand scoring the Profile appear on the following pages. Templates are availablefor scoring the behavior problems appearing on pages 3 and 4 of the Checklist. Be certain to use a Profile scoring form and templates appropriate for the age and sex of the child whose Checklist is being scored.

Further information on the Profile and computer scoring programs are available from the author at the above address, or call . Suggestions for improving the Profile are welcome.

References

Achenbach, T.M. The Child Behavior Profile: I. Boys aged 6-11. Journal of Consulting and Clinical Psychology, 1978, 46, 478-488.

Achenbach, T.M., & Edelbrock, C.S. The Child Behavior Profile: II. Boys aged 12-16 and girls aged 6-11 and 12-16. Journal of Consulting and Clinical Psychology, 1979, 47, 223-233.

Achenbach, T.M. The Child Behavior Profile: An empirically based system for assessing children's behavioral problems and competencies. International Journal of Mental Health, 1979, 7, 24-42.

Edelbrock, C. S., & Achenbach, T. M. Child Behavior Profile patterns of children referred for clinical services. Paper presented at the American Psychological Association, Toronto, August, 1978.

Scoring the Social Competence Scales

ACTIVITIES SCALE--Do not score if data are missing for more than 1 of the 6 scores indicated beside the Roman numerals below. The Roman numerals correspond to those on pages 1 and 2 of the Checklist and on the Profile scoring form.

I-A. # of sports. If parent reports 0 or 1 sport--enter 0 on Profile
2 sports--enter 1
3 or more sports--enter 2

I-B. Mean of participation & skill in sports. If parent reported no sports, enter 0.
For each response of "less than average" or "below average"--score 0
"average"--score 1
"more than average" or "above average"--score 2

Excluding blanks and "don't know" responses, compute the mean of these scores by summing them and dividing by the number of scores you have summed. Enter this mean on the Profile.

II-A. # of nonsports activities. If parent reports 0 or 1 activity--enter 0 on Profil
2 activities--enter 1
3 or more activities--enter 2

Do not count watching tv, goofing off, or the like as activities.

II-B. Mean of participation & skill in activities. Compute in the same way as specified in I-B for sports.

IV-A. # of jobs. If parent reports 0 or 1 job--enter 0 on Profile
2 jobs--enter 1
3 or more jobs--enter 2

IV-B. Mean job quality. Compute as specified in I-B.

Total score for Activities Scale. Sum the 6 scores just entered. If missing data prevent computation of 1 score, substitute the mean of the other 5 for the missing score in computing the total.

SOCIAL SCALE--Do not score if data are missing for more than 1 of the 6 scores.

III-A. # of organizations. If parent reports 0 or 1--enter 0 on Profile
2--enter 1
3 or more--enter 2

III-B. Mean of participation in organizations. Compute as specified in I-B.

V-1. # of friends. If parent reports 0 or 1--enter 0 on Profile
2 or 3--enter 1
4 or more--enter 2

V-2. Contacts with friends. If parent reports "less than 1"--enter 0 on Profile
"1 or 2"--enter 1
"3 or more"--enter 2

VI-A. Behavior with others. For each of the first three items (items a, b, & c), if the parent checks "worse"--score 0
"about the same"--score 1
"better"--score 2

Excluding any items for which the parent did not check a box, compute the mean of these scores and enter it on the Profile.

SOCIAL SCALE (cont.)

VI-B. Play/work by self. (Item d) If the parent checks "worse"--enter 0 on Profile
"about the same"--enter 1
"better"--enter 2

Total score for Social Scale. Sum the 6 scores just entered. If missing data prevent computation of 1 score, substitute the mean of the other 5 for the missing score in computing the total.

SCHOOL SCALE--Do not score if the child is below age 6, not in school, or if data are missing for any of the 4 scores.

VII-1. Mean performance. For each academic subject checked "failing"--score 0
"below average"--score 1
"average"--score 2
"above average"--score 3
Enter the mean of these scores on the Profile. (Academic subjects include reading, writing, arithmetic, spelling, science, English, foreign language, history, social studies; do not count physical education, art, music, home economics, driver education, industrial arts or the like.)

VIII-2. Special class. For any type of remedial special class (for retarded, emotionally disturbed, learning disabled, perceptual-motor handicapped, reading readiness, etc.)--enter 0 on Profile
not in remedial class--enter 1

VIII-3. Repeated grade. If any grades were repeated--enter 0 on Profile
no grades repeated--enter 1

VIII-4. School problems. If any school problem is stated that was not already scored above--enter 0 on Profile
no problem beside those scored above--enter 1

Total score for School Scale. Sum the 4 scores just entered, unless 1 or more is missing.

Optional. A total social competence score can be obtained by summing the totals of the 3 scales and entering the sum to the right of the Profile.

Scoring the Behavior Problems Scales

Do not score if data are missing for more than 8 items, not counting #56h and 113.

1. Item scores. Place the Page 3 template for a child of this age and sex over Page 3 of the Checklist. The Roman numeral(s) and letter(s) beside each item number indicate the scale(s) on which the item is scored. If the parent circled 1 or 2 beside an item, enter the 1 or 2 on the appropriate scale(s) of the Profile. Repeat using the Page 4 template on Page 4. Comments written by the parent should be used in judging whether items deserve to be scored, with the following guidelines:

a. For extreme behaviors (e.g., sets fires, runs away, attempts suicide)--if parent notes that it happened once but circles 0 or leaves it blank, score 1 unless it clearly happened more than 12 months earlier.

BEHAVIOR PROBLEM SCALES (cont.)

b. For items on which parent notes "used to do this," score as the parent scored it, unless it clearly occurred more than 12 months earlier, in which case score 0.

c. When in doubt, score item the way the parent scored it, with these exceptions:

item 9, obsessions--exclude anything that is clearly not obsessional; e.g., do not score "won't take no for an answer."

item 28, eats or drinks things that are not food--do not score sweets & junk food

item 46, nervous movements--if "can't sit still" or anything entirely covered by item 10 is entered here, score only item 10.

item 56d, problems with eyes--do not score "wears glasses," "near-sighted," and other ordinary visual problems having an organic basis.

item 66, compulsions--do not score noncompulsive behavior; e.g., "keeps hitting brother."

item 72, sets fires--score playing with matches or lighter.

item 77, sleeps more than most--do not score "wants to stay in bed," but score difficulties in waking child.

item 84, strange behavior & 85, strange ideas--if what the parent describes is specifically covered by another item, score the more specific item instead.

item 105, alcohol or drugs--do not score tobacco or medication.

item 113, additional problems--score only if not specifically covered by another item.

2. Scale scores. To obtain the total raw score for the behavior problem scales, Internalizing, and Externalizing, sum the 1's and 2's you have entered for each scale.

Optional: # of items and sum of items. To compute the number of items scored as present, count the number of items scored 1 or 2 on the Checklist and enter this number to the right of the Profile. To compute the sum of 1's and 2's, sum them on the Checklist and enter the sum to the right of the Profile. These figures can be cross checked by subtracting the number of items from the sum of 1's and 2's. The difference should equal the number of 2's. (The number and sum of items can not be computed by adding scale totals, because some items appear on more than one scale.)

Graphic Display and T Scores

1. To complete the graphic display for the social competence and behavior problem scales, make an X on the number above each scale that equals the total score obtained for that scale. The social competence scale totals should be rounded to the nearest .5. When X's have been entered for all scales, connect the Xs.

Percentiles based on normal children can be read from the left side of the graphic display. Normalized T scores (mean = 50, standard deviation = 10) can be read from the right side.

2. Normalized T scores for Internalizing and Externalizing are listed in the box to the right of the Behavior Problems Profile. Under the heading "Total" find the total you have obtained. The score to the right of that number is the T score.

3. Normalized T scores for total social competence score and total behavior problem score (sum of 1s and 2s) are listed on pp. 5-10 of these Instructions.

T Scores for Total Social Competence and Behavior Problem Scores on the Child Behavior Checklist for Boys Aged 4-5

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Social Competence		Behavior Problems			
T	Raw Score	T	Raw Score	T	Raw Score
10	0	30	0	77	88-90
12	.5	31	1	78	91-94
13	1.0	32	2	79	95-97
15	1.5	33	3	80	98-101
16	2.0	34	4-5	81	102-104
18	2.5	35	6	82	105-108
19	3.0	36	7	83	109-111
21	3.5	39	8	84	112-115
22	4.0	41	9-11	85	116-118
24	4.5	42	12	86	119-122
25	5.0	43	13	87	123-125
27	5.5	44	14	88	126-129
28	6.0	45	15-16	89	130-132
30	6.5	46	17	90	133-240
31	7.0	47	18		
33	7.5	48	19		
34	8.0	49	20		
36	8.5	50	21		
37	9.0	51	22		
38	9.5	52	23		
40	10.0	53	24-26		
41	10.5	54	27-28		
44	11.0	55	29		
46	11.5	56	30		
48	12.0	57	31-32		
50	12.5	58	33-34		
52	13.0	59	35		
53	13.5	60	36		
55	14.0	61	37		
57	14.5	62	38-41		
60	15.0	63	42		
62	15.5	64	43-45		
63	16.0	65	46-49		
65	16.5	66	50-52		
68	17.0	67	53-56		
70	17.5	68	57-59		
73	18.0	69	60-63		
74	18.5-19.0	70	64-66		
75	19.5-20.0	71	67-70		
76	20.5-21.0	72	71-73		
77	21.5	73	74-77		
78	22.0-22.5	74	78-80		
79	23.0-23.5	75	81-84		
80	24.0	76	85-87		

T Scores for Total Social Competence and Behavior Problem Scores on the Child Behavior Checklist for Boys Aged 6-11

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Social Competence				Behavior Problems			
T	Raw Score	T	Raw Score	T	Raw Score	T	Raw Score
10	0	62	23.5	30	0-1	77	83-85
11	.5	64	24.0	32	2	78	86-88
12	1	66	24.5	34	3	79	89-91
13	1.5-2.0	69	25.0	36	4	80	92-94
14	2.5	71	25.5	38	5	81	95-98
15	3.0	72	26.0	39	6	82	99-101
16	3.5	73	26.5	40	7	83	102-104
17	4.0	75	27.0	41	8	84	105-107
18	4.5	77	27.5	42	9	85	108-110
19	5.0	78	28.0-28.5	43	10	86	111-114
20	5.5-6.0	79	29.0-29.5	44	11	87	115-117
21	6.5	80	30.0	45	12	88	118-120
22	7.0			46	13	89	121-123
23	7.5			47	14	90	124-240
24	8.0			48	15-16		
25	8.5			49	17		
26	9.0			50	18		
27	9.5-10.0			51	19		
28	10.5			52	20-21		
29	11.0			53	22-24		
30	11.5			54	25		
31	12.0			55	26-27		
32	12.5			56	28		
33	13.0-13.5			57	29-30		
34	14.0			58	31-32		
35	14.5			59	33-34		
36	15.0			60	35		
37	15.5			61	36-38		
39	16.0			62	39		
40	16.5			63	40		
41	17.0			64	41-43		
42	17.5			65	44-46		
44	18.0			66	47-50		
45	18.5			67	51-53		
47	19.0			68	54-56		
48	19.5			69	57-59		
50	20.0			70	60-62		
52	20.5			71	63-66		
53	21.0			72	67-69		
54	21.5			73	70-72		
56	22.0			74	73-75		
58	22.5			75	76-78		
60	23.0			76	79-82		

T Scores for Total Social Competence and Behavior Problem Scores on the Child Behavior Checklist for Boys Aged 12-16

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Social Competence				Behavior Problems			
T	Raw Score	T	Raw Score	T	Raw Score	T	Raw Score
10	0	61	24.0	30	0	82	94-96
11	.5	62	24.5-25.0	33	1	83	97-99
12	1.0	66	25.5	37	2	84	100-102
13	1.5-2.0	68	26.0	39	3	85	103-105
14	2.5	70	26.5	41	4	86	106-108
15	3.0	71	27.0	43	5	87	109-111
16	3.5	77	27.5	44	6	88	112-114
17	4.0	78	28.0-28.5	45	7	89	115-117
18	4.5	79	29.0-29.5	46	8	90	118-240
19	5.0	80	30.0	47	9		
20	5.5-6.0			48	10		
21	6.5			49	11		
22	7.0			50	12-13		
23	7.5			51	14-15		
24	8.0			52	16		
25	8.5			53	17		
26	9.0			54	18		
27	9.5-10.0			55	19-20		
28	10.5			56	21-22		
29	11.0			57	23		
30	11.5			58	24-25		
31	12.0			59	26-27		
32	12.5			60	28-30		
33	13.0-13.5			61	31-33		
34	14.0			62	34-37		
35	14.5			63	38		
36	15.0			64	39-41		
37	15.5			65	42-44		
38	16.0			66	45-47		
39	16.5			67	48-50		
40	17.0			68	51-53		
42	17.5			69	54-56		
43	18.0			70	57-59		
44	18.5			71	60-62		
45	19.0			72	63-65		
47	19.5			73	66-68		
48	20.0			74	69-71		
49	20.5			75	72-74		
51	21.0			76	75-78		
53	21.5			77	79-81		
54	22.0			78	82-84		
55	22.5			79	85-87		
57	23.0			80	88-90		
60	23.5			81	91-93		

T Scores for Total Social Competence and Behavior Problem Scores on the Child Behavior Checklist for Girls Aged 4-5

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Social Competence				Behavior Problems			
T	Raw Score	T	Raw Score	T	Raw Score	T	Raw Score
10	0	78	22.5	30	0-2	78	81-83
11	.5	79	23.0-23.5	33	3	79	84-85
13	1.0	80	24.0	34	4	80	86-88
14	1.5			35	5	81	89-90
16	2.0			37	6	82	91-93
17	2.5			39	7	83	94-95
19	3.0			41	8-9	84	96-98
20	3.5			42	10	85	99-100
21	4.0			43	11	86	101-103
23	4.5			44	12	87	104-105
24	5.0			45	13-15	88	106-108
26	5.5			46	16	89	109-110
27	6.0			47	17	90	111-240
28	6.5			48	18-19		
30	7.0			49	20-22		
31	7.5			50	23		
33	8.0			51	24		
34	8.5			52	25-26		
36	9.0			53	27-28		
37	9.5			54	29-30		
39	10.0			55	31		
40	10.5			56	32		
42	11.0			57	33		
44	11.5			58	34		
46	12.0			59	35		
47	12.5			60	36-40		
49	13.0			61	41		
50	13.5			62	42-45		
52	14.0			63	46		
54	14.5			64	47-48		
56	15.0			65	49-51		
58	15.5			66	52-53		
60	16.0			67	54-56		
61	16.5			68	57-58		
63	17.0			69	59-61		
65	17.5			70	62-63		
68	18.0			71	64-66		
71	18.5			72	67-68		
73	19.0			73	69-71		
74	19.5-20.0			74	72-73		
75	20.5			75	74-76		
76	21.0			76	77-78		
77	21.5-22.0			77	79-80		

T Scores for Total Social Competence and Behavior Problem Scores on the Child Behavior Checklist for Girls Aged 6-11

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Social Competence				Behavior Problems			
T	Raw Score	T	Raw Score	T	Raw Score	T	Raw Score
10	0	62	24.0	30	0	79	92-94
11	.5	63	24.5	32	1.	80	95-98
12	1.0	64	25.0	35	2	81	99-101
13	1.5-2.0	67	25.5	36	3	82	102-105
14	2.5	70	26.0	38	4	83	106-109
15	3.0	71	26.5	40	5	84	110-112
16	3.5	75	27.0	41	6	85	113-116
17	4.0	77	27.5	43	7-8	86	117-119
18	4.5-5.0	78	28.0-28.5	44	9	87	120-123
19	5.5	79	29.0-29.5	45	10	88	124-127
20	6.0	80	30.0	46	11-12	89	128-130
21	6.5			47	13-14	90	131-240
22	7.0			48	15		
23	7.5-8.0			49	16		
24	8.5			50	17-18		
25	9.0			51	19		
26	9.5			52	20		
27	10.0			53	21		
28	10.5-11.0			54	22-23		
29	11.5			55	24		
30	12.0			56	25-26		
31	12.5			57	27		
32	13.0			58	28-29		
33	13.5			59	30-32		
34	14.0-14.5			60	33		
35	15.0			61	34-35		
36	15.5			62	36		
37	16.0			63	37		
39	16.5			64	38-41		
40	17.0			65	42-44		
42	17.5			66	45-48		
43	18.0			67	49-51		
44	18.5			68	52-55		
46	19.0			69	56-58		
47	19.5			70	59-62		
49	20.0			71	63-66		
51	20.5			72	67-69		
52	21.0			73	70-73		
55	21.5			74	74-76		
56	22.0			75	77-80		
58	22.5			76	81-84		
59	23.0			77	85-87		
61	23.5			78	88-91		

T Scores for Total Social Competence and Behavior Problem Scores on the Child Behavior Checklist for Girls Aged 12-16

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Social Competence				Behavior Problems			
T	Raw Score	T	Raw Score	T	Raw Score	T	Raw Score
10	0	62	24.5	30	0	83	101-103
11	.5	63	25.0	33	1	84	104-107
12	1.0	65	25.5	35	2	85	108-110
13	1.5-2.0	68	26.0	38	3	86	111-113
14	2.5	69	26.5	40	4	87	114-116
15	3.0	72	27.0	41	5	88	117-120
16	3.5	77	27.5	43	6	89	121-123
17	4.0	78	28.0-28.5	44	7	90	124-240
18	4.5-5.0	79	29.0-29.5	46	8		
19	5.5	80	30.0	47	9		
20	6.0			48	10		
21	6.5			49	11		
22	7.0			50	12		
23	7.5-8.0			51	13		
24	8.5			52	14-15		
25	9.0			54	16-17		
26	9.5			55	18-19		
27	10.0			56	20-21		
28	10.5-11.0			57	22-24		
29	11.5			58	25		
30	12.0			59	26-27		
31	12.5			60	28-29		
32	13.0			61	30-31		
33	13.5			62	32-33		
34	14.0-14.5			63	34-37		
35	15.0			64	38-40		
36	15.5			65	41-44		
37	16.0			66	45-47		
38	16.5			67	48-50		
40	17.0			68	51-54		
41	17.5			69	55-57		
43	18.0			70	58-60		
44	18.5			71	61-63		
45	19.0			72	64-67		
47	19.5			73	68-70		
48	20.0			74	71-73		
49	20.5			75	74-77		
51	21.0			76	78-80		
52	21.5			77	81-83		
54	22.0			78	84-87		
55	22.5			79	88-90		
57	23.0			80	91-93		
58	23.5			81	94-97		
59	24.0			82	98-100		

APPENDIX II

FAMILY ADAPTABILITY AND COHESION EVALUATION SCALE

FACES

4 = true all the time
3 = true most of the time
2 = true some of the time
1 = true none of the time

1. Family members are concerned with each other's welfare.
2. Family members feel free to say what's on their mind.
3. We don't have spur of the moment guests at mealtime.
4. It is hard to know who the leader is in our family.
5. It's difficult for family members to take time away from the family.
6. Family members are afraid to tell the truth because of how harsh the punishment will be.
7. Most personal friends are not family friends.
8. Family members talk a lot but nothing ever gets done.
9. Family members feel guilty if they want to spend some time alone.
10. There are times when other family members do things that make me unhappy.
11. In our family we know where all family members are at all times.
12. Family members have some say in what is required of them.
13. The parents in our family stick together.
14. I have some needs that are not being met by family members.
15. Family members make the rules together.
16. It seems like there is never any place to be alone in our house.
17. It is difficult to keep track of what other family members are doing.
18. Family members do not check with each other when making decisions.
19. My family completely understands and sympathizes with my every mood.
20. Family ties are more important to us than any friendship could possibly be.
21. When our family has an argument, family members just keep to themselves.
22. Family members often answer questions that were addressed to another person.
23. The parents check with the children before making important decisions in our family.
24. Family members like to spend some of their free time with each other.
25. Punishment is usually pretty fair in our family.
26. Family members are encouraged to have friends of their own as well as family friends.

7/78

FACES

4 = true all the time 2 = true some of the time
3 = true most of the time 1 = true none of the time

27. Family members discuss problems and usually feel good about the solutions.

28. Family members share almost all interests and hobbies with each other.

29. Our family is not a perfect success.

30. Family members are extremely independent.

31. No one in our family seems to be able to keep track of what their duties are.

32. Family members feel it's "everyone for themselves."

33. Every new thing I've learned about my family has pleased me.

34. Our family has a rule for almost every possible situation.

35. We respect each other's privacy.

36. Once our family has planned to do something, it's difficult to change it.

37. In our family we are on our own when there is a problem to solve.

38. I have never regretted being with my family, not even for a moment.

39. Family members do not turn to each other when they need help.

40. It is hard to know what other family members are thinking.

41. Family members make visitors feel at home.

42. Parents make all of the important decisions in our family.

43. Even when everyone is home, family members spend their time separately.

44. Parents and children in our family discuss together the method of punishment.

45. Family members have little need for friends because the family is so close.

46. We feel good about our ability to solve problems.

47. Although family members have individual interests, they still participate in family activities.

48. My family has all the qualities I've always wanted in a family.

49. Family members are totally on their own in developing their ideas.

50. Once a task is assigned to a family member, there is no chance of changing it.

51. Family members seldom take sides against other members.

52. There are times when I do not feel a great deal of love and affection for my family.

53. When rules are broken, family members are treated fairly.

FACES

4 = true all the time	2 = true some of the time
3 = true most of the time	1 = true none of the time

54. Family members don't enter each other's areas or activities.

55. Family members encourage each other's efforts to find new ways of doing things.

56. Family members discuss important decisions with each other, but usually make their own choices.

57. If I could be a part of any family in the world, I could not have a better match.

58. Home is one of the loneliest places to be.

59. In our family, it's important for everyone to express their opinion.

60. Family members find it easier to discuss things with persons outside the family.

61. There is no leadership in our family.

62. We try to plan some things during the week so we can all be together.

63. Family members are not punished or reprimanded when they do something wrong.

64. In our family we know each other's close friends.

65. Our family does not discuss its problems.

66. Our family doesn't do things together.

67. If my family has any faults, I am not aware of them.

68. Family members enjoy doing things alone as well as together.

69. In our family, everyone shares responsibilities.

70. Parents agree on how to handle the children.

71. I don't think anyone could possibly be happier than my family and I when we are together.

72. It is unclear what will happen when rules are broken in our family.

73. When a bedroom door is shut, family members will knock before entering.

74. If one way doesn't work in our family, we try another.

75. Family members are expected to have the approval of others before making decisions.

76. Family members are totally involved in each other's lives.

77. Family members speak their mind without considering how it will affect others.

78. Family members feel comfortable inviting their friends along on family activities.

FACES

4 = true all the time 2 = true some of the time
3 = true most of the time 1 = true none of the time

79. Each family member has at least some say in major family decisions.

80. Family members feel pressured to spend most free time together.

81. Members of our family can get away with almost anything.

82. Family members share the same friends.

83. When trying to solve problems, family members jump from one attempted solution to another without giving any of them time to work.

84. We have difficulty thinking of things to do as a family.

85. Family members understand each other completely.

86. It seems as if we agree on everything.

87. It seems as if males and females never do the same chores in our family.

88. Family members know who will agree and who will disagree with them on most family matters.

89. My family could be happier than it is.

90. There is strict punishment for breaking rules in our family.

91. Family members seem to avoid contact with each other when at home.

92. For no apparent reason, family members seem to change their minds.

93. We decide together on family matters and separately on personal matters.

94. Our family has a balance of closeness and separateness.

95. Family members rarely say what they want.

96. It seems there are always people around home who are not members of the family.

97. Certain family members order everyone else around.

98. It seems as if family members can never find time to be together.

99. Family members are severely punished for anything they do wrong.

100. We know very little about the friends of other family members.

101. Family members feel they have no say in solving problems.

102. Members of our family share many interests.

103. Our family is as well adjusted as any family in this world can be.

104. Family members are encouraged to do their own thing.

105. Family members never know how others are going to act.

106. Certain individuals seem to cause most of our family problems.

FACES

4 = true all the time 2 = true some of the time

3 = true most of the time 1 = true none of the time

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107. I don't think any family could live together with greater harmony than my family.

108. It is hard to know what the rules are in our family because they always change.

109. Family members find it hard to get away from each other.

110. Family members feel that the family will never change.

111. Family members feel they have to go along with what the family decides to do.

FACTOR ANALYSIS OF THE INITIAL FACES ITEMS

COHESION FACTORS	EIGEN VALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT
1	17.39388	33.7	33.7
2	7.28347	14.1	47.8
3	5.71808	11.1	58.9
4	2.37757	4.6	63.5
5	1.83582	3.6	67.0
6	1.58772	3.1	70.1
7	1.46073	2.8	73.0
8	1.35498	2.6	75.6
9	1.25434	2.4	78.0
10.	1.10955	2.1	80.2
11.	1.00734	2.0	82.1

ADAPTABILITY FACTORS	EIGEN VALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT
1	36.72044	58.5	58.5
2	12.63027	20.1	78.6
3	3.53119	5.6	84.2
4	1.71340	2.7	86.9
5	1.57467	2.5	89.4
6	1.21062	1.9	91.4

F A C E S

COHESION DIMENSION SUMMARY

CONCEPT	ITEM	COUNSELOR RATING MEAN	S.D.	Mode	FACTOR LOADING & Number	
EMOTIONAL BONDING						
Enmeshed						
76	Family members are totally involved in each other's lives.	8.743	.561	9.	.36110	(2)
20	Family ties are more important to us than any friendship could possibly be.	7.829	.951	8.	.36789	(2)
Moderate						
1	Family members are concerned with each other's welfare.	5.771	1.031	5.	.54934	(4)
94.	Our family has a balance of closeness & separateness.	5.029	.382	5.	.66482	(4)
Disengaged						
39.	Family members do not turn to each other when they need help.	1.857	.692	2.	.47981	(1)
58.	Home is one of the loneliest places to be.	1.152	.442	1.	.55776	(1)
INDEPENDENCE						
Enmeshed						
86.	It seems as if we agree on everything.	8.371	.690	9.	.30584	(2)
11.	In our family, we know where all family members are at all times.	8.314	.631	8.	.33025	(2)
Moderate						
104.	Family members are encouraged to do their own thing.	4.2	1.023	5.	.30378	(4)
68.	Family members enjoy doing things alone as well as together.	5.	.485	5.	.57692	(4)
Disengaged						
49.	Family members are totally on their own in developing ideas.	1.914	.781	2.	.47221	(1)
30.	Family members are extremely independent.	2.514	1.067	3.	.36208	(1)

FACES — Cohesion

CONCEPT / ITEM	COUNSELOR RATING X	SD	Mode	FACTOR LOADING & Number
FAMILY BOUNDARIES				
Enmeshed				
3. We don't have spur of the moment guests at mealtime.	6.667	1.373	7.	.42243 (1)
22. Family members often answer questions that were addressed to another person.	7.8	.868	8.	.27389 (1)
Moderate				
78. Family members feel comfortable inviting their friends along on family activities.	4.943	.684	5.	.27813 (4)
41. Family members make visitors feel at home.	5.265	.864	5.	.33575 (4)
Disengaged				
60. Family members find it easier to discuss things with persons outside the family.	2.618	.817	2.	.49727 (1)
96. It seems there are always people around home who are not members of the family.	3.588	1.328	4.	.21528 (2)
COALITIONS				
Enmeshed				
88. Family members know who will agree and who will disagree with them on most family matters.	6.258	1.505	7.	.47811 (9)
13. The parents in our family stick together.	6.514	1.173	7.	.3829 (4)
Moderate				
70. Parents agree on how to handle the children.	5.857	1.033	5.	.3924 (4)
51. Family members seldom take sides against other members.	5.6	1.752	5.	.1117 (4)
Disengaged				
32. Family members feel it's "everyone for themselves."	1.514	.612	1.	.54081 (1)
106. Certain individuals seem to cause most of our family problems.	4.9	2.721	2.	.32611 (1)

FACES

Cohesion

CONCEPT	ITEM	COUNSELOR RATING X	SD	Mode	FACTOR LOADING & NUMBER	
TIME						
	Enmeshed					
5.	It's difficult for family members to take time away from family.	7.686	1.105	8.	.60274	(2)
80.	Family members feel pressured to spend most free time together.	7.714	1.872	9.	.33034	(2)
	Moderate					
24.	Family members like to spend some of their free time with each other.	5.229	.343	5.	.41105	(4)
62.	We try to plan some things during the week so we can all be together.	5.8	.901	6.	.56569	(2)
	Disengaged					
98.	It seems as if family members can never find time to be together.	2.429	.815	2.	.59094	(1)
43.	Even when everyone is home, family members spend their time separately.	2.229	1.003	2.	.42151	(1)
SPACE						
	Enmeshed					
109.	Family members find it hard to get away from each other.	7.457	1.755	8.	.30859	(2)
16.	It seems like there is never any place to be alone in our house.	7.714	.893	8.	.30715	(2)
	Moderate					
73.	When a bedroom door is shut, family members will knock before entering.	4.688	.832	5.	.70436	(3)
35.	We respect each other's privacy.	5.086	.742	5.	.52951	(3)
	Disengaged					
91.	Family members seem to avoid contact with each other when home.	1.559	.504	2.	.36594	(1)
54.	Family members don't enter each other's areas or activities.	2.4	1.090	2.	.21297	(1)

FACES — Cohesion

CONCEPT / ITEM	COUNSELOR RATING X	SD	Mode	FACTOR LOADING & Number	
FRIENDS					
Enmeshed					
82. Family members share the same friends.	7.343	.968	8.	.49486	(2)
45. Family members have little need for friends because the family's so close.	8.229	1.031	8.	.34944	(2)
Moderate					
20. Family members are encouraged to have friends of their own as well as family friends.	5.086	.853	5.	.49752	(4)
64. In our family, we know each other's close friends.	6.371	1.060	6.	.41164	(4)
Disengaged					
7. Most personal friends are not family friends.	3.429	1.092	3.	.47448	(1)
109. We know very little about the friends of other family members.	2.429	1.441	2.	.26902	(1)
DECISION MAKING					
Enmeshed					
75. Family members are expected to have the approval of others before making decisions.	7.914	.818	8.	.54881	(2)
111. Family members feel they have to go along with what the family decides to do.	7.629	1.215	8.	.44990	(2)
Moderate					
93. We decide together on family matters & separately on personal matters.	5.314	.932	5.	.31585	(4)
56. Family members discuss important decisions with each other, but usually make their own choices.	5.057	.838	5.	.53804	(4)
Disengaged					
37. In our family, we are on our own when there is a problem to solve.	2.114	1.105	1.	.27985	(1)
18. Family members do not check with each other when making decisions.	2.857	1.061	3.	.47660	(1)

FACES

Cohesion

CONCEPT ITEM	COUNSELOR RATING X	SD	Mode	FACTOR LOADING & Number	
INTERESTS & RECREATION					
Enmeshed					
28. Family members share almost all interests and hobbies with each other.	7.886	.758	8.	.49625	(2)
9. Family members feel guilty if they want to spend time alone.	8.029	1.361	9.	.66456	(2)
Moderate					
102. Members of our family share many interests.	5.971	1.014	5.	.31189	(4)
47. Although family members have individual interests, they still participate in family activiites.	3.371	.910	5.	.55926	(4)
Disengaged					
84. We have difficulty thinking of things to do as a family.	2.314	.718	2.	.62077	(1)
66. Our family doesn't do things together.	1.8	.759	1.	.53174	(1)

FACTOR	EIGEN VALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT
1	17.39388	33.7	33.7
2	7.28347	14.1	47.8
3	5.71808	11.1	58.9
4	2.37757	4.6	63.5

F A C E S

ADAPTABILITY DIMENSION SUMMARY

CONCEPT	ITEM	COUNSELOR RATING MEAN	S.D.	MODE	FACTOR LOADING & NUMBER
ASSERTIVENESS					
Chaotic					
77.	Family members speak their minds without considering how it will affect others.	6.824	2.367	8	.61787 (1)
40.	It is hard to know what other family members are thinking.	6.594	2.256	8	.69410 (1)
Moderate					
2.	Family members feel free to say what's on their mind.	5.714	.957	5	.71239 (2)
59.	In our family, it is important for everyone to express his opinion.	5.706	1.060	5	.89083 (2)
Rigid					
95.	Family members rarely say what they want.	2.970	2.172	2	.82480 (1)
21.	When our family has an argument, members just keep to themselves.	3.485	2.333	2	.68068 (1)
CONTROL					
Chaotic					
4.	It is hard to know who the leader is in our family.	7.486	1.574	8	.71731 (1)
61.	There is no leadership in our family.	8.412	1.480	9	.75454 (1)
Moderate					
79.	Each family member has at least some say in major family decisions.	5.343	.838	5	.77301 (2)
23.	The parents check with the children before making important decisions in our family.	5.735	1.109	5	.70664 (2)
Rigid					
97.	Certain family members order everyone else around.	2.314	1.367	2	.70358 (1)
42.	Parents make all the important decisions in our family.	2.857	1.611	3	.50675 (1)
DISCIPLINE					
Chaotic					
63.	Family members are not punished or reprimanded when they do wrong.	7.600	1.397	8	.65727 (1)
81.	Members of our family can get away with almost everything.	8.118	1.452	8	.72318 (1)
Moderate					
25.	Punishment is usually pretty fair in our family.	4.794	.845	5	.65701 (2)
44.	Parents and children in our family discuss together the methods of punishment.	5.600	.847	5	.62502 (2)
Rigid					
99.	Family members are severely punished for wrongdoings.	1.486	1.442	1	.77682 (1)
6.	Family members are afraid to tell the truth, fearing harsh punishment.	2.000	1.393	2	.78467 (1)

FACES

Adaptability

CONCEPT / ITEM	COUNSELOR RATING MEAN	S.D.	MODE	FACTOR LOADING & NUMBER
NEGOTIATION				
Chaotic				
8. Family members talk a lot, but nothing ever gets done.	7.618	1.231	8	.78902 (1)
83. When trying to solve problems, family members jump from one attempted solution to another without giving them time to work.	7.771	1.864	9	.77021 (1)
Moderate				
46. We feel good about our ability to solve problems.	5.286	.750	5	.81877 (2)
27. Family members discuss problems and usually feel good about solutions.	5.343	.639	5	.77978 (2)
Rigid				
65. Our family does not discuss its problems.	5.250	2.553	2	.78018 (1)
101. Family members feel they have no say in solving problems.	3.118	2.591	2	.82104 (1)
ROLES				
Chaotic				
31. No one in our family seems to be able to keep track of what their duties are.	7.686	1.207	8	.78282 (1)
105. Family members never know how others are going to act.	7.800	1.605	8	.70674 (1)
Moderate				
69. In our family, everyone shares responsibilities.	5.171	.568	5	.70539 (2)
12. Family members have some say in what is required of them.	5.029	1.224	5	.68843 (2)
Rigid				
50. Once a task is assigned to a family member, there is no chance for change.	1.914	1.869	1	.71800 (1)
87. It seems as if males and females never do the same chores in our family.	3.000	2.174	2	.59728 (1)
RULES				
Chaotic				
108. It is hard to know what the rules are in our family because they always change.	8.229	1.215	8	.74453 (1)
72. It is unclear what will happen when rules are broken in our family.	7.546	1.540	8	.72026 (1)
Moderate				
15. Family members make the rules together.	5.429	.739	5	.79027 (2)
53. When rules are broken, family members are treated fairly.	5.229	.490	5	.72185 (2)
Rigid				
90. There is strict punishment for breaking rules in our family.	2.057	1.413	2	.70172 (1)
34. Our family has a strict rule for almost every possible situation.	2.086	1.915	1	.65792 (1)

FACES Adaptability

CONCEPT	ITEM	COUNSELOR RATING MEAN	S.D.	MODE	FACTOR LOADING & NUMBER
SYSTEM FEEDBACK					
Chaotic					
92.	For no apparent reason family members seem to change their minds.	7.886	1.132	8	.71380 (1)
17.	It is difficult to keep track of what other family members are doing.	7.471	1.237	8	.68652 (1)
Moderate					
74.	If one way doesn't work in our family, we try another.	5.647	.812	5	.79155 (2)
55.	Family members encourage each other's efforts to find new ways of doing things.	5.618	1.015	5	.78150 (2)
Rigid					
36.	Once our family has planned to do something, it's difficult to change.	2.457	1.336	2	.64594 (1)
110.	Family members feel the family will never change.	1.886	1.388	2	.73987 (1)

FACTOR	EIGEN VALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT
1	36.72044	58.5	58.5
2	12.63027	20.1	78.6

APPENDIX III

FAMILY ACTIVITIES FORM

FAMILY ACTIVITIES FORM

	7:00	8:00	9:00	10:00	11:00	NOON	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00
swimming															
tennis															
swing set															
cards															
hiking															
T.V.															
horse back riding															
dancing															
bicycling															
motorcycle															
foot ball															
base ball															
frisbee															
merry-go-round															
dolls															
napping															
breakfast															
lunch															
dinner															
sewing															

APPENDIX IV

GUESS THE RULES GAME

GUESS THE RULES GAME

2	0	7	6	8
1	4	9	2	7
3	5	1	6	0
4	0	1	5	2
9	8	1	2	0
6	9	8	1	3
6	3	1	4	5
2	3	8	7	4
0	9	1	7	8
0	8	5	3	2
4	5	2	6	9
1	4	3	2	5
0	1	4	8	2
2	1	5	3	9
9	1	4	6	2
4	8	6	9	2
1	8	3	0	2
2	5	4	3	1
0	8	3	7	9
7	9	5	6	8
6	8	2	1	4
8	7	5	0	9
8	0	1	9	6
0	1	2	9	8
3	0	2	7	6
3	2	9	1	0
1	3	2	5	0
1	7	5	8	6
5	9	7	6	3
7	8	2	0	6

APPENDIX V

SUBJECT CONSENT FORM

INFORMED CONSENT FORM

1. I understand that this research procedure involves answering one questionnaire with 113 items about the behaviors of my child and another questionnaire with 111 items about the behaviors of members of my family. Also involved in this experiment is the observation by an experimenter (psychologist) of me and my child interacting.

2. It has been explained to me that the experimental procedure may take about 45 minutes, but that there is no risk to me or my child.

3. I understand that this research will benefit the scientific community and may facilitate the diagnosis and treatment of my child and/or family.

4. I understand that I can withdraw from this experimental procedure at any time without consequence to delivery of services. Also delivery of psychological services will not be altered or delayed by this experimental procedure.

5. All of my questions have been sufficiently answered and I have been given the name and phone number of the experimenter should I have any questions. The experimenter's name is Douglas R. Cheatham and his office number is

6. The purpose of this research is to study family interaction patterns and behavioral problems in children.

7. My signature on this form gives my consent to be involved in this research and acknowledges my understanding of the seven items on this consent form.

_____

signed

_____

date

APPENDIX VI

FAMILY ASSESSMENT FORM

FAMILY ASSESSMENT FORM

I. Reason for Referral

   A. Reason for Referral - Caseworker

   B. Reason for Referral - Client

II. Previous Treatment History

III. Family History:

   A. Marriage (date, circumstances, timing, reasons, conflict aspects of marriage)

   B. Children (births, circumstances of conception)

   C. Sicknesses and traumas (deaths, accidents, prolonged illness, hospitalizations, financial, job security, relocation)

   D. Happy, shared experiences within the family

   E. Marital separations - divorces and re-marriage

   F. Important people (relatives, friends)

   G. Current Family Situation

IV. Current Physical Status

   A. Description of client

   B. Acute or chronic illnesses

   C. Hospitalizations and meds

   D. Current sleeping or eating problems

V. Developmental History on Children

   (see attached)

VI. Educational

   A. Grade and school - current

B. How much completed - performance

C. School relations and activities

D. Future educational plans

VII. Peers and Recreational

VIII. Mental Status on each member

(our format)

IX. Family Dynamics

A. Family Member roles (control, authority, etc.)

B. Alliances and conflicts

C. Communication skills

D. Level of Cohesiveness (commitment to family)

E. Non-verbal communication

F. Expression of affect between members

X. Clinical Formulation/Diagnosis:

XI. Treatment Consideration and Disposition

A. Treatment Mode

B. Treatment Providers

C. Collateral Services

APPENDIX VII

DEFENSIVE AND SUPPORTIVE COMMUNICATION INTERACTION MANUAL

Defensive and Supportive Communication Interaction Manual

James F. Alexander

University of Utah

This manual is to assist and prepare raters to help in the analysis of family interaction studies. The families have been videotaped in a discussion of various topics pertinent to the family situation.

Categories of behavior to be described are to be scored or counted as a specific behavior occurrence at six second intervals. Each rater will rate one family member and score a behavior response(s) for each timed interval.

The rating of the family group is related to defensive communications. According to Gibb (1961):

> One way to understand communication is to view it as a people process rather than as a language process. If one is to make fundamental improvement in communication, he must make changes in interpersonal relationships. One possible type of alteration . . . is that of reducing the degree of defensiveness.
>
> Defensive behavior is defined as that behavior which occurs when an individual perceives threat or anticipated threat in the group. The person who behaves defensively, even though he also gives some attention to the common task, devotes an appreciable portion of his energy to defending himself. Besides

> talking about the topic, he thinks about how he appears to others, how he may be seen more favorably, how he may win, dominate, impress, or escape punishment, and/or how he may avoid or mitigate a perceived or an anticipated attack.
>
> Such inner feelings and outward acts tend to create similarly defensive postures in others; and, if unchecked, the ensuing circular response becomes increasingly destructive. Defensive behavior, in short, engenders defensive listening, and this in turn produces postural, facial, and verbal cues which raise the defense level of the original communicator.
>
> Defense arousal prevents the listener from concentrating upon the message. For only do defensive communicators send off palcipis value, motive, and effect cues, but also defensive recipients distort what they receive. As a person becomes more and more defensive, he becomes less and less able to perceive accurately the motives, the values, and emotions of the sender . . .
>
> The converse, moreover, is also true. The more "supportive" or defense reductive the climate, the less the receiver sends into the communication distorted heading which arise from projections of his own anxieties, motives, and concerns. As defenses are reduced, the receiver becomes better able to concentrate upon the structure, the content, and the cognitive meanings of the message.

Communication represents more than verbal messages. A person can communicate very clear messages to another person by nonverbal behavior. Hand, facial, and body movements may have very definite meaning and must be considered. Also, such additional important means or

ways of communicating a message such as tone of voice, pervasive or subtle messages, double meanings, overtones and other means of delivery must be considered.

The categories of defensive and supportive behavior to be rated are:

DEFENSIVE	SUPPORTIVE
1. Judgmental-dogmatism	1. Genuine Information Sacking/ Giving
2. Control and Strategy	2. Spontaneous Problem Solving
3. Indifference	3. Empathic Understanding
4. Superiority	4. Equality

Before rating these categories, it should be noted that there is an interaction and interrelationship among each concept. In other words, the categories are not mutually exclusive and it is possible for a person to behave in more than one way at a time. For example, a person may be judgmental and dogmatic while also acting very superior. A person could use indifference as a strategy to control. On the other hand, a person can genuinely seek information from another on the basis of equality. A person could state verbally that he is empathic and understanding, but through nonverbal cues, it could become obvious he was indifferent or playing a "phoney" role.

I. JUDGMENTAL-DOGMATISM

A. Speech which is evaluative in nature and passes judgment on another's character, activities, thoughts, motives, works, or ambitions tends to arouse defensiveness in the listening audience. Speech may fall into such categories as placing blame, classifying things as good or bad, accusing, complaining, and negative criticism. Characteristic of such speech are unqualified statements with "I" as the authority, or with others as the authority and "I" agree with them, and you better also agree because "I" know it to be best. This kind of speech may be direct, indirect, implicit, or explicit and affect the person spoken to.

Examples (verbal, direct, and explicit):

1. "Absolutely no;" "That's nonsense;" "You're wrong," "Baloney," "I know I'm right," "There's only one way," "B.S.," "You're square," "That's a laugh."

(Indirect and implicit):

2. "Anybody knows that," "Just how do you propose to do that," "What is that supposed to mean," "You're so smart," "How do you ever expect . . .," "You know-it-all."

B. When a person takes a position against another person, an idea, or object, and is unmoved to change, alter, or at least accept another's position at face

value, he is also being evaluative, judgmental, and dogmatic. Also, the person who must vehemently drive home his point with the implication that his listener should change his behavior is empressing some implied judgment and evaluation of the listener.

Examples (nonverbal):

1. Clenching of fists; pounding the table or one's leg, or pounding a fist into a hand or on the arm of a chair; shaking a finger at another; leaning toward the other person; stiffening of the body, or facial impressions such as frowning, sternness, or disgust.

(Other cues):

2. Raising the voice above a normal conversational level; sharply cutting words short or emphasizing words in statements or sarcasm. When a person is supposed to be listening, they may shake their head no or fold their arms and deliberately look up or away or roll their eyes.

II. GENUINE INFORMATION SEEKING/GIVING

A. In contrast to speech that is judgmental and dogmatic, speech that is a genuine request for information or giving of information tends to arouse minimal defensiveness in individuals. Such speech would be characterized by presentations of feelings, descriptions of events or objects, perceptions, or processes which may be qualified or do not directly, indirectly, explicitly,

or implicitly request a change of behavior from the listener.

B. When a person presents information about his feelings or the feelings of others, it must be noted whether such a presentation is calculated or genuine. For example, a mother may state how badly her child's behavior makes her feel (perhaps with some dramatics for emphasis) in such a manner as to be guilt inducing, thus requiring a change of behavior in the listener. On the other hand, a child could also attempt such a strategy on either parent. When information giving of personal feelings is genuine, it must be within the context of spontaneous problem solving. In other words, in a honest exchange of viewpoints and feelings. A person who is conscious of inducing guilt or attempts to genuinely present feelings is likely to ask permission or add qualifications.

Examples (presentation of feelings):

1. "Would it help if you knew how I feel?" "Can I explain how I feel when you ____?" "Maybe you haven't realized that when you do that it _____."

(Information seeking):

2. "I wonder why _____?" "I understand that, but how _____?" "I'm not sure what you mean," "I'm confused on that point, could you _____?"

(Rater's note): Careful attention must be paid to overtone, facial expression, gestures, and tone of voice when questions are asked such as who, what, why, where, when, and how, to determine if the question is genuine or not meant as a judgment or accusation.

(Information giving):

3. "Have you thought about this way of _____?" "I think it could be done this way," "Let me explain what I mean," "Do you think this might be possible?" "It looks to me like it's possible to _____," "I don't know all the facts, but do you know?" "I have an idea _____."

C. Nonverbal and other cues indicating genuine information seeking/giving would be the absense of these cues indicated in judgmental-dogmatism.

Example (nonverbal and other cues):

1. The voice should remain at a conversational level, facial expressions will be less intense, hand gestures and body movements will be more relaxed and less precise. The listener will also appear more relaxed, but eye contact and general attention should increase if defensiveness has not been aroused.

III. CONTROL AND STRATEGY

A. When a person either controls or attempts to control, he is also likely to evoke defensive behavior

in the listener. In most social interaction someone is usually trying to accomplish something, i.e., to change or influence someone or something. The degree to which a person tries to gain control determines the degree of defensiveness in other individuals.

Speech characteristic of such attempts to control carries implied and subtle information to the listener that they are inadequate and are secretly viewed as ignorant, malformed, immature, or dumb. There are several ways in which control and strategy are employed against the listener, thus arousing defensiveness.

Examples are insistence on great detail, utterances of restrictive rules and policies, and requirements for rather rigid conformity to norms or laws. Generally, it can be summed up as imposing one's will upon another.

Examples (insistence on detail):

1. "Explain exactly how you _____," "Tell me again _____," "Don't leave out anything," "I want to know everything."

(Imposing controls or restriction):

2. "I have a right to know," "The law says you will-won't," "Children are to be seen and not heard," "As long as you live here you will-son't," "If you expect _____, you will-won't," "You'll do it our way or not at all," "Children should respect _____."

B. Attempts to control are not necessarily direct, overt manifestation as described above. The sender of messages designed to control may make the form of role playing strategy; however, such attempts are frequently easy to see through, and such "phoneyness" is likely to arouse defensive behavior on the part of the listener who receives and perceives the attempt to control through guile.

Speech characteristic of such behavior may be seen when a person takes the role of something other than what appears valid for the time and setting. For example, "turned on emotion," the overly concerned mother, father, or overly repentant child.

Examples (role playing):

1. "I'm your father-mother and all we ever wanted is _____," "I do my best for you," "You know you can tell me everything," "Don't I mean anything to you?" "What would _____ think if he knew?" "I know you better than you think," "We're your parents and we love you," "We know more than you think."

(Nonverbal and other cues):

2. Placing one's hands to one's head or breast. Holding one's hand(s) out to the person spoken to. A shift of the voice downward or using a softer tone. The use of pet names not previously used or a sudden change

of attitude to one of compassion.

IV. SPONTANEOUS PROBLEM SOLVING

A. In contrast to behavior that's controlling, or a deceitful attempt to role play. Spontaneous problem solving is supportive rather than defense arousing.

Characteristic of spontaneous problem solving is the attempt to confine communication to solving issues and refraining from attacks on personalities. It allows persons to stick to the point and express ideas, offer solutions, set goals, and solve problems. The person behaves naturally and simply, and questions and answers have no double meanings nor do they display hidden motives.

Examples:

1. "What do you think?" "What's your opinion?" "How could we _____," "I'll tell you what I think and we'll see where we differ," "Could we try _____?" "Let's compromise," "I'll go along with that," "You have a good point," "I don't really know," "I'm open to suggestions."

B. Other characteristics to look for to determine if spontaneous problem solving or control and strategy is occurring may be the use of persuasion (even friendly) or encouragement. Encouragement is allowing a person to express ideas or solutions to problems, and at the same time communicating to that person he will receive your

support in what he decides or suggests.

Persuasion is urging or pressuring a person to change behavior or accept a point of view he is reluctant to accept. In other words, persuasion is talking to a person into something.

Examples (encouragement):

1. "Let's try it your way," "If you want to try that, I'll try to help," "That sounds okay," "I'll agree to that," "How can we help?"

(Persuasion):

2. "Can't you see it our way this time?" "C'mom, just this once," "Please try to see it my way," "If you'll give in, I will too."

V. INDIFFERENCE

A. Indifference in behavior or speech indicates a disregard for a person's welfare or value as a human being and may arouse defensiveness. Nobody cares to be regarded as an object or person of no particular worth.

Characteristic of such speech or behavior are attitudes and words with low affect or what communicate rejection or disinterest. Tone of voice is an important indicator when indifference is expressed.

Examples:

"So?" "So what?" "Who cares," "I couldn't care less,"

"It makes no difference," "Uh-huh," "Hmmm," "I don't know," "Yeh," "Yip," "Sure, sure," "What do I care?" "It's all right," "I guess."

B. Other important indicators of indifference can be seen in nonverbal cues such as expressions of boredom, looking around the room or at the floor, rather than the speaker, rustling papers, drumming one's fingers, or playing with clothing or other objects.

Indifference may also be noted in one's attitude of impatience to skip quickly over the problem, put it off, or be done with it. Indifference may be indicated by lack of attention on the part of a listener by having the speaker repeat messages that should have been heard and understood. It is also not unusual for a person to express very directly they are no longer interested or just don't want to be bothered with the problem any further and to forget the whole thing.

VI. EMPATHIC UNDERSTANDING

A. Communication that carries empathy, respect, and worth for the feelings of the listener is particularly supportive and defense reductive.

Characteristic of such speech would be words or reassurance that one identified with another's problems, shares his feelings, and accepts this person at face value.

By accepting a person at face value one indicates no pre-evaluations or judgments of that person. Here is another human being who has value and worth, and you will hear him out without the implication what you might like him less because he did something wrong. Be alert for negative efforts on the part of the speaker that deny a person's emotions or feelings even if it appears sincere, such as: you don't need to worry, or you don't need to feel rejected -- you'll get over it. It must be remembered that people do worry, they do feel rejected even though outward appearances may indicate differently, and the person probably already knows he will get over it, but that is very little consolation for the here and now of a problem. The important aspect is conveying understanding without an accompanying effort to change him. This is supportive.

Examples (verbal):

1. "I didn't realize you really felt that way," "Now I see what you mean," "I'm really sorry, I didn't know I made you feel that way,""I know how you must feel," "Had I known, I'd never have done it," "I understand how it must hurt-feel," "It's hard to be in your position."

B. Expression of sympathy and affection also conveys empathic understanding, but only if they are more than mere expressions of social amenities by saying what

is appropriate, required, and proper without any deep-felt meaning. Spontaneous facial and bodily evidence of concern are interpreted as especially valid evidence of deep-level acceptance.

Examples (nonverbal and others):

1. Both speaker and listener may use more direct eye contact and lean slightly more toward each other. Words will have a softer and quieter tone quality. Facial expressions may become serious, but pleasant. Hard gestures may become slight, but expressive to indicate deep personal feelings. Nodding of the head in a affirmative manner may be noticed. If feelings are deep, tears or watery eyes can result. Other gestures may include a touch, pat, or caress.

VII. SUPERIORITY

Superiority is communicated to another when a person's speech or behavior conveys a position of power, wealth, intellectual ability, physical prowess, higher status, thus arousing defensiveness. Anything conveyed to make a person feel inferior, inadequate, or jealous is an act of superiority.

The person perceived as feeling superior communicates he does not want or need help, nor is he willing to enter into a problem solving relationship and wants no feedback.

Look for "I" as becoming the important subject and "you" becoming quite valueless.

Examples (verbal):

1. "I've had more experience in these matters than you," "I'm older and wiser," "You're not very bright," "I know more than you," "Can't you understand anything?" "You haven't got a brain in your head," "I don't need your help," "I can solve my own problems," "You can't help," "You don't know anything about it," "You're too young (old) to understand."

2. (Nonverbal and other):

Hand gestures may become more pronounced in pointing to one's self or waving one off, indicating a "put down." There may be a puffing of the chest and raising the head. Eye movements may be down on the listener. A sarcastic demeaning tone in the voice may become evident.

VIII. EQUALITY

Defense is reduced when one perceives himself as on equal ground with another and makes no attempt to assume superiority. Characteristics of equality are indicators of mutual trust and respect. Differences in ability, worth, status, and power show little evidence of being important in solving a problem. Overt demeaning of one's self is not necessary and may only indicate a strategy

to gain control. Efforts to be equal will be unobvious and spontaneous.

Examples (verbal):

1. "I'm snowed, too;" "I certainly don't have all the answers," "I don't know as much as you about it," "Perhaps I haven't been too smart," "Will you show me how?" "I've got a lot to learn," "If you can tell me how, I will,""I respect your opinions."

(Nonverbal and others):

2. Nonverbal cues depicting equality may be more noticable by the lack of those cues indicating superiority rather than any particular overt behavior; however, smiling or laughing and spontaneity may be an important indicator of acceptance of equality.

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ABSTRACT

Family Cohesion and Adaptability as Correlates of Overcontrolled or Undercontrolled Behaviors of Children.

Douglas R. Cheatham

Dysfunctional families have been thought to display interaction patterns which are unhealthy along two dimensions: cohesion and adaptability. Previous theories have postulated that functioning at either extreme of these two dimensions is not healthy whereas functioning at more moderate levels is healthier. However, little research has been done on symptom types as they relate to these family interaction patterns.

This study was designed to offer evidence for the Circumplex Model of family interactions which contends that unhealthy family functioning reflects interaction patterns at either extreme of these two dimensions. Also, this study attempted to predict symptom types associated with these family interaction patterns.

The Family Adaptability and Cohesion Evaluation Scale, a self-report measure, was used to derive measures on family adaptability and cohesion. Also, the Child Behavior Checklist was used to collect data on the behavior patterns of the family triads that were studied.

Finally, father-mother-child triads were observed and their behaviors rated by two independent raters while they were engaged in family interaction tasks. Their behaviors were coded on the Defensive and Supportive Communication based coding-system.

Through multi-variate analysis of variance it was found that overcontrolled children (shy, anxious, and inhibited) tend to come from families which score high cohesiveness whereas undercontrolled children (aggressive, acting-out) tend to come from families which score low cohesiveness. No significant relations were found between family adaptability scores and symptom type.

On directly observed behaviors family triads with overcontrolled children exhibited significantly less judgmental behavior, less control behavior and greater empathy toward each other than family triads with undercontrolled children.

These results offer partial support for the Circumplex Model of family interactions and clarify some of the behavioral problems of children which come from the different family types. One goal in validating this model is to provide a conceptual frame work for the diagnosis and treatment of family systems. When a family's functioning on the dimensions of cohesion and adaptability is determined treatment goals become more explicit. A

child's symptom complex is also necessary for defining treatment goals. Implications of such treatment planning was discussed.