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THE EFFECT OF CONTRACT-BASED BEHAVIORAL INTERVENTION ON SOME DECISION-MAKING CHARACTERISTICS IN DELINQUENT FAMILIES

by
Srinika Devapriya Jayaratne

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
(Social Work and Psychology)
in The University of Michigan
1975

Doctoral Committee:

Professor Eugene Burnstein, Co-Chairperson
Professor Richard Stuart, Co-Chairperson
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CHAPTER I

REVIEW OF LITERATURE AND HYPOTHESES

Family dynamics has received considerable attention in the literature of abnormal psychology (Frank, 1965; Haley, 1967; Mishler and Waxler, 1965; Murrell and Stachowiak, 1967), and numerous investigators have pointed to the dysfunctional interaction patterns of family members as being symptomatic of a pathogen (Farina, 1960; Ferreira and Winter, 1965; Gassner and Murray, 1969; Leighton, Stollak, and Ferguson, 1971; Patterson and Reid, 1971; Schuham, 1972; Stuart, 1971a). With regard to delinquency, Stuart (1971a) states: "It is essential to both eliminate the pathogenic elements of the family and to harness its vast power in order to mount constructive programs to aid the delinquents [p. 2]." This position is substantiated further by Schafer and Polk's (1967) finding that school systems tend to remove the delinquents from the system rather than attempting to rehabilitate them. The family then emerges as perhaps the most viable change agent available to the therapist in dealing with problems of delinquency.

Despite this bank of data which suggests interactional dysfunction is a central theme in family

maladjustment, it is surprising to note that only a handful of studies have attempted to examine the effects of intervention on relevant interactional variables (Eyberg and Johnson, 1974; Parsons and Alexander, 1971, 1973; Stuart, 1971a). Most of the research concentrates on the examination of potential differences which may exist between "normal" and "abnormal" families. By and large, however, these studies use only one point of measurement and pay little attention to the passage of time, the impact of intervention, or the effects of treatment-produced interaction changes. Therefore, in a very real sense the current study is an exploratory one to establish the nature of interactional changes that may occur as a function of behavioral intervention and, as a secondary goal, to relate these change criteria to other outcome measures.

The study presented here was carried out as part of a larger research project addressing the effects of behavioral intervention with predelinquent and delinquent youth. The nature of the parent program, the Family and School Consultation Project, prescribed the design (and to some extent the procedures) employed in the current study. But while the Project was concerned with the adolescents' performance in the school, community, and family (utilizing relatively broad-based criterion measures--see Appendix A), the current study dealt solely with interactional changes that may occur among family members as a function of behavioral intervention. The nature of the intervention

process is described in detail in Appendix B. In brief, however, the therapists instructed the family members about the nature and value of positive reinforcement, employed contingent reinforcement techniques during treatment, and modeled desired behavioral characteristics during intervention.

Literature Review

While a considerable amount of research has been conducted on the effects of reinforcement, modeling, and instruction on individual verbalization and on group interaction, virtually none is applicable in a pre-post clinical situation. Furthermore, much of this research has been conducted in experimental laboratory settings. This lack of direct applied research has necessitated a sometimes obtuse rationale for the hypotheses presented later in this chapter.

The literature is quite consistent in providing evidence that negative interaction is a characteristic element in delinquent families. For example, delinquent interaction has been described as punitive (Gold, 1958; Schulman, Shoemaker, and Moelis, 1962) or coercive (Patterson and Reid, 1971). On the other hand, it is impossible to determine from the available evidence whether this negativity is a causal factor, a consequence or merely a correlate of a dysfunctional family system. But a few studies do point out that positive interaction is more

prevalent among nondelinquent families when compared with delinquent families (Parsons and Alexander, 1971; Stuart, 1971a).

The literature also suggests that adolescents in problem families receive more than their share of negatives during family interaction (Schulman et al., 1962). In this familial environment, therefore, theory would lead us to believe that the recipient of negative affect (in this case the adolescent) would most likely remain silent. The literature is somewhat contradictory, however, with some studies indicating that delinquent adolescents are as verbally active as their parents in family interactions (Ferreira, Winter, and Poindexter, 1966; Haley, 1967). In this regard, Patterson and Reid (1971) have demonstrated that when there is equal participation among the various family members, a reciprocal reinforcement pattern should also be observed. These same investigators, along with Parsons and Alexander (1971), argue that a more balanced and reciprocal interaction system is a clinically desirable goal for intervention. In addition, Kanfer and Phillips (1970) have specified that change toward reciprocity in a system is a necessity for long-term maintenance of attempted behavioral changes.

In view of these characteristics, one goal of Project intervention was to increase positive interaction among the family members on the assumption that increased positivity would lead to increased positive interaction.

The implication here is that positive communications in and of themselves would act as positive reinforcers to the family members, thus facilitating talking behavior. The social interaction theory advanced by Thibaut and Kelley (1959) relies on similar mutual reinforcement contingencies. Related research, such as that by Schwitzgebel (1967), has stated that contingent positive and negative reinforcement by therapists of desired and undesired verbalizations of family members would increase or decrease the emission of such statements. Similarly, Oakes, Droge, and August (1960) indicate that the rate of verbalization can be increased or decreased by the presentation of positive and negative reinforcers respectively.

Leonard Krasner, in an article entitled "Studies of the Conditioning of Verbal Behavior" (1958), reviewed thoroughly the literature dealing with reinforcement of verbalization. He states rather conclusively that there is considerable evidence to support the notion that contingent reinforcement of verbal behavior can change that behavior in a given direction. A few examples from the literature will be presented here for illustrative purposes. Greenspoon (1955) was able to increase the emission of plural nouns by contingent reinforcement of such enunciations; these results were confirmed in a similar experiment conducted by Taffel (1955). In a complementary study, Wilson and Verplanck (1956)

alternatively reinforced different parts of speech and were able to elicit more verbal responses from the reinforced areas. McNair (1957) carried this operant conditioning paradigm to the typical conversational mode and attempted to measure the impact of reinforcement on segments of conversation; again, his results indicated that the amount of talk time within a given topic can be manipulated by reinforcement procedures. Similarly, Verplanck (1955) conditioned statements of opinion during ordinary conversations without the subjects' awareness and was able to stimulate the elicitation of desired verbal responses. In combination, these studies illustrate the power of contingent reinforcement on the elicitation of desired communications.

The "behavioral contract" (Stuart, 1971b; Stuart and Lott, 1972) served as the basic clinical paradigm in the intervention process employed by Project therapists. The contracting method, as envisioned in this research, argues that the content of the contract per se may not be as important as the process of negotiation and resolution. In a sense, the mere existence of the behavioral contract may predispose a family toward a manageable resolve. The assumption here is that the family negotiates the contract with the aid of a neutral third party, the therapist, whose skill and expertise in utilizing appropriate communication tools result in a satisfactory resolution.

According to Kifer, Lewis, Green, and Phillips

(1974), there are two general approaches for dealing with conflict resolution between parents and their children: (a) arbitration and mediation of specific conflicts, and (b) modification of communication processes. These authors argue that the notion of behavioral contracting falls into the first category, in that a therapist facilitates reciprocal exchanges between family members. In contrast, work aimed specifically at the negotiation process via verbal instruction, practice, feedback, etc., belong to the second mode of operation; this is exemplified by the work of Carter and Thomas (1973). Such a dichotomy is tenuous at best, and in fact it does not hold true in the context of the contract-based treatment procedures implemented at the Family and School Consultation Project. Furthermore, Stuart's research indicates that the behavioral contract is really a tool--a participatory model of exchange--to be used in the resolution of disagreements. The contract then becomes the end product of arduous deliberation and, in this sense, serves as an anchoring factor in treatment.

Successful contract negotiation requires the family members and the therapist to be aware of each others' feelings and opinions about a given problem and alternative solutions. The content of the contract should reflect the viewpoint of all involved, since all members in therapy actually sign the contract. In this context, the therapist becomes a "mediator" (Pruitt and Johnson, 1970)--an individual who elicits opinions and feelings, irons out

differences, proposes alternatives, clarifies different viewpoints, and helps negotiate mutually acceptable resolutions. To some extent, then, the therapist is attributed with a certain degree of "expert power" (French and Raven, 1959). This power is important in that Bandura (1969) and Doster and McAllister (1973) have indicated that expertise and status are influential in the elicitation of behaviors from observers. In any case, it appears that "intervention by a mediator was found to relieve the sense of personal weakness that otherwise inheres in making concessions [Pruitt and Johnson, 1970, p. 1]."

Throughout the intervention period, the therapist is in this central mediation role. In this capacity, he/she attempts to draw silent family members into discussion, discourage interruptions, reinforce the expression of opinion-feeling statements, etc. Presumably, the therapist's activity could serve as a "model" for the family members to emulate. While the concept of modeling per se is relatively new to behavior therapy (Bandura, 1969), the essence of the procedure is quite simple: In the current study, the client is exposed to an individual who demonstrates behaviors to be adopted by the client. But for a learned behavior to generalize from one situation to another (or from one individual to another), something more than this implied simplicity is required. "Exposure to models also includes exposure to the cues and situations that surround the model's behavior, so that not only the

behavior, but also its relationship (appropriateness) to relevant stimuli, is demonstrated [Rimm and Masters, 1974, p. 125]." There is an element of cue assimilation involved, and Orville Brim, Jr. (1958) illustrates the process utilizing a role theory analogy:

> While not pretending to a full analysis of the process underlying assimilation, several causes can be described. First, the actor may note that the other is successful to a high degree in some of his behavior and consciously transfer to his own role such behavioral elements for trial. To the extent that they prove successful for him, in his performance, and are not eliminated through punishment from others for being inappropriate, he will adopt them. Second, faced with novel situations where his "own" behavior fails, the elements of other's roles are already learned and available for trial and hence would tend to be tried prior to the development of totally new responses; again, if successful, they tend to be assimilated to the role [p. 2].

It was stated earlier that, for contingent reinforcement to be effective, subject awareness was not absolutely necessary although it would be helpful. Where modeling is concerned, awareness appears to be of central importance. In order for the client to learn appropriate and desirable behaviors, he or she must be in a position to recognize them. At the same time, however, it is very unlikely that therapists would provide a rationale and explanation every time they employed reinforcement procedures or that they would actually point out that they were modeling desirable behaviors. On the other hand, it is true that at the beginning of intervention they provide the family members with some explanatory statements (instructions) on the nature of positive reinforcement,

negative effects of punishment, etc. This information presumably sensitizes the family members to behaviors the therapist deems therapeutically valuable, thus raising their awareness to the discriminative cues provided by the therapist.

The interview situation is one in which "participant-observation" occurs--the family members not only observe the therapist but have an opportunity to try out what the therapist is modeling (Bandura, Blanchard, and Ritter, 1969). They are in a position, therefore, to be reinforced immediately for appropriate performance. Thus the clinical interview situation not only provides useful tactics for communication but it also provides a forum for practicing the newly acquired behaviors. In fact, Bandura (1969) has described modeling as a highly pervasive and efficient method for teaching new responses. The strength of the procedure as a change agent (especially when considered in conjunction with positive reinforcement procedures) is substantial in view of the possible "chain-effect" of behavioral changes: "The consequences a person expects depend not only on the outcomes he has received from his own behavior in similar situations, but also on the outcomes he has observed other people obtain [Mischel, 1968, p. 166]." These theoretical provisions concur with Sarason's (1968) observations on the development of delinquency and, extrapolating to the problematic interactions presumed to occur in these families, it could

be argued that the dysfunctional communication is a "result of inadequate opportunities to observe, display, and, subsequently, receive reinforcement for socially useful behaviors [p. 258]."

Hypotheses

On the basis of past investigations and the intervention processes being employed by the therapists, two major and three subsidiary hypotheses are proposed. The two major hypotheses concern interruptive behavior and decision-making time. The first may be viewed as a measure of "respect" for each other among the family members, while the second may be viewed as an index of "efficiency" in family procedure.

> Hypothesis I: As a result of behavioral intervention, the number of interruptions recorded by all family members within a given decision-making period will decrease from pretreatment to posttreatment.
>
> Hypothesis II: As a result of behavioral intervention, the decision-making time will decrease from pretreatment to posttreatment.

Each of the next three hypotheses concerns a quantitative change in the verbal activity of various family members. Since verbal activity is directly related to decision-making time (see the section on dependent measures in Chapter III for details) and since the decision-making time sets the essential parameters within which verbal activity takes place, these three hypotheses are presented as subsets of hypothesis II:

> Hypothesis IIA: As a result of behavioral

intervention, there will be greater equivalence of talk time among the different family members from pretreatment to posttreatment.

Hypothesis IIB: As a result of behavioral intervention, the total talk time (activity level) recorded by all family members, proportionate to the decision-making time, will increase from pretreatment to posttreatment.

Hypothesis IIC: As a result of behavioral intervention, the talk time recorded by the adolescent, proportionate to the family activity level, will increase from pretreatment to posttreatment.

CHAPTER II

THE PROCESS OF INTERVENTION

Contingency contracting (Stuart, 1971b, 1972) served as the core of the intervention package employed by the Project therapists. In the simplest sense, the contract was merely a strategic device for proceeding with effective intervention. It concretized the intervention process and helped clarify, specify, and attain the desired therapeutic goals. While the contract functions as a tangible working product, its potential lies in the process of negotiation and interaction between the therapist and the clients. The enhancement or the destruction of the therapeutic process is literally in the hands of the therapist. The mere existence of a behavioral contract could predispose a family toward a manageable resolve in some areas of conflict (Stuart, 1971b). But the crucial element appears to be the actual "process" of resolution, and the skill and expertise of the therapist in handling the communication among the family members.

In view of the "therapist uniformity myth," considerable effort was directed toward the standardization of Project intervention strategies (Kiesler, 1966; Krause, 1972; Luborsky, Chandler, Auerback, Cohen, and Bachrach,

1971; Truax and Mitchell, 1971). Appendix B presents the details of the family treatment plan implemented by the therapists. Weekly clinical conferences and continuous cross-checking of therapist contact hours, etc., ensured a certain degree of conformity to prescriptions of the research design.

While these directives controlled to some extent the therapists' treatment repertoires, they in no way guided the interactional process of the therapists. Quite obviously, this was an impossible task. For example, the discussion of treatment goal priorities was supposed to, and did, occur during the second family session, but the process by which it occurred was therapist-specific. The fact that all of the therapists had basically the same training, however, does suggest a predisposition toward a common "philosophical stance." In addition, during the existence of the Project, this stance became somewhat codified, and clinical discussion appeared to be formulated around this framework. The concepts of reinforcement, modeling, and instruction served as the basic constructs. But while these are basic concepts in the field of behavior modification, their pragmatics and interrelatedness in the Project were determined more by practice experience and philosophy than by theory per se. As interactional processes, therefore, it was presumed in this study that the therapists "practice what they preach," that is, during the course of intervention they do in fact employ the

strategies of reinforcement, modeling, and instruction.

This, however, was a major assumption which had to be confirmed, since the changes predicted in this study were based on the presupposition that these techniques were employed regularly by the therapists. Two questionnaires were therefore designed to investigate this aspect of the intervention--the Family Interview Schedule for the family members and the Therapist Interview Schedule for the therapists (see Appendices C and D). The Family Interview Schedule was administered after four months of intervention as part of a treatment evaluation form, which was one of many posttest measures administered by the Project. Each family member in treatment responded separately to these questions, and the tabulations are based on a composite of these responses. The Therapist Interview Schedule was administered by the author. Each therapist was interviewed within one week after completion of the four-month interview, and separate interviews were conducted with the therapists for each experimental family. What follows is a discussion of the results from these two questionnaires.

One of the most important and central therapeutic factors employed by the therapists is that of positive reinforcement. Both from a theoretical perspective and from a philosophical and pragmatic orientation, it was expected that therapists would not only explain to the clients the nature and value of positive reinforcement but would also employ it extensively during clinical interviews. As seen

in Table 1, the therapists instructed every experimental family on "the nature and value of positive reinforcement." In comparing these therapist responses with those obtained from family members (see Table 2), we see that out of 33 possible responses, 32 answered "yes" to the question, "Did the therapist discuss positive reinforcement with you?" A related factor, dealing with the practical implementation of contingency reinforcement procedures, is tapped in question 5 on the Family Interview Schedule. Here, all 33 respondents answered that the therapists did provide instructions on when to reward and when to withhold privileges. The therapists, therefore, employed "instruction" to transmit the information on positive reinforcement.

How about the therapists' use of contingency reinforcement? Questions 2, 9, and 12 in the Therapist Interview Schedule are related to this issue. As seen in Table 1, therapists responded "always" or "almost always" to these three questions on 37 of a possible 39 occasions, indicating an overwhelming belief that they do use positive reinforcement as a functional tool during treatment. These answers suggest that not only do the therapists encourage family members to talk to each other, they also attempt to involve silent family members in conversation through the use of contingency reinforcement procedures. Questions 1, 2, and 4 in the Family Interview Schedule pose essentially the same issues, and once again we see the family members

TABLE 1

SELECTED QUESTIONS FROM THE THERAPIST INTERVIEW SCHEDULE

	YES	NO
1. Did you instruct the family on the nature and value of positive reinforcement?	13*	0
4. Did you instruct the family on the negative effects of punishment?	8	5
16. In working with this family, did you consciously attempt to alter their decision-making patterns?	10	3

	ALWAYS	ALMOST ALWAYS	SOMETIMES	ALMOST NEVER	NEVER
2. How often did you reinforce positive statements made by one family member to another?	5	7	1	0	0
5. When family members were negative to each other in an interaction situation, how often did you point this out to them?	0	0	2	6	5
6. How often did you carry out verbal behaviors with the specific intention of modeling the appropriate behaviors to the family?	8	4	1	0	0

TABLE 1 (cont.)

	ALWAYS	ALMOST ALWAYS	SOMETIMES	ALMOST NEVER	NEVER
9. When discussing a problem, to what extent do you reinforce and encourage opinion/feeling statements made by the family members?	5	7	1	0	0
12. When a usually silent family member speaks, do you specifically reinforce that member for his talking behavior?	6	7	0	0	0
	VERY MUCH AWARE	SOMEWHAT AWARE	NOT SURE	NOT VERY AWARE	NOT AT ALL AWARE
7. When you are doing something which you consider to be modeling, how aware do you think the family members are of your intentions?	3	6	4	0	0
17. Do you think the family members were aware of your attempts to alter their decision-making patterns?**	7	3	0	0	0

* N=13, the number of cases in the experimental group

** The attempt to change decision patterns was made in only 10 cases, hence N=10.

TABLE 2

SELECTED QUESTIONS FROM THE FAMILY INTERVIEW SCHEDULE

	YES	NO
3. Did the therapist discuss positive reinforcement (rewards, praise, etc.) with you?	32*	1*
5. Did the therapist give you instructions on when to reward and when to withhold privileges?	33	0

	FREQUENTLY	SOMETIMES	SELDOM
1. How often did you feel free to discuss your opinions and feelings during interviews?	28	5	0
2. How often did the therapist encourage you to talk and discuss your opinions and feelings during interviews?	29	3	1
4. How often did you feel that the therapist was positively reinforcing (praised your behavior, encouraged you, etc.) during interviews?	30	2	1
6. How often did the therapist model (i.e., show you a good way to do or say something) during interviews?	28	3	2

* N=33; includes all family members in the experimental group.

agreeing with the therapists' self-perceptions. In question 2, 29 of 33 family members stated that therapists encouraged them to express their opinions and feelings; in question 4, 30 of 33 individuals affirmed that therapists "frequently" reinforced them during interviews. Question 1 is somewhat tangentially related, but it once again taps the opinion/feeling issue; here 28 of 33 family members indicated relative freedom to express their thoughts. The data strongly suggest that the therapists did in fact "practice what they preached." In effect, then, the therapists not only delineated the contingent reinforcement procedures to the family members, but also utilized these procedures extensively during intervention.

Regarding the therapists' use of "modeling," question 6 in the Therapist Interview Schedule asks, "How often did you carry out verbal behaviors with the specific intention of modeling the appropriate behaviors to the family?" The therapists responded "always" or "almost always" in 12 of 13 cases. Thus the therapists believed that they performed certain verbal behaviors during interviews with the explicit hope that the family members would observe and learn. An implication here is that while the therapists may believe that they modeled desirable behaviors, the family members may have been completely unaware of their intentions. Question 6 in the Family Interview Schedule, which asks, "How often did the therapist model during interviews?" was answered "frequently" by 28 of 33 respondents. Once again,

the therapists and clients agreed with each other on the actualization of a treatment component. These data suggest, therefore, that the clients were very much aware of the therapists' activities and, given the theoretical paradigm, these clients should be in a position to incorporate and functionally implement the modeled behaviors.

Questions 4 and 5 in the Therapist Interview Schedule point to some additional interesting results. In 8 of 13 cases, the therapists stated that they instructed the family on the negative effects of punishment. But in 11 of 13 cases they attested to a tendency to overlook or ignore negative interaction among family members. These data suggest a general reluctance on the part of therapists to discuss the concept of punishment with their clients. While this tendency may appear contradictory or at least counterproductive in some ways, it is not. Emphasizing negative characteristics merely accentuates them by sensitizing family members to their existence, thus possibly leading a discussion toward an overall negative format. While it is a theoretically valid assumption that the probability of positive interaction can be enhanced by ignoring negatives and stressing positives, the explanation of the negative process can be a therapeutically productive tool in some clinical situations, hence its selective use in certain circumstances.

Finally, question 16 in the Therapist Interview Schedule asks the therapists whether they attempted to

alter the decision-making patterns in the families. The answers were affirmative in 10 of 13 cases. The therapists also believed that the family members were aware of their attempts in all 10 instances (question 17). In keeping with interfamilial differences, however, there is very little consistency among therapists in what they cited as goals for these alteration attempts. The two answers stated most frequently were "get the adolescent to talk more" (3 times) and "get them to consider different alternatives" (2 times). While these data are interesting, it is unlikely that these specific attempts would have a significant impact on the proposed hypotheses. Furthermore, even if they did have an effect, it would be impossible to attribute it to these attempts alone.

In summary, it is quite apparent that the major interventive assumptions in this study were confirmed. In fact, in view of these substantial data, they are no longer assumptions but facts of intervention. The therapists did instruct, reinforce, and model during intervention. While it is undoubtedly true that "stylistic" differences existed among the therapists, it is also true that they consistently utilized techniques that fell within the philosophical or theoretical orientation adhered to by the Project. Thus, there appears to be an added degree of uniformity in the therapists' intervention process--added, that is, to the Project-prescribed stepwise procedures. When these process characteristics are considered in

conjunction with the theoretical prospectus delineated in the first chapter, the rationale for the proposed hypotheses becomes even stronger.

CHAPTER III

METHODS AND RESEARCH PROCEDURE

Study Design

The design of this study can be construed as a modification of the "posttest only" design elaborated by Campbell and Stanley (1963). This design assumes equivalence between groups at pretreatment as a result of randomization procedures, and measures are administered at posttreatment only (after intervention) to determine differences between groups. Assuming equivalence between groups at pretreatment, any differences that appear at posttreatment can then be attributed to the intervention.

The design of the current study is diagrammed below:

X O X --experimental group

X --control group

Here the experimental group (the group receiving treatment) is measured at pretreatment and again at posttreatment, while the control group (which receives no treatment) is measured only once. It is important to note that the posttreatment measure was administered four months after the administration of the pretreatment measure with the experimental group, and the control group received an

identical measure four months after referral to the Project. This measurement procedure was necessitated by constraints imposed upon the study by the design of the parent project.

The pretest of the experimental group and the posttest-only of the control group are considered equivalent in this study in view of random assignment, and at the time of testing neither group had received family-directed Project services. Theoretically, therefore, the experimental group at pretreatment and the control group at posttreatment should show no significant differences between them on the dependent variables.

The posttest with the experimental group can then be focused on as the major dependent factor in the determination of change. A comparison of the pretreatment measures with the posttreatment measures within the experimental condition alone should answer the question of what happens to the dependent variables as a function of intervention. These experimental-group pre-post measures, then, provide the major substance for the proposed hypotheses.

One of the major problems with this design is related to the possibility of practice effect. Since the experimental group is administered the same task twice, this charge cannot be eliminated completely, especially in view of the fact that the control group performs the task only once. However, it can be argued that if practice

effect does exist, it is minimal in this study for several reasons. First, a time period of four months between tests virtually assures the subjects forgetting the content of the test material. Second, while the subjects may have vague notions about the nature of the problems presented in the decision-making exercise, it is very unlikely that they would have remembered either the alternatives or the particular alternative chosen at pretreatment, due to the overlap of the response choices (see Appendix E). And finally, some of the remarks made by the subjects at posttreatment seem to indicate that they had completely forgotten the content of the exercise as well as the task procedure. It is also important to remember that this exercise was one of many pretest/posttest measures administered to the subjects. (Procedurally, the decision-making exercise was administered during the course of a special session set up after all Project posttest data had been collected.) While the practice-effect argument could have been obviated by testing both groups twice, this was not possible because of constraints placed on the study by the parent project.

Sampling Procedure

The sampling procedure to be discussed here is the one employed by the Family and School Consultation Project (see Appendix A for details on the Project's design and findings). Random assignment to the three experimental

conditions in the Project were performed within each of the three schools participating in the program. This procedure was followed for several reasons: (1) to ensure that one school would not by chance get a disproportionate number of cases in one treatment condition; (2) for "political" reasons, i.e., to ensure that a school would not stop referring because by chance it received a large number of controls; and (3) since each therapist worked in only one school, to ensure that one therapist would not get a disproportionate number of cases in one treatment condition.

Because the Project was unable to predict the number of referrals that would be realized from the schools for the entire academic year, assignments were made in blocks of eight. Randomization for each school was determined by using the random numbers table and obtaining a 3:3:2 ratio --three subjects to the Family and School condition, three subjects to the School Only condition, and two subjects to the Control condition.

It should be noted that while a case was assigned to a treatment condition at the time of referral, the therapists were unaware of what the experimental condition was until after the first interview had been completed. This procedure was necessary in order to ensure unbiased pretreatment data collection. For ethical reasons, however, the families were informed at the first interview that they may or may not receive treatment immediately, but they were

told that Project services would be available to them at a later point should they or the school request it.

Table 3 shows that the stratified randomization procedures used in the Project were successful, with no significant differences appearing among the three experimental conditions on any of the demographic variables. The sample used in the current study is derived from this originally randomized Project sample.

Subjects

Of 64 subjects originally assigned to the three treatment conditions in the parent project, 28 agreed to participate in the current study: 13 from the Family and School condition, 7 from the School Only condition, and 8 from the Control condition. The therapists were responsible for obtaining permission from the families in order for the experimental task to be conducted. This procedure was followed because it was felt that the clients would be more agreeable to requests made by the therapists than by an unknown person. But, as the results indicate, the compliance rate was nonetheless rather low.

Several reasons are offered as possible contributing factors to this low response rate: (1) The clients had already completed numerous Project forms during the first interview (without even knowing whether they would be receiving any help), a process that took anywhere from 45 minutes to one and a half hours. Asking them to perform

TABLE 3

DEMOGRAPHIC CHARACTERISTICS OF THE TOTAL PROJECT SAMPLE

	Family and School	School Only	Control	
Sex				
Male	21	16	11	χ^2=0.1939
Female	6	6	4	df=2 n.s.
Race				
White	22	12	11	χ^2=4.2991
Black	5	10	4	df=2 n.s.
Income				
≤$9,000	9	8	4	χ^2=1.3336
$9,001-$15,000	6	7	4	df=4 n.s.
≥$15,001	12	7	7	
Age				
≤13	9	7	8	χ^2=2.2823
13<14	9	8	3	df=4 n.s.
≥14	9	7	4	
Family Composition				
Two-parent	14	11	8	χ^2=0.0400
One-parent	13	11	7	df=2 n.s.

another 45-minute task during the course of the next interview may have pushed some families beyond the tolerance level. (2) Other than in the first data-collection interview, the therapists had no contact with the parents of those subjects assigned to the School Only condition and the Control condition. Since the decision-making task was conducted with the family members in these two groups four months after referral to the Project, the low response rate is understandable. Furthermore, the exercise for the current study was conducted after the Project postintervention data had been collected--another one-hour form-filling session. That is, those families who agreed to participate in this study had to consent to another long session specifically for this purpose. (3) As stated in the Family and School Consultation Project's Final Report (1974), the intervention program met with only limited success; as a result, some dissatisfied subjects were unwilling to participate in an additional task. (4) The therapists felt that several families were somewhat hostile to the whole idea of intervention to begin with, and although they had consented to work with the Project because of pressure from the school, they were very reluctant to do anything more than what was required of them.

As explained earlier, the design in the current study employed only two groups--an experimental group and a control group. It is apparent, therefore, that these two

groups are derived from the original three conditions. The experimental group consisted of all subjects assigned to the Family and School condition. The distinguishing characteristic of the experimental group is that all subjects in this condition received family intervention. The control group consisted of all subjects who were assigned to either the School Only condition or the Control condition during the original randomization procedure. The families falling into this condition are distinguished by the fact that they did not receive any family intervention.

While the subjects in the School Only condition received qualitatively and quantitatively different treatment from the subjects in the Control group, it is argued that the two groups are more similar than dissimilar --at least on the critical variable of family intervention. Furthermore, the two groups together are totally different from the experimental group in that there was no family contact after the first interview with the families in the two "control" conditions. Although the therapists did have contact with the adolescent in the School Only condition, these contracts were of a completely different nature from the family interviews. Therefore, the lack of family intervention is used as the rationale for collapsing the School Only and Control groups into a unitary control category.

It is apparent from the above discussion that no direct random assignment procedures were employed in the

formation of the two study groups. Rather the assumption of randomization is derived from the original Project sampling procedures. Table 4 illustrates the validity of this assumption, for no statistically significant differences appear when the demographic characteristics of the two groups are compared. In view of these findings, the goal of randomization is considered to have been achieved for the purpose of statistical analysis.

The Decision-Making Task

The experimental task can best be described as a fixed-alternative decision-making exercise. The actual exercise employed in the study is presented in Appendix E, and what follows in this section is a brief description of the task and task implementation procedures. The exercise consists of three descriptive vignettes involving the adolescent and the family in a problem-solving situation. Three distinct problem situations are described, and beneath each problem situation are listed six alternative solutions. The essence of the experimental task is for the adolescent and the parents to discuss the problem situations as if they were real and to arrive at a mutually acceptable solution chosen from the listed alternatives. The decision choice is forced to the extent that the family is required to select one of the listed solutions. Similar procedures have been employed by Strodtbeck (1951, 1954) and Kifer et al. (1974).

Both the problem situations and the alternate

TABLE 4

DEMOGRAPHIC CHARACTERISTICS OF THE STUDY SAMPLE

	Experimental Group	Control Group	
Sex			
Male	10	9	χ^2=0.9156 df=1 n.s.
Female	3	6	
Race			
White	10	13	χ^2=1.008 df=1 n.s.
Black	3	2	
Income			
≤$9,000	6	6	χ^2=1.0075 df=2 n.s.
$9,001-$15,000	2	2	
≥$15,001	5	7	
Age			
≤13	3	5	χ^2=1.0333 df=2 n.s.
13<14	6	6	
≥14	4	4	
Family Composition			
Two-parent	7	7	χ^2=0.5774 df=1 n.s.
One-parent	6	8	

solutions were derived from an analysis of behavioral contracts negotiated by former Project clients. Since the current Project sample came from the same population, it was felt that the described problems and alternatives would add a degree of realism to the decision-making exercise. In addition, the Project therapists were asked to scrutinize the exercise, and they provided feedback on the viability of the problem situations and the listed alternative solutions. And, in a final attempt at validation, six problem situations were pretested with four families who had received Project services in the past. The three vignettes that were finally selected and adopted for use in the study emerged from an analysis of these procedural factors. Because of the effort expended to validate the task and the procedures followed therein, it was felt that the final decision-making task used in this study was a viable one for the population under consideration.

It should be noted that there are two sets of exercise forms--one for the parents and one for the adolescent. The only distinction lies in the differential use of "you" and "your child"; otherwise, the vignettes are identical in content and meaning. Since the problem situations described in the vignettes were purportedly the product of adolescent misbehavior, the pronoun "you" was employed in an attempt to personalize the involvement of the youth in the decision-making task. Similarly, the parental version contained the phrase "your child" in an attempt to

bring the problem situation into the family system. These personalization procedures, plus the familiar situations, were employed on the assumption that individuals would be more likely to participate in and take an active interest in the discussion of a more realistic and familiar problem than of some unfamiliar and distant situation.

The Task Procedure

Uniform procedures were followed in the administration of the task to the study sample. Uniformity was obtained by following a predetermined explanatory process, conducting the task at specified time intervals (four months) and at the same points in the intervention process (the second and the final interviews), and following the same permission procedures for all subjects. The method of administering the task is described below in a step-by-step fashion and should be considered in conjunction with Appendix B which describes the Project's treatment procedures.

(1) The first interview with the family was conducted by the therapist. This was primarily a data-collection interview, with the therapist administering all of the Project pretest measures. After all of these data had been collected, the therapist explained to those families in the experimental group that "a Project person who is interested in how family members communicate with each other and in how they make decisions would like to come and do an

exercise with you." If the family agreed, the therapist informed them that the experimenter would contact them by phone and make the necessary arrangements. Since the Project design dictated that no Project person have contact with the School Only and Control group families after the first interview, no such arrangements were made with the families in these two conditions.

(2) Upon receiving confirmation from the therapist, the experimenter contacted the family by phone and made an appointment to conduct the experimental task. Since this was considered the second family interview, it was necessary to coordinate this appointment with the therapist. The therapist accompanied the experimenter to the family home and spent approximately 10-15 minutes confirming some previously determined treatment goals (see Appendix B). After the therapist left, the experimenter proceeded with the task.

(3) The experimenter first distributed a set of forms and pencils to the parents and the adolescent and then described the nature of the task, following the prescribed format (see Appendix F). The first procedural step required all family members in treatment, independently of each other, to rank-order the solutions listed beneath each of the described problem situations. Thus each family member's rank-ordering was a matter of personal choice, and no family member was aware of the choices of any other family member. The experimenter was present throughout

this time period and provided clarification if requested.

(4) The experimenter then collected the completed forms and handed out an identical set of new forms to all family members. The family was instructed to discuss the first problem situation, arrive at a mutually acceptable resolution from the list of alternative solutions, and then move on to the second problem situation. The family members were specifically asked not to direct any questions to the experimenter once the family discussion had begun. The tape recorder was then turned on. While the family discussion took place, the experimenter remained in the room but did not participate in any way in the ensuing interaction.

(On two occasions a family member actually did attempt to involve the experimenter in discussion. Such involvement was avoided by the experimenter passively staring at the floor and not showing any active interest in the proceedings. While this is perhaps somewhat unorthodox, and to some extent reactive, it was successful in that the experimenter was not drawn into conversation in any single instance. Although the presence of the experimenter in the same room as the subjects is indeed a major weakness in the design, this procedure was necessary for several pragmatic reasons: (a) it was physically impossible in some households for the experimenter to remove himself from the experimental room; (b) it was necessary for the experimenter to be aware of any interruptions by siblings, etc., so that

voice identification and other adjustments could be made during analysis; and (c) it was necessary to make certain that the tape recorder worked, since the entire study depended on the existence of an audiotape.)

(5) The entire proceedings were recorded on audiotape with the consent of the family. Upon completion of the task, the experimenter thanked the family members for their cooperation. The experimental-group subjects were informed that they would be contacted again in approximately four months to conduct a similar task.

Dependent Measures

The effectiveness of psychotherapy has been measured in numerous ways, and the literature is replete with both "outcome" and "process" intervention studies. The concept of "outcome" has been measured in various ways--ranging from "felt-effectiveness" ratings by therapists and their clients, to the administration of rating scales to significant mediators in the environment of the client system, to the behavioral observation of subjects in their own home (see Bergin [1971] for a thorough analysis of outcome studies). The debate continues as to which measurement procedure is appropriate, which more valid, which less reactive, and so on. However, the essence of the outcome criterion is that it measures what happens to certain characteristics in the client system as a function of intervention. Typically, therefore, these measures are

administered at pretreatment and again at posttreatment.

Other investigators have approached the problem from an interpersonal point of view. Their aim has been to study the "process" characteristics of change, or what happens to interactional factors in the client system. They are generally less concerned with point measurements at pretreatment and posttreatment; rather, they attach importance to the communication system as an ongoing process. Again, the debate continues as to whether the "process" measures are related to "outcome" measures and implications therein.

The dependent measures employed in the current study are usually thought of as "process" measures. Such a conceptualization, however, belies the multifaceted nature of these indices (and process measures in general). They are indeed process and outcome measures, and the effort to label them merely belittles their potential significance. In discussing behavioral intervention in this study, therefore, a distinct effort will be made to minimize these presumed differences since, in the opinion of this author, process and outcome are interrelated and a distinct categorization is a futile task.

Four basic measures were derived from the decision-making task: talk time, activity level, decision-making time, and interruptions. All of these indices have been used by other investigators as indicators of family functioning, particularly with respect to the family communication and

decision-making patterns. The definitions of each measure and the rationale for their use are presented below.

Talk Time

Talk time is defined as the duration of speech (in seconds) by a family member during the discussion of a given vignette. Talk time has been widely used as a dependent measure in studies of interaction and has been conceived of as a measure of dominance, power, and authority. Much of the research has tended to employ this variable as a discriminative factor between "normal" and "abnormal" families. Farina (1960) and Farina and Dunham (1963), incorporating this as one measure of dominance, indicated that parental control, as measured by the duration of talk time, discriminates between "good premorbid" and "poor premorbid" schizophrenic families. Bugental and Love (1972), again using talk time as a measure of dominance, reported that withdrawn children have highly talkative fathers. Similarly, Gassner and Murray (1969) state that talk time distinguishes the parents of neurotics from the parents of normals. And Leighton et al. (1971), comparing normal and clinic families, found that on this variable normal families are dominated by fathers while the clinic families are dominated by mothers. A complementary finding is reported by Schuham (1972), who indicated that fathers of normal children talked significantly more than the fathers of disturbed children.

Thus the research presents distinct trends on the ability of this index to distinguish between "normal" and "abnormal" families, maintaining its applicability as an acceptable measure of interaction. As a measure of influence in a decision-making situation, Strodtbeck (1951) noted that the person who does the most talking is likely to have the greatest influence on the final decision. Kenkel's (1957) data seem to support this position (although not conclusively); at the same time Kenkel (1963) and Kenkel and Hoffman (1956) point out that the family members in interaction have no idea how the amount of talk is distributed. Thus, subject awareness of participant behavior appears to be an irrelevant factor in the use of this particular index.

Much of the research that has been conducted with this dependent variable has been concerned with the distinction between "normal" and "abnormal" functioning. In addition, this research has been primarily associated with some of the more severely disturbed family systems (schizophrenics, neurotics, etc.). The current study deals with a somewhat less disturbed population--predelinquent and delinquent adolescents and their families. Nonetheless, inadequate family functioning is considered to be a core element in the development and maintenance of delinquency.

Activity Level

Activity level is defined as the total talk time (in seconds) of all family members during the discussion of a given vignette. It should be apparent that activity level is somewhat different from decision-making time. The latter reflects the entire decision-making period, including the time spent in silence, while the former is a simple summation of the talk times recorded by the different family members.

Activity level, like the other variables, has been used as a measure of family functioning, although not as extensively. But the research studies that did utilize it tended to agree in their general conclusions. In the study by Schuham (1972), for example, the data indicated that normal families had a mean activity level greater than a group of disturbed families. Farina (1960) and Farina and Dunham (1963) noted that good premorbid schizophrenics spoke 29 percent of the decision-making time while poor premorbid schizophrenics spoke only 19 percent of the time. Similarly, Ferreira and Winter (1968) reported that abnormal families are more likely to remain silent for longer periods of time than normal families.

It appears, then, that activity level is a fairly stable indicator of normalcy or abnormality. As stated before, the primary hindrance to generalization lies in the fact that, compared to earlier studies, this research was conducted with less severely disturbed families.

Nevertheless, this measure is employed as a dependent variable on the assumption of certain similarities in the interactional patterns of pathogenic family systems.

Decision-Making Time

Decision-making time is defined as the total time (in seconds) taken by the family to negotiate a decision on a given vignette. Like talk time, decision-making time has had wide applicability as a functional variable in the analysis of interaction. Its primary interpretation has been as a measure of efficiency or productivity in family functioning. As with talk time, much of the research has attempted to compare "normal" and "abnormal" family systems utilizing decision-making time as a discriminatory variable. Ferreira and Winter (1965, 1968) and Ferreira, Winter, and Poindexter (1966) state that normal families are far more efficient than abnormal families in their decision-making endeavors. That is, the former make decisions faster than the latter. Similar findings have been reported by Haley (1967) in working with families of schizophrenics. Complementary data have been presented by Murrell and Stachowiak (1967) who compared children having school problems with nonproblem children and stated that the latter families are more productive in decision-making situations than the former. Only one study has shown contrary evidence: Schuham (1970, 1972) compared families having a "borderline psychotic" child with normal families, and his

data suggest that normal families took longer to reach a decision.

In combination, these studies seem to indicate that decision-making time may be an acceptable variable for discriminating between "normal" and "abnormal" families. In accordance with the majority of the investigators, it would appear that this measure is a significant index for the determination of adequate interactional patterns among family members.

Interruptions

An interruption is said to occur if one family member begins to speak while another is already speaking; the frequency of interruptive behavior is counted within a given vignette. The definition of interruption has varied somewhat in the literature. The two major distinctions that have been made in this regard concern the notion of a "successful interruption" (where the interrupting person literally takes over the speech) and "unsuccessful interruption" (where the interrupting person merely breaks into the pattern of speech of another but does not take over the speech). The definition employed in this study coincides with the latter; it is simply a frequency count of the number of instances in which one individual breaks into the speech patterns of another. (The operationalization of this index is described later in this chapter.)

The literature is generally consistent in its

analysis of the part that interruptions play in family communication. As a dependent variable, interruption has been identified as a measure of power by Mishler and Waxler (1968) and as a measure of family disorganization by Stabenau, Tupin, Werner, and Pollin (1965). In the current study, interruptions are viewed as an indicator of respect that family members have for each other. Regardless of the rationale accompanying the meaning of interruption, however, it appears to be fairly well established as a discriminatory variable. Farina (1960), studying schizophrenic families, noted that poor premorbid schizophrenics interrupted significantly more than good premorbid schizophrenics. Gassner and Murray (1969) noted that the families of neurotics interrupted each other much more than the families of normals. Similarly, Leighton et al. (1971), studying a somewhat different population, reported that clinic fathers and mothers tend to interrupt each other more than normals, and clinic children are interrupted significantly more than nonclinic children by their parents. Haley (1967), studying schizophrenic families, noted that these families tend to be mother-dominated, and these mothers controlled the situation by interruptive behavior. In the same vein, Patterson and Reid (1971) have demonstrated that, by altering the family interaction patterns, the system can be moved from relative "bedlam" to low rates of disruptive behavior.

Again, the evidence is substantially in favor of

employing interruptive behavior as a valid measure of dysfunctional interaction. As stated before, while a majority of the related research has been conducted with severely disturbed families, in the context of the study sample the principle still holds--that is, family interaction is a significant factor in the life space of the adolescent.

Summary

Talk time, activity level, decision-making time, and interruptions were used as the major dependent variables in this study. While these indices have been utilized rather extensively in the literature, their use has generally been with severely disturbed populations. Since the current study sample consists of predelinquent and delinquent youth and their families, a relatively large generalization factor has been assumed. The basis for this assumption is the numerous investigations which direct their attention to dysfunctional family interaction as a causative and/or maintaining factor in juvenile delinquency (Patterson, 1971; Patterson and Bechtel, 1970; Burgess and Akers, 1969; Stuart, 1971a). It is expected that these indices do in fact measure relative "normality" and "abnormality" and that they are sufficiently sensitive to register change as a function of intervention.

CHAPTER IV

OPERATIONALIZING THE DEPENDENT MEASURES

Talk Time

Talk time was used as a functional unit of analysis in the three subsidiary hypotheses.

Hypothesis IIC: This hypothesis predicts an increase in the adolescent's talk time as a function of intervention. Since the decision-making times and the activity levels vary from family to family and from pretreatment to posttreatment (as explained later in this chapter), an absolute measure of talk time in seconds would provide little critical information. For example, the adolescent may have talked for X seconds during the pretreatment decision-making period of Y seconds, and again talked for X seconds during the posttreatment decision-making period of Z seconds. Under these circumstances, unless the values Y and Z were identical, the adolescent talk time would be misrepresented, for if Y seconds were longer than Z seconds, the adolescent actually increased his contribution while maintaining an absolute talk time of X seconds. Given the possibility of this type of misrepresentation and in order to maintain standardization across families and sessions, it was necessary to employ a proportionate figure in the

analysis of this hypothesis.

If the following notations are used:

Talk Time of the Adolescent: TTA_{pr} for pretreatment
TTA_{po} for posttreatment

Activity Level: AL_{pr} for pretreatment
AL_{po} for posttreatment

the proportionate value for the adolescent is then:

TTA_{pr}/AL_{pr} for pretreatment
TTA_{po}/AL_{po} for posttreatment.

Hypothesis IIC therefore predicts that: $TTA_{pr}/AL_{pr} < TTA_{po}/AL_{po}$.

Hypothesis IIB: The comparative unit in this hypothesis is the activity level, which is determined by summing the verbalizations of all family members.

Using the following notations:

Talk Time of the Father: TTF_{pr} for pretreatment
TTF_{po} for posttreatment

Talk Time of the Mother: TTM_{pr} for pretreatment
TTM_{po} for posttreatment

Talk Time of the Adolescent: TTA_{pr} for pretreatment
TTA_{po} for posttreatment

the family activity level (AL) is then:

$AL_{pr} = TTF_{pr} + TTM_{pr} + TTA_{pr}$ for pretreatment

$AL_{po} = TTF_{po} + TTM_{po} + TTA_{po}$ for posttreatment.

In hypothesis IIB, activity level is considered in proportion to the decision-making time (see the section on Activity Level later in this chapter). Thus, while there is no direct manipulation of the variable itself, what is utilized in the analysis is a proportional value. This is considered more accurate than absolute talk time in view of the relatively large range in the decision-making times and activity levels among the various families. For the purposes of this hypothesis, a proportionate value would provide a more accurate representation than absolute value, since this measure is essentially an index of efficiency.

Hypothesis IIA: This hypothesis predicts a greater equivalence of talk time among family members as a function of intervention, i.e., the talk time is likely to be more evenly distributed at posttreatment when compared to pretreatment. A relatively complicated manipulation has to be employed in this analysis in order to achieve some degree of standardization across families.

Let us consider the three-person group--two parents and the adolescent. (Obviously the manipulation is much simpler for one-parent families.) In an ideal situation, according to this hypothesis, each family member would speak for 1/3 of the absolute total talk time (or activity level). This is the "expected value." In actuality, however, the recorded values of each family member

("observed value") may differ considerably from the expected values. Therefore, if the observed value is subtracted from the expected value (disregarding the sign), the resultant figure gives an absolute discrepancy from the ideal distribution for each family member ("discrepancy value").

While this comparison would suffice for comparison within a single family, problems arise when interfamily analyses are required. Since the activity levels differ from family to family and from time to time, a direct comparison is impossible. Hence, some method of standardization is needed. This is obtained by expressing the discrepancy value as a proportion of the expected value within each family. The resulting factor is a "standardized value" of the talk time recorded by each family member.

Using the following notations, the talk time variable is recorded as:

Talk Time Expected: TTX_{pr} for pretreatment

TTX_{po} for posttreatment

where $TTX_{pr} = 1/3(AL_{pr})$

and $TTX_{po} = 1/3(AL_{po})$

Talk Time Observed: TTO_{pr} for pretreatment

TTO_{po} for posttreatment.

Since equivalence would be calculated separately for each family member, the notations for the expected values are:

Expected Value of the Father: $TTXF_{pr}$ for pretreatment

$TTXF_{po}$ for posttreatment

Expected Value of the Mother: $TTXM_{pr}$ for pretreatment

$TTXM_{po}$ for posttreatment

Expected Value of the Adolescent: $TTXA_{pr}$ for pretreatment

$TTXA_{po}$ for posttreatment.

The observed values are recorded in a similar fashion:

Observed Value of the Father: $TTOF_{pr}$ for pretreatment

$TTOF_{po}$ for posttreatment

Observed Value of the Mother: $TTOM_{pr}$ for pretreatment

$TTOM_{po}$ for posttreatment

Observed Value of the Adolescent: $TTOA_{pr}$ for pretreatment

$TTOA_{po}$ for posttreatment.

The discrepancy value is determined by subtracting the observed value from the expected value. Thus, $TTXF_{pr}$ - $TTOF_{pr}$ would give the discrepancy value (DV) for father at pretreatment. The discrepancy value for each family member is calculated at pretreatment and again at posttreatment. From this is derived the standardized value, which is the discrepancy value divided by the expected value. Thus, for example, $DVF_{pr}/TTXF_{pr}$ is the father's standardized value at pretreatment and $DVA_{po}/TTXA_{po}$ is the adolescent's standardized value at posttreatment. According to

hypothesis IIA, therefore, the ideal at posttreatment would be:

$$DVF_{po}/TTXF_{po} = DVM_{po}/TTXM_{po} = DVA_{po}/TTXA_{po}.$$

Activity Level

Activity level is a functional unit of analysis in the three subsidiary hypotheses. The operationalization of this variable was described during the discussion of hypothesis IIB in the previous section. As delineated there, it is obtained by summing the talk times of all family members. However, an operational comparison of the activity level among the different families and problem situations requires a proportional analysis somewhat similar to that described under hypothesis IIA, although not as complex.

It is obvious by now that the activity levels differ not only among the families but also depending on the vignette under consideration and the time of application (pretreatment or posttreatment). In order to compare across cases, some sort of standardization is required. Thus a simple proportional analysis is utilized here. While the decision-making time varies from family to family, activity level is a period of time encompassed by the decision-making period. As the decision-making time varies the activity level may also vary, although it does not have to do so. Hypothesis IIB predicted that there would be a

proportionate increase in activity level as a function of intervention. As noted earlier, the implication here is that the families will spend their time more efficiently. What this implies for the analysis is self-evident, for it makes no sense to consider the absolute figures in view of the shifting time periods. By considering the proportions, the effect of this shift is essentially eliminated.

Since the notation for activity level is:

Activity Level: AL_{pr} for pretreatment
AL_{po} for posttreatment

and for decision-making time is:

Decision-Making Time: D_{pr} for pretreatment
D_{po} for posttreatment

the proportionate factor can then be written as:

AL_{pr}/D_{pr} and AL_{po}/D_{po}.

Thus hypothesis IIB predicts that: $AL_{pr}/D_{pr} < AL_{po}/D_{po}$.

Decision-Making Time

Decision-making time is the unit of analysis in hypothesis II, which predicts that this variable will decrease from pretreatment to posttreatment. Like activity level, it becomes simply a function of recorded time. Decision-making time is operationalized by recording the

duration of time from the first verbalization to the last verbalization in a given family. Periods of silence, then, become part of the decision-making time. No standardizing procedures are necessary with this index since it is essentially a "boundary measure"; that is, all of the other dependent measures fall within the confines of this time period.

Using the following notations:

Decision-Making Time: D_{pr} for pretreatment
D_{po} for posttreatment

hypothesis II predicts that: $D_{po} < D_{pr}$.

Interruptions

Interruptions are used as a dependent measure in hypothesis I. This hypothesis simply states that the absolute number of interruptions will decrease from pretreatment to posttreatment. Once again, a simple frequency count suffices for this analysis. Just as decision-making times may vary from family to family, so too can interruptions. Thus, if one family has a longer decision-making period than another family, the first family would also have more opportunities to interrupt each other. The whole system would balance out, enabling a simple frequency count of the number of interruptions. This procedure is feasible since, unlike activity level and talk time, interruptive behavior is not directly linked to

decision-making time.

Using the following notations:

Interruptions: I_{pr} for pretreatment

I_{po} for posttreatment

hypothesis I predicts that: $I_{po} < I_{pr}$.

CHAPTER V

DATA ANALYSIS

Coding Techniques and Conventions

The entire decision-making exercise was recorded on audiotape, which was then analyzed according to the stepwise procedures described in Appendix G. All of the coding was done by the experimenter; however five randomly chosen tapes were coded independently by a research assistant in an attempt to obtain some reliability in the coding process. An adequate degree of reliability was obtained, statistically (.92) as well as visually.[1] The visual matching procedure involved superimposing two event-recorder tapes in order to confirm the authenticity of the speech patterns. While the statistical value allowed for the assumption of accuracy in the duration of recorded speech,

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[1] The reliability coefficient was computed using the Pearson Product-Moment Correlation. Only the talk time index was employed in this calculation. The talk time for each family member was totaled within each vignette, and these totals were treated as separate scores. Thus, for five families, each vignette had a total of 15 different scores with each score representing a different subject. Three independent analyses were conducted for vignettes A, B and C, resulting in r's of .89, .94 and .92 respectively. The reported reliability coefficient of .92 is the average of these three computed figures.

this latter procedure provided information on the order of speech, that is, whether both coders identified the speakers accurately. Together, it was felt that these two procedures furnished sufficient information to accept the reliability of the coding conventions.

Several interpretive conventions were employed in translating the raw data into time units (seconds) for the dependent-measure analyses. The conventions used were:

1. The beginning of family discussion is where any one family member starts talking. The duration of the discussion period (decision-making time), therefore, begins with the first verbalization.
2. Since the family discusses the problem situation one at a time, the first verbalization is also the beginning of discussion for the first vignette.
3. The decision-making time is the time that elapses between the first and last verbalization during the discussion of a given vignette. This time, therefore, includes the periods of silence.
4. A time interval of more than two seconds represents silence. (The two-second interval has been utilized by other investigators--Doster [1972] and Schuham [1972].) It is then considered part of the decision-making time but not part of the talk time for any one individual.
5. A time interval of less than two seconds represents a pause; it is added onto the talk time of the individual who was talking at the time the pause occurred.

6. The total talk time of any one individual is determined by aggregating the speech units of that individual.
7. The total talk time (activity level) of the family is a simple aggregate of the talk times of all family members.
8. An interruption is said to occur if one person begins talking while another is already talking or if two people begin speech simultaneously. Since the directionality of speech is not a relevant factor in the current analysis, simultaneous speech could be interpreted as an interruption. For a verbalization to be considered an interruption, therefore, it must occur during the recorded talk time of another. A verbalization occurring during a pause is not considered an interruption.
9. In the event of an interruption by a nonparticipating member of the household, the period of time required for interaction with that member is deleted from the total talk time.

Statistical Procedures

The experimental task called for the family members to discuss three problem vignettes with the goal being to arrive at a mutually acceptable solution. Since each vignette included six alternative solutions, the essence of the decision process was to determine the most acceptable alternative. While the solutions themselves overlap to

some extent (within as well as across vignettes), no identical solutions are listed.

As part of the experimental procedure, the vignette order was randomly changed in an attempt to avoid any set effect. The specific order of the alternative solutions themselves, however, remained the same for such a change would have resulted in an inordinate multiplicity of forms. Furthermore, this procedure would have served no useful purpose since the fine discriminations required between alternatives would most likely have minimized the possibility of any order effects.

The analytic procedure was guided to some extent by the task procedures. Each problem vignette was considered an entity of its own, and each family was required to arrive at a mutually acceptable solution to the first problem prior to moving on to the second, and conclude the second before moving on to the third. Thus, each vignette was analyzed separately regardless of procedural position, and all vignette A's, for example, were combined in the analysis regardless of whether they appeared first, second or third in the order of presentation. In addition, each measure was combined across the three vignettes, and statistical tests were performed on these totals as well. The tabular presentations are labeled Vignette A, Vignette B, Vignette C, and Combined Vignettes.

All of these analyses were conducted separately for one- and two-parent families. This was considered necessary

for several reasons. First, all of the dependent measures under consideration can be affected by the number of people in the discussion. For example, three people are likely to talk more than two people, and more talk presents greater opportunities for interruption and greater decision-making time. Hence, theoretically at least, there would be a certain amount of interaction between the size of the group and the dependent indices. Second, family theory suggests that one-parent families are intrinsically different from two-parent families in terms of power relations, role relations, etc. (LeMasters, 1957). Third, small-group analysis indicates that the size of the group may have a distinct impact on the qualitative and quantitative aspects of the decision-making process (Thibaut and Kelley, 1959). Fourth, combining one- and two-parent families may in effect wipe out any critical differences due to parent absence. All of these factors together dictate that the analyses be conducted separately for one-parent and two-parent families.

The thrust of this study was to determine what happens to several interactional variables as a function of behavioral intervention. The major analyses, therefore, compared the posttreatment measures in the experimental group with the one control-group measure, utilizing t-tests for this purpose. In their discussion of the posttest-only design, Campbell and Stanley (1963) argue that this is perhaps "the only setting for which this test is optimal [p. 262]." While an analysis of variance or

covariance would have been more powerful, they require change scores to be computed, and there were no change scores in the control group. The primary differentiating comparison, therefore, is considered to be the distinction between the experimental group at posttreatment and the unitary control group scores--rather than a within-experimental-group pre-post analysis.

The first analysis essentially dealt with the study as a randomized posttest-only design, testing the difference between the experimental and control groups. A within-experimental-group pre-post analysis was also conducted and these data are presented in the next chapter, but the possible interaction between the pretest and treatment remains a problem here. As employed in this study, the design creates a threat to internal validity, a threat which could have been eliminated by not conducting the pretests with the experimental group. While the original intention of this investigator was to measure both groups at pretreatment and posttreatment (a pre-post control-group design), this proved to be impossible due to a change in the parent project design. A pure posttest-only design was also precluded since some experimental subjects had already been pretested prior to the design change, and their elimination from the sample would have further reduced the already small sample. The study design, therefore, poses several weaknesses which should be taken into consideration in the interpretation of the data.

The experimental- versus control-group comparison provides the substantive data in the current study, while the tests determining the within-experimental-group changes from pretreatment to posttreatment merely provide complementary evidence. Furthermore, the control group serves several other functions as well. First, it allows for the establishment of equivalence with a nontreated group prior to intervention (although this would be a valid assumption because of random assignment). The equivalence would be established by comparing the pretreatment scores in the experimental group with the recorded scores in the control group--theoretically, they should not differ significantly from each other. A second function of the control group is that it allows for a performance comparison of the experimental and control families on related Project outcome variables--those dependent measures employed by the parent project in its determination of "success" as a function of intervention. (Appendix A includes a discussion of the relationship between the Project variables and the interactional variables employed in the current study.)

CHAPTER VI

RESULTS AND DISCUSSION

All of the studies cited in this thesis concern two-parent family systems or ad hoc three-person groups; there are no studies of this nature for one-parent families. Given this state of affairs, the tenuous assumption has been made that what is true for two-parent families is also true for one-parent families. Since the independent variable of intervention remains the same for the two family structures, it is assumed that the probable effects would also be similar.

What follows is a systematic presentation of the results, considering each hypothesis in turn. For purposes of clarity, the three subsidiary hypotheses will be considered first, followed by the two major hypotheses.

Hypothesis IIA

Hypothesis IIA predicted that there would be a greater equivalence of talk time among the family members as a function of intervention. The relevant data for two-parent families are presented in Tables 5 and 6. While the overall trends seem to favor the hypothesis, the support is not strong. Although 11 of 12 possible measures moved

TABLE 5

HYPOTHESIS IIA, TWO-PARENT FAMILIES: T-TESTS COMPARING THE STANDARDIZED TALK TIMES OF THE FAMILY MEMBERS WITHIN THE EXPERIMENTAL GROUP (N=7) AT PRETREATMENT AND AT POSTTREATMENT

		Mean[1]	Standard Deviation	t-value[2] (df=6)
Father				
Vignette A	pre	.687	1.27	3.5590**
	post	.476	1.06	
Vignette B	pre	.640	1.08	2.0000*
	post	.400	1.04	
Vignette C	pre	.579	1.15	0.9015
	post	.341	1.01	
Combined Vignettes	pre	1.907	4.33	1.4920
	post	1.216	2.92	
Mother				
Vignette A	pre	.464	1.10	0.8333
	post	.274	1.02	
Vignette B	pre	.690	1.03	1.6555
	post	.493	1.07	
Vignette C	pre	.623	1.04	0.5543
	post	.491	1.07	
Combined Vignettes	pre	1.779	3.62	1.4180
	post	1.260	3.55	
Adolescent				
Vignette A	pre	.674	1.02	0.5982
	post	.607	1.01	
Vignette B	pre	.361	1.03	2.2700*
	post	.504	1.02	
Vignette C	pre	.707	1.02	1.1800
	post	.563	1.04	
Combined Vignettes	pre	1.743	2.76	0.8214
	post	1.674	2.43	

[1] These values represent the proportion DV/TTX--the lower score indicates greater equality.

[2] t-tests for related samples were performed here.

* $p<.05$

** $p<.01$

TABLE 6

HYPOTHESIS IIA, TWO-PARENT FAMILIES: T-TESTS COMPARING THE STANDARDIZED TALK TIMES OF THE FAMILY MEMBERS BETWEEN THE EXPERIMENTAL GROUP (N=7) AND THE CONTROL GROUP (N=7) AT POSTTREATMENT

	Experimental Group[1]	Control Group[1]	t-value[2] (df=12)	Signif.
Father				
Vignette A	$\bar{X}$=.476 sd=1.06	$\bar{X}$=.807 sd=4.81	1.4270	n.s.
Vignette B	$\bar{X}$=.400 sd=1.04	$\bar{X}$=.580 sd=4.73	0.8372	n.s.
Vignette C	$\bar{X}$=.341 sd=1.01	$\bar{X}$=.477 sd=4.97	0.6600	n.s.
Combined Vignettes	$\bar{X}$=1.216 sd=2.92	$\bar{X}$=1.860 sd=4.80	1.1880	n.s.
Mother				
Vignette A	$\bar{X}$=.274 sd=1.02	$\bar{X}$=.434 sd=3.02	1.0960	n.s.
Vignette B	$\bar{X}$=.493 sd=1.07	$\bar{X}$=.466 sd=2.79	0.1451	n.s.
Vignette C	$\bar{X}$=.491 sd=1.07	$\bar{X}$=.369 sd=2.67	0.6740	n.s.
Combined Vignettes	$\bar{X}$=1.260 sd=3.55	$\bar{X}$=1.269 sd=2.71	0.0255	n.s.
Adolescent				
Vignette A	$\bar{X}$=.607 sd=1.01	$\bar{X}$=.486 sd=3.42	0.8287	n.s.
Vignette B	$\bar{X}$=.504 sd=1.02	$\bar{X}$=.477 sd=3.10	0.1849	n.s.
Vignette C	$\bar{X}$=.563 sd=1.04	$\bar{X}$=.417 sd=2.40	0.7933	n.s.
Combined Vignettes	$\bar{X}$=1.674 sd=2.43	$\bar{X}$=1.380 sd=2.86	0.8054	n.s.

[1] The mean values represent the proportion Dv/TTX--the lower score indicates greater equality.

[2] t-tests for independent samples were performed here.

in the predicted direction, only two of these comparisons are significant. Both are contained within the father's measures. A third significant finding appeared in the adolescent's indices, but in the opposite direction. Using a binomial test, the overall trend in the predicted direction is significant at the $p<.005$ level, thus providing some support for the hypothesis. However, the lack of significant findings on the individual comparisons forces us to reject this hypothesis. The data on one-parent families are even less supportive (Tables 7 and 8). Here, the distribution of talk time appears to have not been affected by intervention at all.

In considering these data, particular attention should be paid to Tables 17 and 18, which show that within the two-parent family systems, the talk times of the parents were relatively equal prior to intervention. In other words, the issue of dominance by one family member does not seem to be a problem in the study sample. The case appears to be one of shared dominance, with the parents dominating the family interaction but maintaining relative equality between themselves. In a similar vein, the one-parent mother established herself as the dominant figure in interaction with her child (see Tables 19 and 20).

Inequitable dominance or an authoritarian structure has been viewed as a problem in some of the more severely disturbed family systems by investigators such as Farina (1960) and Farina and Dunham (1963). The essence of the

TABLE 7

HYPOTHESIS IIA, ONE-PARENT FAMILIES: T-TESTS COMPARING THE TALK TIMES OF THE MOTHER AND ADOLESCENT WITHIN THE EXPERIMENTAL GROUP (N=6) AT PRETREATMENT AND AT POSTTREATMENT

		Mean[1]	Standard Deviation	t-value[2] (df=5)
Mother				
Vignette A	pre	.750	2.12	0.1248
	post	.763	2.41	
Vignette B	pre	.868	1.06	2.8457*
	post	.663	1.64	
Vignette C	pre	.850	0.89	1.8150
	post	.788	1.14	
Combined Vignettes	pre	2.468	4.96	1.2859
	post	2.215	4.52	
Adolescent				
Vignette A	pre	.250	2.12	0.1248
	post	.237	2.41	
Vignette B	pre	.132	1.06	2.8457*
	post	.337	1.64	
Vignette C	pre	.150	0.89	1.8150
	post	.212	1.14	
Combined Vignettes	pre	.532	4.96	1.2859
	post	.785	4.52	

[1] These values represent the simple talk time proportion. The standardization procedures employed with the two-parent families are not necessary here given the two-person group.

[2] t-tests for related samples were performed here.

* $p<.05$

TABLE 8

HYPOTHESIS IIA, ONE-PARENT FAMILIES: T-TESTS COMPARING THE TALK TIMES OF THE MOTHER AND ADOLESCENT BETWEEN THE EXPERIMENTAL GROUP (N=6) AND THE CONTROL GROUP (N=8) AT POSTTREATMENT

	Experimental Group[1]	Control Group[1]	t-value[2] (df=12)	Signif.
Mother				
Vignette A	$\bar{X}$=.763 sd=2.41	$\bar{X}$=.785 sd=.096	0.2918	n.s.
Vignette B	$\bar{X}$=.663 sd=1.64	$\bar{X}$=.719 sd=2.08	0.8645	n.s.
Vignette C	$\bar{X}$=.788 sd=1.14	$\bar{X}$=.730 sd=1.12	0.5366	n.s.
Combined Vignettes	$\bar{X}$=2.215 sd=4.52	$\bar{X}$=2.234 sd=3.82	0.0834	n.s.
Adolescent				
Vignette A	$\bar{X}$=.237 sd=2.41	$\bar{X}$=.203 sd=.096	0.3480	n.s.
Vignette B	$\bar{X}$=.337 sd=1.64	$\bar{X}$=.281 sd=2.08	0.5365	n.s.
Vignette C	$\bar{X}$=.212 sd=1.14	$\bar{X}$=.270 sd=1.12	0.9539	n.s.
Combined Vignettes	$\bar{X}$=.785 sd=4.52	$\bar{X}$=.766 sd=3.82	0.0838	n.s.

[1] The mean values represent the simple talk time proportion. The standardization procedures employed with two-parent families are not necessary here given the two-person group.

[2] t-tests for independent samples were performed here.

dominance relationships described in these studies is that one parent dominates the other parent. In contrast, the combined dominance of the two parents together over the child has been seen as the normal mode of functioning by other investigators (Leighton et al., 1971; Schuham, 1972). The data obtained with reference to hypothesis IIC appear to corroborate this latter position.

Parsons and Alexander (1971, 1973) reported a significant movement toward equalitarian speech patterns as a function of intervention. However, it is important to note that Parsons and Alexander's intervention strategies specifically included an equalitarian interaction goal. (The subjects in their study were juveniles who had been arrested for various behavioral offenses and their parents.) Since these investigators do not present data for individual family members (that is, considering each family member's talk time relative to each other), it is difficult to make any direct comparisons with the present study. Overall, however, there appears to be a fair degree of agreement in the findings of the two studies, at least where two-parent families are concerned. In essence, this study concurs with Parsons and Alexander in that the distribution of talk time among family members can be changed by behavioral intervention. This, however, is not necessarily a desirable change given relative equality in parental activity.

Hypothesis IIB

Hypothesis IIB predicted that the activity level of the family members (proportionate to the decision-making time) in the experimental group would increase from pretreatment to posttreatment. Tables 9 and 10 present these data for two-parent families, and Tables 11 and 12 for one-parent families. It is evident that this hypothesis is not supported in either family system. Tables 10 and 12, comparing the posttreatment activity level of the experimental group with the control group, indicate that there are no significant differences between the two conditions. This may be due to the high activity level noted at pretreatment and maintained at posttreatment by the experimental group. For example, when the absolute percentage of talk time is considered on the combined vignettes within the two-parent families, the experimental group talked an average of 67 percent of the time at pretreatment and 70 percent of the time at posttreatment. A high figure of 77 percent is recorded by the control group on the combined vignettes. Similar activity levels of 58 percent at pretreatment and 59 percent at posttreatment are recorded by the one-parent family systems as well. When these values are compared with talk rates of 29 percent for good premorbid schizophrenics and 19 percent for poor premorbid schizophrenics reported by Farina (1960) and Farina and Dunham (1963), the results of the current study are indeed predictable. In the same vein, Schuham (1972),

TABLE 9

HYPOTHESIS IIB, TWO-PARENT FAMILIES: T-TESTS COMPARING THE FAMILY ACTIVITY LEVEL WITHIN THE EXPERIMENTAL GROUP (N=7) AT PRETREATMENT AND AT POSTTREATMENT

		Mean[1]	Standard Deviation	t-value[2] (df=6)
Vignette A	pre	0.68	0.23	0.9268
	post	0.75	0.16	
Vignette B	pre	0.65	0.21	0.1362
	post	0.64	0.22	
Vignette C	pre	0.64	0.21	0.2622
	post	0.61	0.26	
Combined Vignettes	pre	0.67	0.22	0.6380
	post	0.70	0.17	

[1] These values represent the values AL/D.

[2] t-tests for related samples were performed here; none were significant.

TABLE 10

HYPOTHESIS IIB, TWO-PARENT FAMILIES: T-TESTS COMPARING THE FAMILY ACTIVITY LEVEL BETWEEN THE EXPERIMENTAL GROUP (N=7) AND CONTROL GROUP (N=7) AT POSTTREATMENT

	Experimental Group[1]	Control Group[1]	t-value[2] (df=12)	Signif.
Vignette A	$\bar{X}$=0.75 sd=0.16	$\bar{X}$=0.81 sd=0.17	0.6606	n.s.
Vignette B	$\bar{X}$=0.64 sd=0.22	$\bar{X}$=0.78 sd=0.16	1.3489	n.s.
Vignette C	$\bar{X}$=0.61 sd=0.26	$\bar{X}$=0.73 sd=0.19	0.9653	n.s.
Combined Vignettes	$\bar{X}$=0.70 sd=0.17	$\bar{X}$=0.77 sd=0.17	0.7622	n.s.

[1] The mean values represent the values AL/D.

[2] t-tests for independent samples were performed here.

TABLE 11

HYPOTHESIS IIB, ONE-PARENT FAMILIES: T-TESTS COMPARING THE FAMILY ACTIVITY LEVEL WITHIN THE EXPERIMENTAL GROUP (N=6) AT PRETREATMENT AND AT POSTTREATMENT

		Mean[1]	Standard Deviation	t-value[2] (df=5)
Vignette A	pre	0.65	17.31	0.5059
	post	0.60	15.95	
Vignette B	pre	0.49	13.88	2.7738*
	post	0.60	14.43	
Vignette C	pre	0.60	12.27	0.8683
	post	0.52	21.74	
Combined Vignettes	pre	0.58	8.46	0.1175
	post	0.59	13.22	

[1] These values represent the values AL/D.

[2] t-tests for related samples were performed here.

* $p<.05$

TABLE 12

HYPOTHESIS IIB, ONE-PARENT FAMILIES: T-TESTS COMPARING THE FAMILY ACTIVITY LEVEL BETWEEN THE EXPERIMENTAL GROUP (N=6) AND CONTROL GROUP (N=8) AT POSTTREATMENT

	Experimental Group[1]	Control Group[1]	t-value[2] (df=12)	Signif.
Vignette A	$\bar{X}$=0.60 sd=15.95	$\bar{X}$=0.58 sd=25.27	0.2074	n.s.
Vignette B	$\bar{X}$=0.60 sd=14.43	$\bar{X}$=0.56 sd=22.41	0.3724	n.s.
Vignette C	$\bar{X}$=0.52 sd=21.74	$\bar{X}$=0.56 sd=27.37	0.3282	n.s.
Combined Vignettes	$\bar{X}$=0.59 sd=13.22	$\bar{X}$=0.57 sd=21.29	0.1552	n.s.

[1] The mean values represent the values AL/D.

[2] t-tests for independent samples were performed here.

comparing the activity level of normal families with families containing a "borderline schizophrenic" child, noted that the former group had a significantly higher activity level.

The severity of family disturbance was alluded to earlier as a possible explanatory variable in the current study. A large proportion of the theory on family communication is based on the analysis of more severely disturbed family systems. In this context, the predelinquent and delinquent families utilized in the current sample may not reach the disturbance levels of the more deviant families--at least on some of the dependent variables. On the index of activity level, then, it appears that the delinquent family systems are more similar to the normal family unit than the severely disturbed.

Since it appears that the predelinquent and delinquent families in the current study fall in the "normal" end of the continuum on this variable, to some extent the theoretical presumption of inefficiency (that is, the decision-making period being characterized by long periods of silence and little discussion of the task at hand) has not been met. Parsons and Alexander (1971), in a study using adjudicated juvenile offenders, reported a significant reduction in silence as a function of behavioral intervention, however it is difficult to interpret these data in view of the fact that the investigators failed to report the relative means (on the silence measure) of the

experimental and control groups used in the study. In a related study, Doster and McAllister (1973) exposed male college undergraduates to "expert models" and analyzed the subjects' performance during a self-directed discussion period. Despite the models' behavior, the predicted increase in verbalization and decrease in silence did not materialize. Here again, the lack of change could well have been a function of high-level initial performance. (In this experimental situation, the subjects were allowed a maximum of four minutes for discussion of each topic. A control group with no model had a duration of speech of 2.01 minutes [50 percent], and the group with the expert model recorded a duration of speech of 2.24 minutes [56 percent]--a relatively high level of verbal activity. Though these data may be tangential to the case in point, they provide supporting evidence regarding the relative normalcy of the study sample on the variable of activity level.)

If the proportional hypothesis of activity level is set aside and the absolute value of family activity is considered (that is, a simple summation of the verbal activity of all family members), a somewhat different picture emerges. These data on two-parent families indicate that on 23 of a possible 28 instances of individual score comparisons, the activity level decreases from pretreatment to posttreatment. (The proportional value decreases in 13 of 28 instances.) This decrease in activity level is most

likely a consequence of the decrease in decision-making time --which occurs in 25 of 28 possible comparisons. When these same data are considered in one-parent families, the activity level decreases in only 15 of 24 instances. Thus, while the data are not as supportive of the hypothesis in one-parent families, the trends are in the predicted direction. It could perhaps be argued that the families are making decisions faster and somewhat more efficiently by requiring less discussion. That is, the family members may have learned of each other's viewpoints during the intervention period (due to the therapist modeling and encouraging freedom of expression) and, therefore, may have a greater degree of initial agreement. While this explanation is plausible, it is weak for reasons delineated earlier (see Chapter III). Furthermore, when t-tests are performed on the pre-post scores within the experimental group, none of the comparisons are significantly different among the two-parent families, and only one significant difference is noted among the one-parent families. Thus, the overall evidence leads to the rejection of hypothesis IIB.

Hypothesis IIC

Hypothesis IIC predicted that the talk time recorded by the adolescent (proportionate to the family activity level) would increase from pretreatment to posttreatment. Tables 13 and 14 present these data for two-parent families,

TABLE 13

HYPOTHESIS IIC, TWO-PARENT FAMILIES: T-TESTS COMPARING THE ADOLESCENT'S TALK TIME WITHIN THE EXPERIMENTAL GROUP (N=7) AT PRETREATMENT AND AT POSTTREATMENT

		Mean[1]	Standard Deviation	t-value[2] (df=6)
Vignette A	pre	0.17	0.19	0.7357
	post	0.13	0.06	
Vignette B	pre	0.20	0.09	1.3709
	post	0.16	0.08	
Vignette C	pre	0.10	0.08	1.1398
	post	0.15	0.10	
Combined Vignettes	pre	0.17	0.11	1.3538
	post	0.13	0.06	

[1] These values represent the proportion TTA/AL.

[2] t-tests for related samples were performed here; none were significant.

TABLE 14

HYPOTHESIS IIC, TWO-PARENT FAMILIES: T-TESTS COMPARING THE ADOLESCENT'S TALK TIME BETWEEN THE EXPERIMENTAL GROUP (N=7) AND CONTROL GROUP (N=7) AT POSTTREATMENT

	Experimental Group[1]	Control Group[1]	t-value[2] (df=12)	Signif.
Vignette A	$\bar{X}$=0.13 sd=0.06	$\bar{X}$=0.17 sd=0.11	0.5520	n.s.
Vignette B	$\bar{X}$=0.16 sd=0.08	$\bar{X}$=0.17 sd=0.10	0.2037	n.s.
Vignette C	$\bar{X}$=0.15 sd=0.10	$\bar{X}$=0.20 sd=0.08	0.9500	n.s.
Combined Vignettes	$\bar{X}$=0.13 sd=0.06	$\bar{X}$=0.18 sd=0.08	0.9406	n.s.

[1] The mean values represent the proportion TTA/AL.

[2] t-tests for independent samples were performed here.

and Tables 15 and 16 for one-parent families. Once again, there is no evidence to support the hypothesis. Tables 14 and 16 indicate that the values attained by the experimental group at posttreatment do not differ from those of the control group. Although the pre-post analysis within the experimental one-parent group provides some supporting data, the hypothesis has to be rejected given the lack of substantiation at posttreatment.

When absolute talk time of the adolescent is considered, low-level activity is recorded in both family systems. In the two-parent family, the adolescent accounts for 17 percent of the total family activity level at pretreatment and 13 percent at posttreatment. These data suggest, therefore, that the adolescents merely maintain their low level of verbal activity during the course of intervention. Intervention per se and the therapist's activities make little difference in the total talk time of the adolescent.

In considering these data, we are once again faced with the issue of severity of family disturbance. Available studies seem to again support the position that the predelinquent and delinquent families in this sample are more like the normal than abnormal families with respect to this variable. For example, Gassner and Murray (1969) compared the parents of normal children with the parents of "neurotic" children. The neurotic label in this instance referred to adolescents with "school problems,

TABLE 15

HYPOTHESIS IIC, ONE-PARENT FAMILIES: T-TESTS COMPARING THE ADOLESCENT'S TALK TIME WITHIN THE EXPERIMENTAL GROUP (N=6) AT PRETREATMENT AND AT POSTTREATMENT

		Mean[1]	Standard Deviation	t-value[2] (df=5)
Vignette A	pre	0.25	21.27	0.0168
	post	0.25	34.93	
Vignette B	pre	0.13	10.57	2.8080*
	post	0.34	16.24	
Vignette C	pre	0.15	8.70	4.0960**
	post	0.25	8.37	
Combined Vignettes	pre	0.18	21.68	1.4250
	post	0.26	20.51	

[1] These values represent the proportion TTA/AL.

[2] t-tests for related samples were performed here.

* $p<.05$

** $p<.005$

TABLE 16

HYPOTHESIS IIC, ONE-PARENT FAMILIES: T-TESTS COMPARING THE ADOLESCENT'S TALK TIME BETWEEN THE EXPERIMENTAL GROUP (N=6) AND CONTROL GROUP (N=8) AT POSTTREATMENT

	Experimental Group[1]	Control Group[1]	t-value[2] (df=12)	Signif.
Vignette A	$\bar{X}$=0.25 sd=34.93	$\bar{X}$=0.20 sd=10.89	0.4794	n.s.
Vignette B	$\bar{X}$=0.34 sd=16.24	$\bar{X}$=0.28 sd=13.65	0.5218	n.s.
Vignette C	$\bar{X}$=0.25 sd=8.37	$\bar{X}$=0.27 sd=14.56	0.3649	n.s.
Combined Vignettes	$\bar{X}$=0.26 sd=20.51	$\bar{X}$=0.28 sd=6.61	0.2525	n.s.

[1] The mean values represent the proportion TTA/AL.

[2] t-tests for independent samples were performed here.

anxiety symptoms, and social maladjustment"; therefore Gassner and Murray's "neurotic" adolescents appear to correspond to the predelinquent and delinquent sample in the current study. In a family discussion situation involving only the two parents, these investigators compared the "total talk time spoken by each parent." They found no differences either between or within the "neurotic" and normal groups. Thus, talk time apparently does not distriminate between normals and "neurotics," the implication being that it may not be a sensitive index of change with the current sample.

In contrast to the above study, Schuham (1972) compared the verbal activity of normal families with families who had a "borderline psychotic" child. The pattern that emerged was as follows: "The members of the disturbed families could not be statistically differentiated from each other at all, whereas with normal families both parents could be differentiated from their children but not from each other [p. 71]." The data presented in Table 17 appear to correspond to Schuham's observations about two-parent normal families. Within the experimental group, fathers and mothers can be significantly differentiated from their children in 7 of 12 tests. At the same time, there are no significant differences between the two spouses in the six possible comparisons. Similarly, within the control group parents can be differentiated from their children in 4 of 6 tests, while they themselves remain

TABLE 17

TWO-PARENT FAMILIES: T-TESTS COMPARING THE TALK TIMES OF THE FAMILY MEMBERS WITHIN THE EXPERIMENTAL GROUP AT PRETREATMENT AND AT POSTTREATMENT

		Vignette A[1]	Vignette B[1]	Vignette C[1]
Father *vs* Adolescent	pre	1.5920	2.7358*	3.2703*
	post	6.2064***	1.8594	2.6617*
Mother *vs* Adolescent	pre	2.1173	1.4142	4.0724**
	post	2.1773	7.1392***	4.1340*
Father *vs* Mother	pre	0.1414	0.4981	0.1920
	post	1.3779	1.4362	1.2588

[1] t-tests for related samples were performed here.

* p<.05

** p<.01

*** p<.001

TABLE 18

TWO-PARENT FAMILIES: T-TESTS COMPARING THE TALK TIMES OF THE FAMILY MEMBERS WITHIN THE CONTROL GROUP[1]

	Vignette A[2]	Vignette B[2]	Vignette C[2]
Father *vs* Adolescent	2.2647	3.9051**	2.6336
Mother *vs* Adolescent	2.9600*	1.2362	2.7858*
Father *vs* Mother	0.9282	1.3527	0.7312

[1] Since the control group was tested only once, only one set of t values are available.

[2] t-tests for related samples were performed here.

* p<.05

** p<.01

indistinguishable from each other (Table 18). Similar results emerge for one-parent families when the mother's talk time is compared with the adolescent's talk time; 5 of 6 tests within the experimental group and all 3 within the control group significantly differentiate the mother's talking behavior from that of the adolescent (Tables 19 and 20).

Again, the study sample is closer to the "normal" population than to the disturbed population on the variable of adolescent talk time. Thus, the severity of the family disturbance again appears in the forefront. While the indices being employed may be sufficiently sensitive to record changes, the initial performance of the family appears to be at a relatively high level. In order for the families to show a significant change, they would have to record relatively large changes on these particular variables. In addition, of course, the question remains as to whether a communication system which has been in existence throughout the life of a family unit can be suddenly changed by a therapist! While this author would answer this rhetorical question in the affirmative, the current data do not support this position--but the nonsupport is a function of initial "good" performance rather than therapeutic failure or inability to change. Furthermore, changing these particular interactional characteristics may require a deliberate and concerted effort on the part of the therapist, as was the case in the

TABLE 19

ONE-PARENT FAMILIES: T-TESTS COMPARING THE TALK TIMES OF THE FAMILY MEMBERS WITHIN THE EXPERIMENTAL GROUP AT PRETREATMENT AND AT POSTTREATMENT

		Vignette A[1]	Vignette B[1]	Vignette C[1]
Mother *vs* Adolescent	pre	2.0633*	1.4155	4.9570**
	post	2.1876*	2.0376*	6.2001**

[1] t-tests for related samples were performed here.

* $p<.05$

** $p<.005$

TABLE 20

ONE-PARENT FAMILIES: T-TESTS COMPARING THE TALK TIMES OF THE FAMILY MEMBERS WITHIN THE CONTROL GROUP[1]

	Vignette A[2]	Vignette B[2]	Vignette C[2]
Mother *vs* Adolescent	3.3190**	2.7300*	3.1161**

[1] Since the control group was tested only once, only one set of t-values are available.

[2] t-tests for related samples were performed here.

* $p<.05$

** $p<.01$

study by Carter and Thomas (1973). While in most instances the Project therapists did use communication change techniques, it was not a prescribed therapeutic procedure.

In summary, all three subsidiary hypotheses are rejected within both one-parent and two-parent family systems. Possible reasons for this are discussed in Chapter VII. What follows are the results for the two major hypotheses in this study: hypothesis I which concerns interruptive behavior, and hypothesis II which deals with decision-making time.

Hypothesis I

Hypothesis I predicted that the number of interruptions recorded by the family members would decrease from pretreatment to posttreatment. The data on this hypothesis are presented in Tables 21 and 22 for two-parent families, and Tables 23 and 24 for one-parent families. There is overwhelming support for this hypothesis in the two-parent family systems but only trend data for one-parent families. When the number of interruptions between the experimental and control two-parent families at posttreatment are compared (Table 22), we see that 3 of 4 possible comparisons are statistically significant. Similar results are obtained when the within-group pre-post analysis is conducted. Equivalent comparisons in the one-parent family groups resulted in only one significant finding, but the trend of the data is

TABLE 21

HYPOTHESIS I, TWO-PARENT FAMILIES: T-TESTS COMPARING THE FREQUENCY OF INTERRUPTIONS WITHIN THE EXPERIMENTAL GROUP (N=7) AT PRETREATMENT AND AT POSTTREATMENT

		Mean[1]	Standard Deviation	t-value[2] (df=6)
Vignette A	pre	5.0	4.7	0.7400
	post	4.1	7.0	
Vignette B	pre	5.3	6.5	9.1848*
	post	1.9	1.2	
Vignette C	pre	5.3	8.3	7.8806*
	post	1.8	1.1	
Combined Vignettes	pre	15.6	19.5	11.2420*
	post	7.3	6.1	

[1] These values represent the average number of interruptions.

[2] t-tests for related samples were performed here.

* $p<.0005$

TABLE 22

HYPOTHESIS I, TWO-PARENT FAMILIES: T-TESTS COMPARING THE FREQUENCY OF INTERRUPTIONS BETWEEN THE EXPERIMENTAL GROUP (N=7) AND CONTROL GROUP (N=7) AT POSTTREATMENT

	Experimental Group[1]	Control Group[1]	t-value[2] (df=12)	Signif.
Vignette A	$\bar{X}$=4.1 sd=7.0	$\bar{X}$=9.1 sd=8.8	1.5610	n.s.
Vignette B	$\bar{X}$=1.9 sd=1.2	$\bar{X}$=15.7 sd=19.9	1.9111	$p<.05$
Vignette C	$\bar{X}$=1.8 sd=1.1	$\bar{X}$=11.7 sd=12.1	2.2640	$p<.05$
Combined Vignettes	$\bar{X}$=7.3 sd=6.1	$\bar{X}$=36.6 sd=38.7	1.9800	$p<.05$

[1] The mean values represent the average number of interruptions.

[2] t-tests for independent samples were performed here.

TABLE 23

HYPOTHESIS I, ONE-PARENT FAMILIES: T-TESTS COMPARING THE FREQUENCY OF INTERRUPTIONS WITHIN THE EXPERIMENTAL GROUP (N=6) AT PRETREATMENT AND AT POSTTREATMENT

		Mean[1]	Standard Deviation	t-value[2] (df=5)
Vignette A	pre	1.00	0.89	1.5950
	post	0.33	0.00	
Vignette B	pre	0.67	1.10	0.1648
	post	0.82	1.55	
Vignette C	pre	0.82	1.89	0.7619
	post	0.50	0.00	
Combined Vignettes	pre	2.50	2.59	0.5886
	post	1.67	2.25	

[1] These values represent the average number of interruptions.

[2] t-tests for related samples were performed here; none were significant.

TABLE 24

HYPOTHESIS I, ONE-PARENT FAMILIES: T-TESTS COMPARING THE FREQUENCY OF INTERRUPTIONS BETWEEN THE EXPERIMENTAL GROUP (N=6) AND CONTROL GROUP (N=8) AT POSTTREATMENT

	Experimental Group[1]	Control Group[1]	t-value[2] (df=12)	Signif.
Vignette A	$\bar{X}$=0.33 sd=0.00	$\bar{X}$=1.88 sd=2.42	1.5346	n.s.
Vignette B	$\bar{X}$=0.82 sd=1.55	$\bar{X}$=1.63 sd=2.33	0.7339	n.s.
Vignette C	$\bar{X}$=0.50 sd=0.00	$\bar{X}$=3.25 sd=2.87	1.9230	p<.05
Combined Vignettes	$\bar{X}$=1.67 sd=2.25	$\bar{X}$=6.75 sd=6.96	1.7046	n.s.

[1] The mean values represent the average number of interruptions.

[2] t-tests for independent samples were performed here.

in the predicted direction.

In view of the rejection of the three previous hypotheses and the argument that the study sample is much less disturbed than was previously assumed, the question arises as to why this index should show any change. To phrase the question another way, is the interruptive index a nondiscriminative one as far as the severity of disturbance is concerned? One possibility is that this index is more sensitive to change than any of the previous indices. An alternative explanation is that interruptive behavior is somewhat more easily observable and interpretable than talk time, hence modification becomes easier and perhaps necessary. This latter explanation is particularly plausible in view of Kenkel (1963) and Kenkel and Hoffman's (1956) finding that family members are unaware of each other's talking behavior. Although there are no empirical data to back up this proposition, intuitively it seems harder to ignore (be unaware of) interruptive behavior, from both the family members' and therapist's points of view.

A third explanation lies in the research literature. The findings in hypothesis IIC agreed with the findings reported by Gassner and Murray (1969), whose sample resembled the study sample at least in symptomatology. These investigators found no difference between the "neurotic" group and the normal group on the variable of interruption. At the same time, however, there appeared

to be a relatively high incidence of interruptive behavior in both groups (12.83 for the neurotics and 16.07 for the normals). These high frequencies seem to correspond to the incidence of interruption recorded in the two-parent study sample prior to intervention (15.6 for the experimental group and 36.6 for the control group). This comparison is somewhat tenuous, however, since the situational contexts of the two studies may be entirely different.

Farina (1960) and Farina and Dunham (1963), working with good and poor premorbid schizophrenics, found interruptions to be a discriminative variable. Their findings indicate that interruptive behavior discriminates between good and poor premorbid schizophrenics as well as between a control group (nonschizophrenic) and the poors. Leighton et al. (1971), working with the families of children considered to be underachievers and behavior problems in school, reported an average incidence of 16.2 interruptions--again a similar sample to the study sample in symptom description, and showing similar interruption patterns.

It appears, then, that the reduction in the number of interruptions within the two-parent families at posttreatment could have resulted from behavioral intervention. Thus the contract-based interventive procedure seems to have resulted in the family acquiring a more desirable model of interaction, where each family

member is allowed to have his or her say without the fear of interruption. The absence of interruption, in turn, should result in a more efficient mode of communication, since the participants would be responding to what a person says rather than to anticipated pronouncements.

Where one-parent families are concerned, initial interruptive behavior is virtually nonexistent. Thus, intervention could have little impact on the frequency of occurrence of this behavior. Incidentally, the low rate of interruption in the one-parent families indicates that many of the interruptions in the two-parent families must be taking place between the spouses. This is in fact true, with the husband and wife responsible for 68 percent of the total interruptions at pretreatment. This finding concurs with Leighton et al.'s (1971) report that "clinic" parents tend to interrupt each other more than parents of "normals."

Hypothesis II

Hypothesis II predicted that the decision-making time would decrease from pretreatment to posttreatment as a function of intervention. As can be seen from Tables 25 and 26, there is overwhelming support for this hypothesis for two-parent families. Table 25 shows that when the decision-making time is compared from pretreatment to posttreatment within the experimental group, all four possible comparisons are significant in the predicted

TABLE 25

HYPOTHESIS II, TWO-PARENT FAMILIES: T-TESTS COMPARING THE DECISION-MAKING TIME WITHIN THE EXPERIMENTAL GROUP (N=7) AT PRETREATMENT AND AT POSTTREATMENT

		Mean[1]	Standard Deviation	t-value[2] (df=6)
Vignette A	pre	249.93	157.53	2.2648*
	post	140.71	48.55	
Vignette B	pre	230.14	134.63	2.0702*
	post	103.71	42.03	
Vignette C	pre	173.14	143.50	4.3447**
	post	81.64	28.99	
Combined Vignettes	pre	653.21	393.74	14.2590***
	post	326.07	30.15	

[1] These values represent D.

[2] t-tests for related samples were performed here.

* $p<.05$

** $p<.005$

*** $p<.0005$

TABLE 26

HYPOTHESIS II, TWO-PARENT FAMILIES: T-TESTS COMPARING THE DECISION-MAKING TIME BETWEEN THE EXPERIMENTAL GROUP (N=7) AND CONTROL GROUP (N=7) AT POSTTREATMENT

	Experimental Group[1]	Control Group[1]	t-value[2] (df=12)	Signif.
Vignette A	$\bar{X}$=140.71 sd=48.55	$\bar{X}$=267.14 sd=179.37	1.8000	$p<.05$
Vignette B	$\bar{X}$=103.71 sd=42.03	$\bar{X}$=299.07 sd=299.50	1.7090	n.s.
Vignette C	$\bar{X}$=81.64 sd=28.99	$\bar{X}$=275.38 sd=194.72	2.6037	$p<.05$
Combined Vignettes	$\bar{X}$=326.07 sd=30.15	$\bar{X}$=841.57 sd=631.52	1.9972	$p<.05$

[1] The mean values represent D.

[2] t-tests for independent samples were performed here.

direction. Similarly, when the primary comparisons of the decision-making times at posttreatment for the experimental group and the control group are considered, 3 of the 4 possible tests are significant. In contrast, the results with one-parent families are not as clear-cut (Tables 27 and 28), although the trends are in the predicted direction.

Ferreira and Winter (1965), comparing delinquent, schizophrenic, maladjusted, and normal families, observed that normal families made decisions significantly faster than any of the abnormal families. Furthermore, these investigators were unable to discriminate between the decision-making times of the three abnormal groups. In view of these findings, they considered faster decision-making time to be an indicator of more efficient family functioning. Similar results were reported in a related publication by Ferreira et al. (1966). The findings in the current study appear to concur with the available evidence in the literature, although the reader is reminded that the research concerns only two-parent families.

TABLE 27

HYPOTHESIS II, ONE-PARENT FAMILIES: T-TESTS COMPARING THE DECISION-MAKING TIME WITHIN THE EXPERIMENTAL GROUP (N=6) AT PRETREATMENT AND AT POSTTREATMENT

		Mean[1]	Standard Deviation	t-value[2] (df=5)
Vignette A	pre	70.67	38.07	1.7597
	post	100.25	52.05	
Vignette B	pre	129.50	99.44	3.9046*
	post	76.83	38.72	
Vignette C	pre	129.42	45.70	1.5128
	post	93.58	16.33	
Combined Vignettes	pre	329.58	121.56	1.3862
	post	270.58	70.97	

[1] These values represent D.

[2] t-tests for related samples were performed here.

* $p<.01$

TABLE 28

HYPOTHESIS II, ONE-PARENT FAMILIES: T-TESTS COMPARING THE DECISION-MAKING TIME BETWEEN THE EXPERIMENTAL GROUP (N=6) AND CONTROL GROUP (N=8) AT POSTTREATMENT

	Experimental Group[1]	Control Group[1]	t-value[2] (df=12)	Signif.
Vignette A	$\bar{X}$=100.25 sd=52.05	$\bar{X}$=147.63 sd=95.44	1.1593	n.s.
Vignette B	$\bar{X}$=76.83 sd=38.72	$\bar{X}$=139.25 sd=69.99	2.0772	p<.05
Vignette C	$\bar{X}$=93.58 sd=16.33	$\bar{X}$=147.63 sd=70.02	1.9477	p<.05
Combined Vignettes	$\bar{X}$=270.58 sd=70.97	$\bar{X}$=434.50 sd=208.20	1.7117	n.s.

[1] The mean values represent D.

[2] t-tests for independent samples were performed here.

CHAPTER VII

CONCLUSIONS AND SUMMARY

In a recent survey of the literature, Theodore Jacob (1975) noted that "family interaction studies, although based on a potentially sound methodological strategy, have not yet isolated family patterns that reliably differentiate disturbed from normal groups [p. 56]." When this statement is considered in conjunction with the relative variability and inconsistency of the results reported by the various investigators, and the somewhat varied demographic characteristics of the populations studied, the primitive and exploratory nature of this study area becomes evident. In combination, then, the issues of normality and abnormality become blurred, and the appropriateness of these dependent measures as discriminatory variables becomes questionable.

In general, the results that have been presented provide a mixed picture of the effectiveness of behavioral intervention in changing some of the interactional characteristics in families. While within two-parent families there is overwhelming support for the two major hypotheses and partial support for hypothesis IIA, the remaining hypotheses must be rejected. Furthermore, the

data on one-parent families provide only weak support or trends. Thus, the status of contract-based behavioral intervention as a change agent in the family communication system remains an unpredictable factor.

Two major explanations may be offered as to why decision-making time and interruptive behavior improved as a function of intervention, while not affecting any of the talk time variables. The first concerns the issue surrounding the severity of the problem. While this has been discussed at some length, the essence of this explanation lies in the fact that the delinquent and predelinquent youth in this sample come from families which resemble normal families more than they do schizophrenic or other severely disturbed family systems. This apparent similarity to "normal behavior" seems to hold regardless of the index under consideration--even interruptive behavior and decision-making time. The data suggest, therefore, that the families in this study are already functioning at an adequate level on these particular indices when they enter treatment. If change were to take place, it would have had to be considerable in order to be observed, surpassing the so-called "normal" family interactional patterns. Furthermore, while the intervention strategy employed procedures that could have brought about communication change, the goal of treatment was somewhat broader. In the absence of a significant problem in a particular area, it is very likely that the therapists would proceed with

treatment overlooking any minor changes in this area that would have been desirable but not therapeutically necessary. Hence, intervention neither positively nor negatively changed already acceptable facets of family communication.

At the same time, however, some direct effort was made by the therapists to change the interactional mode in some families (see Appendix C). In 10 of 13 possible instances, the therapists reported that they attempted to alter the decision-making patterns in the family, but in only 8 of 13 instances did they implicate problem interaction in the family as a possible deterrent to treatment. The stated attempts at changing interaction ranged from "getting the adolescent to talk more" to "getting the parents to make decisions without listening to the adolescent's unasked contributions." The communicational problems the therapists encountered, therefore, were relatively diverse.

It is important to note that the unsupported hypotheses are directly related to talk time--these being activity level (which is a summation of all family members' talk times), the adolescent's talk time, and the equal distribution of talk time. Because these variables are linked to power and influence, the fact that they were minimally affected by intervention raises some more important and broader considerations with respect to the family system.

Bernard Bass (1949), studying an eight-person ad-hoc

group, noted that the person talking the most received the greatest number of votes for having demonstrated leadership. From these beginnings emerged the theoretical perspective postulated by Strodtbeck (1951, 1954), Mills (1953) and others, stating that in families the same proposition holds --that is, the family member who talks the most has the greatest influence in a decision-making situation. In contrast, the person speaking the least has the least influence. This proposition has been upheld regularly across various and different family systems (Farina, 1960; Ferreira et al., 1966; Haley, 1967; Kenkel, 1963). Thus, there appears to be considerable evidence supporting the notion that the person who talks the most has high decision-making power.

When this information is considered within the context of the current study, a self-evident pattern emerges. It was reported earlier that the two parents talked more than their children and the one parent more than her child. At the same time, however, the average talk times of the two spouses in the two-parent families could not be discriminated from each other. These dominant (parent[s]-child) and egalitarian (parent-parent) patterns within the families were evident at pretreatment as well as posttreatment. Within the theoretical context noted above, it would seem that the parents held greater influence in decision-making situations and maintained this influence regardless of intervention. (This is not to imply, however,

that intervention attempted to manipulate the power relationship in any way.)

Existing power patterns in a family have developed over a relatively long period of time, and it is undoubtedly a maintaining factor in the family "equilibrium" or "balance" (Blau, 1964; Emerson, 1962). It is also interesting to note that this division of the three-person group "into a pair and an other" follows the theoretical proposition of George Simmel (Wolff, 1950), confirmed later by Theodore Mills (1953). According to Mills, "the most active members form the solidary bond and the least active member is isolated [p. 355]." In a similar fashion, Haley (1959) and Schuham (1970), working with families, reported that there are significantly more coalition relationships in normal family triads than in disturbed families. Thus the family theorists and the social psychologists appear to predict similar characterizations in the family structure in decision situations. Under these circumstances, it is hard to imagine that a therapist who works with a family for a short period of time can alter the power relationships within the system. While the dyadic (one-parent-child) relationship has not been investigated in terms of power, it would seem logical to argue that the parent maintains the family power. In fact, changing the power relations here may have a greater impact than in a triad, since the possibility of scapegoating or coalition formation does not exist. In other words, neither the parent nor child has

any other supports within the family system.

The question then remains as to why interruptive behavior and decision-making time was effectively reduced by intervention in these same families. It is here that the second explanatory hypothesis comes into the picture. Throughout the literature, interruption is seen as an index of conflict (Farina, 1960; Farina and Dunham, 1963; Parsons and Alexander, 1971). As such, it is an event which is easily observable and self-evident to the participants when it occurs. Thus, it is relatively simple for the therapists to intercede with corrective action when and if interruptive behavior occurs. As a communicative device, it is something which all family members would presumably wish to eliminate. In addition, it has not been tied to power relations among family members in a systematic manner, although conceivably it could be employed as a controlling tactic. Reduction in interruptive behavior can be expected as a function of intervention. It does not threaten or change the existing family power equilibrium but merely facilitates communication within it. In fact, it would have a reinforcing effect in that, by not interrupting, the family members are showing each other that they respect their individual opinions.

On a similar vein, the ability to make decisions rapidly is a useful and often pragmatic tool. While family members may have been making their family decisions relatively fast and without too much conflict prior to

intervention, the process of intervention utilizing behavioral contracting procedures facilitated the growth and refinement of existing decision-making processes. The contracting process, as described elsewhere, involves the specification of goals, the specification of personal expectations, the verbalization of one's personal needs, etc.--a procedure which essentially dictates open communication. If a decision has to be made and if all of the information regarding that decision is available, then the decision can be made faster and more accurately. The intervention procedure encouraged just this type of open discussion.

While the overall results are certainly not overwhelming, it is undoubtedly true that intervention brought about greater change in two-parent families than in one-parent families. Theoretically, one would expect both family systems to have changed in a similar manner, but this cannot be substantiated by the literature. If one is to speculate, it could be argued that the two-parent family system has greater potential strength in coping with its problems due to the availability of greater resources within the system. In contrast, the one-parent families have fewer alternatives available to them; therefore the strength of authority may be more important to the single parent, reducing the therapist's impact.

In summary, the data suggest that contract-based

behavioral intervention was uniquely successful in reducing the decision-making times of the study sample, in both two-parent and one-parent families. While practice effect could be a plausible explanation here, it is argued that this is less of an explanatory factor than the contract negotiation processes utilized during the period of intervention. Thus it appears that intervention was successful in teaching family members the art of resolving problem situations in a relatively efficient manner. This efficiency perhaps resulted from the decrease in interruptive behavior, the absence of which would have enhanced the communication process by reducing intrafamily hostility and smoothing the interaction.

It is quite apparent from the results of this study, limited as they may be, that contract-based behavioral intervention could be a functionally productive tool in dealing with delinquent and predelinquent youth. This is particularly true given the relative speed with which intervention can proceed, in contrast to the more traditional approaches. In the Family and School Consultation Project's Final Report (1974), Stuart and Tripodi concluded that if there was to be long-term successful intervention, "intervention with families must include both specific problem-solving techniques and training in innovative problem resolution [p. 14]." The interactional data in the present study suggest that some training in this direction did in fact occur, although it

was not a previously decided interventive factor.

The results obtained with both two-parent and one-parent families partially confirm the expected viability of treatment. Contract-based behavioral intervention as a strategy of treatment succeeded in strengthening the decision-making processes found in the study sample. At the same time, however, the interventive procedure was not powerful enough to alter the communication patterns existing in the families. This fact should be taken into consideration in the utilization of contracting procedures in future interventive programs. If there is a need to significantly change the interactional system in the families, a more direct attack may be necessary.

APPENDIX A

SUMMARY RESULTS OF THE FAMILY AND SCHOOL CONSULTATION PROJECT AND THE RELATIONSHIP BETWEEN THE PROJECT VARIABLES AND THE INTERACTIONAL VARIABLES

A total of 64 subjects were referred to the Family and School Consultation Project: 27 were randomly assigned to the Family and School condition, 22 to the School Only condition, and 15 to the Control group. Following the research design, the two treatment groups were offered significantly different modes of intervention. Basically, the procedures in the Family and School condition called for the therapists to mediate the formulation and implementation of behavioral contracts, offering home reinforcements for desired changes in home and school behaviors (see Appendix B for details). In contrast, the School Only condition used only school reinforcements in attempting to bring about desirable behavioral changes in school (see Appendix B for details).

Considerable attention was paid to the therapeutic procedures in order to minimize therapist variability in the intervention process. These efforts resulted in considerable success, although some therapist differences emerged as possible explanatory or concomitant variables. Despite these differences, however, Stuart and Tripodi stated in the Family and School Consultation Project Final Report (1974) that "the clients of each therapist seem relatively equally pleased with the outcome of service." In addition, the outcome variables showed no significant differences between therapists, thus providing evidence

for the relative success of the uniformity attempts--a fairly critical factor in the research program.

The Project employed numerous measures of "success" to evaluate the impact of intervention. Ten primary outcome measures[1] were utilized, plus grades and attendance. All data were collected through written instruments consisting of questions answered on Likert-type scales. Each measure was administered at pretreatment and again at posttreatment. Multiple assessments were made of each behavioral index. Teachers, counselors, parents and the adolescent all evaluated the latter's school behavior; in addition, the adolescent's home behavior was evaluated by the parents and the adolescent himself/herself. Table A1 contains a matrix of the correlations among these indices at the end of treatment for both experimental groups. Inspection of the table indicates that while there was very high agreement among the four "official" measures of the adolescent's school behavior (grades, attendance, counselor evaluation, and teacher evaluation), there was little relationship among the family measures, which were

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[1] Family measures: (1) Parent/child relationship (father's and mother's evaluations of their relationship with their child); (2) Evaluation of home behavior (father's, mother's, and adolescent's evaluations of the adolescent's home behavior). School measures: (1) Counselor evaluation (counselor's evaluation of adolescent's school behavior); (2) Teacher evaluation (an average of the math and English teachers' evaluations of the adolescent's school behavior); (3) Evaluation of school behavior (father's, mother's, and adolescent's evaluation of adolescent's school behavior).

TABLE A1

CORRELATIONS BETWEEN THE PROJECT OUTCOME MEASURES AT POSTTREATMENT: EXPERIMENTAL GROUPS ONLY

		1	2	3	4	5	6	7	8	9	10	11	12
Grades	1												
Attendance	2	.54*											
Counselor Evaluation	3	.39	.44										
Teacher Evaluation	4	.64	.66	.54									
School Behavior Father	5	.31	.45	.27	.42								
School Behavior Mother	6	.12	.10	.35	.21	.34							
School Behavior Adolescent	7	.40	.38	.32	.34	.36	.46						
Parent/Child Father	8	.03	.03	.27	.47	.33	.01	.28					
Parent/Child Mother	9	.09	.04	.23	.10	.11	.49	.38	.33				
Home Behavior Father	10	.26	.08	.33	.69	.23	.29	.15	.66	.32			
Home Behavior Mother	11	.07	.16	.16	.13	.09	.60	.14	.30	.44	.08		
Home Behavior Adolescent	12	.37	.20	.11	.28	.08	.18	.50	.23	.01	.34	.27	

* All correlations which are significant at $p < .05$ are underlined.

the measures particularly relevant to the interaction study. Fathers, mothers, and adolescents agreed at a statistically significant level on only 4 of 15 measures of the adolescent's behavior at home. This shows an absence of internal consistency in the responses of each family member on the different family dimensions.

The results for the total Project sample are not presented here, but only one significant finding emerged: The Family and School subjects outperformed their counterparts in the other two conditions only on grades. At the same time, this focal treatment group improved in all 10 of the primary measures as well as grades, but it deteriorated in attendance. The School Only group performed equally well, improving in 9 of 10 indices; grades and attendance, however, decreased. The Control group improved in 7 of 10 measures and did not improve in grades and attendance. Thus, it appears that the entire sample showed improvement on the paper-and-pencil tests regardless of whether or not they received treatment.

Tables A2 and A3 present the Project outcome measures divided into the two-parent and one-parent categories employed in the current study. A series of t-tests were performed on the change scores from pretreatment to posttreatment for those subjects who participated in the interaction study (note that, for the interaction study, the experimental group consists of the Family and School condition, while the control group

TABLE A2

T-TESTS COMPARING THE PROJECT DEPENDENT VARIABLES FOR THE EXPERIMENTAL GROUP VERSUS THE CONTROL GROUP: TWO-PARENT FAMILIES

Variable Name	Experimental Group (N=7)	Control Group (N=6)	t-value[a]	Signif.
Parent/Child Father	$\bar{X}$=+1.714[b] sd=5.68	$\bar{X}$= 0.000 sd=4.05	0.6158	n.s.
Parent/Child Mother	$\bar{X}$=+1.286 sd=7.43	$\bar{X}$=+3.000 sd=2.83	0.5303	n.s.
Home Beha. Father	$\bar{X}$=+1.286 sd=3.45	$\bar{X}$=-0.167 sd=5.08	0.6118	n.s.
Home Beha. Mother	$\bar{X}$=+0.429 sd=1.72	$\bar{X}$=+1.000 sd=2.28	0.5152	n.s.
Home Beha. Adolescent	$\bar{X}$=+1.571 sd=1.90	$\bar{X}$=+0.333 sd=2.88	0.9295	n.s.
School Beha. Father	$\bar{X}$=+4.000 sd=4.51	$\bar{X}$=+5.000 sd=11.92	0.2067	n.s.
School Beha. Mother	$\bar{X}$=+4.857 sd=2.85	$\bar{X}$=+3.500 sd=4.37	0.6734	n.s.
School Beha. Adolescent	$\bar{X}$=+3.571 sd=3.51	$\bar{X}$=+0.667 sd=1.86	1.8148	n.s.
Counselor Evaluation	$\bar{X}$=+3.571 sd=3.91	$\bar{X}$=+4.500 sd=5.01	0.3756	n.s.
Teacher Evaluation	$\bar{X}$=+3.286 sd=2.63	$\bar{X}$=+2.333 sd=2.94	0.6167	n.s.

[a] t-tests for independent samples were performed here.

[b] These values represent the mean change score. The change score is the difference between the pretreatment and posttreatment scores recorded by the individual.

Note: The signs have been adjusted in all scores such that a plus (+) represents a positive change and a minus (-) represents a negative change.

TABLE A3

T-TESTS COMPARING THE PROJECT DEPENDENT VARIABLES FOR THE EXPERIMENTAL GROUP VERSUS THE CONTROL GROUP: ONE-PARENT FAMILIES

Variable Name	Experimental Group (N=6)	Control Group (N=6)	t-value[a]	Signif.
Parent/Child Mother	$\bar{X}$=+5.333[b] sd=4.03	$\bar{X}$=-0.833 sd=2.23	3.2781	p<.001
Home Beha. Mother	$\bar{X}$=+4.000 sd=3.16	$\bar{X}$=+1.000 sd=1.22	1.9862	n.s.
Home Beha. Adolescent	$\bar{X}$=+1.333 sd=1.75	$\bar{X}$=+2.500 sd=2.43	0.9544	n.s.
School Beha. Mother	$\bar{X}$=+5.000 sd=0.89	$\bar{X}$=-0.833 sd=2.32	5.7540	p<.001
School Beha. Adolescent	$\bar{X}$=+1.667 sd=2.25	$\bar{X}$=+1.167 sd=5.81	0.1965	n.s.
Counselor Evaluation	$\bar{X}$=+4.333 sd=3.27	$\bar{X}$=+1.857 sd=2.67	1.5051	n.s.
Teacher Evaluation	$\bar{X}$=+3.833 sd=2.93	$\bar{X}$=+1.857 sd=3.02	1.1919	n.s.

[a] t-tests for independent samples were performed here.

[b] These values represent the mean change score. The change score is the difference between the pretreatment and posttreatment scores recorded by the individual.

Note: The signs have been adjusted in all scores such that a plus (+) represents a positive change and a minus (-) represents a negative change.

contains both the School Only and the Control conditions). Table A2 indicates that for the two-parent families there are no significant differences between the experimental and the control groups, although the former showed greater improvement on 6 of 10 measures. In contrast, the one-parent experimental families show two statistically significant findings and improve more than the control group on 6 of 7 measures (Table A3). (Only mothers' and adolescents' measures were employed here since there were no one-parent fathers in the sample.) Thus, on the Project outcome indices, it appears that one-parent families outperform the two-parent families.

This finding raises several questions in view of the fact that contrary data were recorded by the interactional measures employed in this study. The data presented in the body of this thesis indicates quite clearly that two-parent families showed a distinct improvement in their communication patterns, resulting in a decrease of interruptive behavior and faster decision-making time. In contrast, the one-parent families did not show a significant decrease in interruptions (primarily due to the initial low frequency of this behavior); on decision-making time there was some improvement, but it was certainly not as dramatic as in the two-parent family systems.

Given these somewhat dichotomous findings--that is, that one-parent families performed better on the Project paper-and-pencil tests and two-parent families performed

better on the interactional measures--an explanation is needed. The most apparent explanation is that the self-report instruments are not at all related to the interactional measures. Table A4 presents these relationships, and it is quite evident that the two types of measures are tapping different elements in the family systems. Only 4 of 150 possible correlations are significant. In contrast, when the interactional measures themselves are correlated with each other, a high degree of relationship is observed (Table A5); 60 percent of these correlations are significant. (It should be noted, however, that these correlations are based on an N of 13, thus raising some concern over the validity of the analysis. Furthermore, a high degree of relationship is expected, given the interrelatedness of the measures.)

These data suggest, therefore, that the "process" measures are in fact measuring something different from the "outcome" measures. The Project outcome measures were designed to deliver quantified information about the adolescent's behavioral performance in school and at home and, at the same time, to determine any family relationship changes that may occur as a function of intervention. In contrast, the interactional measures employed in this study were directly geared to the determination of changes in the family communication patterns as a function of intervention. However, a presumed implication of the interactional change is that a positive change in this

TABLE A4

CORRELATIONS BETWEEN THE PROJECT OUTCOME MEASURES AND THE INTERACTIONAL MEASURES[a]

	VIGNETTE C					VIGNETTE B					VIGNETTE A				
	Interruptions	Decision Time	TT Adolescent	TT Mother	TT Father	Interruptions	Decision Time	TT Adolescent	TT Mother	TT Father	Interruptions	Decision Time	TT Adolescent	TT Mother	TT Father
Parent/Child Father	-.77*	-.50	.15	-.59	-.34	-.45	-.62	-.49	-.44	-.33	.47	.46	.12	.24	.67
Parent/Child Mother	.11	-.62	-.22	.00	-.13	.46	.37	.48	.42	-.13	.46	.38	-.02	.45	-.12
Home Behavior Father	-.34	-.20	.10	.13	.12	.01	.03	.14	.23	-.07	-.24	-.12	-.51	-.32	.14
Home Behavior Mother	.12	-.27	-.31	-.09	-.34	.38	.37	.18	.41	-.34	-.03	.40	.04	.21	-.34
Home Behavior Adolescent	.00	-.15	.01	.09	.12	.18	.09	-.42	.09	.13	-.35	-.11	-.37	-.01	.11
School Behavior Father	-.45	-.76	-.33	-.08	-.16	.12	.11	-.21	.32	.45	.19	.26	-.17	.24	.65
School Behavior Mother	.18	-.12	.07	.43	.21	.54	.47	.42	.55	.22	-.31	.09	-.23	.26	.20
School Behavior Adolescent	.03	-.28	.36	-.02	.14	-.23	-.15	-.52	-.07	.15	.07	-.09	-.20	.22	.15
Counselor Evaluation	.13	-.17	-.01	.15	.07	.05	.29	.17	.32	.06	.05	-.02	-.12	.17	.06
Teacher Evaluation	-.20	-.10	.09	.02	-.09	-.17	.14	-.01	.31	-.09	-.20	.04	-.47	-.01	-.08

[a] These correlations are based only on the experimental sample; hence, N=13 for mother and adolescent measures and N=7 for father measures. These correlations are based on the posttest scores.

* All correlations which are significant at $p < .05$ are underlined.

TABLE A5

CORRELATIONS BETWEEN THE INTERACTIONAL MEASURES AT POSTTREATMENT: EXPERIMENTAL GROUP ONLY[a]

VIGNETTE A	TT Father	1													
	TT Mother	2	-.35												
	TT Adolescent	3	-.26	.89*											
	Decision Time	4	-.59	.91	.89										
	Interruptions	5	-.50	.84	.88	.91									
VIGNETTE B	TT Father	6	.99	-.37	-.29	-.62	-.51								
	TT Mother	7	-.06	.77	.66	.66	.63	-.07							
	TT Adolescent	8	-.68	.55	.42	.61	.74	-.66	.42						
	Decision Time	9	-.37	.55	.42	.58	.66	-.35	.78	.71					
	Interruptions	10	-.45	.93	.84	.86	.92	-.44	.73	.74	.66				
VIGNETTE C	TT Father	11	.99	-.30	-.22	-.56	-.48	.99	-.03	-.68	-.36	-.41			
	TT Mother	12	.01	.84	.82	.67	.69	-.01	.86	.37	.54	.81	.06		
	TT Adolescent	13	.05	.65	.81	.55	.71	.03	.50	.39	.29	.68	.08	.81	
	Decision Time	14	-.17	.86	.87	.78	.79	-.20	.81	.54	.58	.85	-.13	.95	.84
	Interruptions	15	-.34	.96	.95	.91	.91	-.36	.77	.57	.55	.95	-.29	.89	.79	.93
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

[a] These correlations are based on the experimental sample; hence, N=13 for mother and adolescent measures, and N=7 for father measures. These correlations are based on the posttest scores.

* All correlations which are significant at $p < .05$ have been underlined.

arena would bring about positive changes in the other related areas of family functioning. The fact that this did not occur could be explained in part by the fact that these families appear to be more "normal" than deviant (on the specific variables under consideration). On the other hand, given the fact that even "good family systems" can get "better," these data do not explain why the families did not report better adjustment as a function of intervention on the paper-and-pencil tests (unless, of course, they were already performing at the so-called "normal" level, thus allowing little room for change). One other possible explanation lies in the reported lack of relationship that exists between self-report and interaction measures (Hadley and Jacob, 1973; Olson, 1969, 1972) and the lack of agreement among the self-report measures employed in the Project.

APPENDIX B

TREATMENT PROCEDURES IN THE FAMILY AND SCHOOL CONSULTATION PROJECT

In order to refer a student to the Project, school personnel were required to fill out a referral form and a referral evaluation form and to have the student's parents sign a release of information. Upon receipt of these forms by the Project, the case was randomly assigned to one of three conditions: the Family and School condition, the School Only condition, or the Control condition. In all cases the student and his/her parents were seen for family session 1 and again after four months in order to collect pre and post data.

After the first interview the therapist was informed of the treatment condition for that case. If the case fell in the Control condition, there were no further interviews with either the parents or the student until the four-month interview. If the case was in the Family and School condition, all family sessions and all school sessions were completed. If the case was in the School Only condition, the therapist had contact with the parents only at family session 1 and at the four-month interview; since the student was seen at school, all school sessions were completed.

The remainder of this appendix describes the family procedures and the school procedures separately, detailing what occurred in each session.

Family Procedures

Family Session 1

Regardless of treatment condition, all families were seen within one week of the time they were referred. Three goals were specified for this initial family session. The first was to have the family fill out the pretreatment forms. These included the Parent Evaluation Form--an assessment by each parent of their child's behavior at home, their relationship with the child, and their mutual interaction; the Client Evaluation Form--the student's assessment of family interaction; a face sheet for demographic information about the family; and a release of information form permitting the Project to obtain necessary information from the juvenile court and other agencies. The second goal required the therapist to assess both the student's and parents' perceptions of school performance. Finally, in an experimental attempt to assess compliance, the mother of each family was told to contact the Project in a few days to find out if treatment was currently available.

During the first meeting, Project services were described as concentrating on school behaviors and changes in the school. All families were told that there was a possibility that the Project would not be able to work with them due to the limitations of a small staff and because the Project did not like to keep a waiting list. Should the families not receive Project services, the therapist

promised to work with the school to find alternative services and check back with them in a few months to see if they still wanted the Project's help. To insure equivalent data collection across conditions, the therapists were not told the treatment condition until after their first meeting.

Families assigned to the School Only or Control conditions were so informed by telephone. The parents in these groups were not seen again until four months after the date of referral. Thus the family sessions described below apply only for those cases assigned to the Family and School condition.

Family Session 2

At the beginning of the second session, family members were asked to read and sign the Family Treatment Contract. The purpose of this contract was for the family to come to a clear understanding of what would be involved in treatment. The contract was not signed until all questions were answered and until each family member expressed verbal agreement with the terms of the contract.

The therapist stressed the point that the primary concern in treatment would be improving behaviors that were problematic in school. Once these were dealt with, attention could be given to school-related behaviors that occurred in the home, e.g., "doing homework." A staff decision was made to help families deal with problems that

were not school-related, but later in the treatment; these problems were excluded from the initial contract so families would not be encouraged to raise issues unrelated to school before the school problems were sufficiently treated.

Next in the second session, the therapist reviewed the Goal Checklist, which had been filled out by the mother prior to the meeting and mailed to the Project. Since the information on this checklist would provide the foundation for contract negotiation, it was important that the information be accurate and complete.

The family was then told that they would be contacted for their next appointment after student-teacher contracts were set up in the school. The remainder of the second session was used for conducting the interaction study presented here.

Family Session 3

It was during the third family session that negotiation of a family contract took place. In preparation for this, several preliminary points were covered. First, contracting was explained to the parents as being a necessary and possibly temporary step in restoring some balance to their child's ledger of performing responsibilities and earning privileges. At this point, the child was not getting "paid off" for doing what he/she was supposed to and, in addition, was probably

being reinforced for inappropriate behaviors--behaviors incompatible with those he/she should be doing. For example, a common situation was one in which teachers wanted students to pay attention and participate in class discussion. The problem was that the students were often ignored when behaving well, but they received a great deal of attention by both students and teachers when misbehaving. In addition, poor behavior warranted a call from teacher to parents so that the attention to negative behavior was perpetuated at home.

Parents were told that the contract's purpose was to restore reinforcement for their child's good behavior and that they could play an integral part in helping their child improve by granting privileges at home contingent on good school performance. Class cards were described as the means by which parents would be kept informed of school behavior. The student would carry one to each class every day, obtaining a rating and a signature from each teacher, and would show it to his/her parents at the end of the day.

Contract negotiation involves specifying, prioritizing, and then matching up responsibilities desired by the parents and privileges desired by the child. To determine home privileges, the mother had been asked to fill out a Preference Checklist prior to this meeting. At the meeting, the child was asked to look over the list, indicate if he/she disagreed or wanted to add any privileges, and then indicate which were most important to

him/her.

To determine the "responsibilities" side of the contract, the family was first told the responsibilities (goals) in the school contract. The parents were then asked to specify which of those responsibilities were most important to them. Once the items for the contract were specified, negotiation--the process by which family members agreed on which privileges could be earned for completing which responsibilities--took place.

Once the contract was negotiated, the parents were given a monitoring form. They were instructed to keep a daily record of the extent to which the student had met his/her responsibilities and whether they had given or withheld those privileges which were contingent on the student's behavior. The family was asked to bring all school cards and the monitoring form to the meeting the following week. In addition, they were asked to call the therapist if any problems arose.

Family Session 4 through the End of Treatment

Subsequent sessions with families followed a basically similar format, varying only with each family's particular problems in implementing the contract. The first step in all meetings subsequent to session 3 was for the therapist to collect school cards and monitoring forms, look them over, and verbally reinforce contract compliance. If any portion of the contract had not been followed, there

was a discussion of the ways in which compliance could be facilitated the following week.

If the family requested help with home behaviors, those issues were discussed, added to the contract, and monitored. In addition, if a family was having problems communicating with the school, a plan was developed to facilitate positive parent-teacher contacts. A frequent method used was for the therapist to arrange a parent-teacher conference for which the teachers had been cued to relay primarily positive information about the student. These forums generally provided an opportunity for a useful exchange of information. Teachers came to see the parents as "concerned," which often helped the teacher see the student in a different light as well. Parents, on the other hand, had the opportunity to see the teachers as people who cared about the student's progress, rather than some distant figure "picking on my kid." In addition, periodic phone calls or special notes saying how well a student was doing aided greatly in building a positive, goal-oriented parent-teacher coalition.

As families became successful in following their contracts and keeping good records of their own behavior, and if the goals had been met consistently for five to six consecutive weeks, the weekly meetings and therapist reinforcement were gradually faded and then withdrawn.

School Procedures

The school procedures were the same for both the Family and School condition and the School Only condition. After the first family session had been held, the therapist gave each of the student's teachers a packet of forms. The first of these forms was a cover sheet requesting the teacher to read the information and, if interested in participating in the program, to complete the rest of the forms prior to a meeting. The therapist proposed a meeting time on the cover sheet and asked the teacher to indicate either that this time was convenient or to specify a more appropriate time. This procedure was part of an experimental design intended to measure compliance with therapists' written instigations.

School Session 1

During the first school session, which was held separately with each of the student's teachers, the therapist completed several tasks. If the teacher was still only considering involvement in the program, the therapist responded first to any questions the teacher had. The therapist and teacher then went over the work sheets and filled in any questions the teacher had not answered. The teacher and therapist discussed the Teacher Contract, and the teacher was requested to sign it in this session. The therapist also signed the contract at this time.

The therapist then prepared the teacher for the

contract negotiation with the student. The teacher and therapist discussed the teacher's goals for the student and attempted to outline these goals in a positive, specific manner, limiting them to three academic and three social goals. The teacher and therapist further assessed whether a shaping procedure was necessary in order for the student to achieve these specified goals. If the student had scored below grade level in reading and/or math tests (both standardized and informal), a "small steps" procedure was built into the contract. In addition, the teacher was asked to determine which privileges he/she would be willing to grant the student, contingent upon the student's meeting the contract responsibilities. This was done by having the teacher read a list of privileges and check whether or not he/she would be willing to give the student the privilege; he/she was then asked to rank-order those privileges which were acceptable.

The teacher was also given a class card and shown how to complete it when given one by the student. At this time, the therapist included on the class card any goals the teacher had established, and requested the teacher to monitor these goals during the baseline period lasting three to five days.

School Session 2

This session included the therapist and the referred student. It was usually held during one of the student's

classes and lasted about 30 minutes. At this meeting, the student was given a Privilege Checklist like the one given to his/her teachers and was asked to complete it by placing a check in the yes or no column next to each privilege. The student was then asked to rank-order the privileges. The therapist used the three highest-ranked privileges during the contract negotiation between the student and teacher.

The student was also asked (1) what he/she would like teachers to do differently and (2) what changes he/she would like made in classes. This information was noted, and the therapist then modeled a contract negotiation session for the student with a rough draft of a contract actually being written.

The student was asked to carry a class card each day to all of his/her classes and to return the cards to the therapist at the end of the school day. Sometimes in classes where no problem was indicated, the student was not required to carry cards; it was encouraged, however, because it was assumed that the student would receive positive feedback from these teachers. This information would be seen by other teachers and provide a positive stimulus for any teachers having a negative image of the student. The therapist further requested that the cards be carried every day as a baseline until the actual contracting session with the teachers--a minimum of three school days and a maximum of five school days from this session. Privileges were not

contingent upon class-card scores during this period, although the therapists would randomly give a McDonald's certificate or simple verbal praise to insure continued class-card carrying. The students were not informed ahead of time that this would happen. Also at this time, the student was requested to attend the contracting session, and commitment was solicited and noted.

School Session 3

This session was the contracting session and included the therapist, student, and a teacher who had requested participation in the program. Thus there were a minimum of one and as many as six separate contracts for the student. Despite the increased amount of time for the student, this procedure of meeting with each teacher individually was deemed more effective for the following reasons: (1) It allowed the therapist to model positive comments in front of the teacher and to control negative comments; and (2) it allowed each teacher to be more specific in determining goals and classroom responsibilities, thus enabling the student to have a more complete understanding of teacher expectations.

Contract negotiation began with the therapist discussing the goal behaviors monitored during baseline on the class card. The level of performance initially expected in the contract was based upon the actual level of performance during baseline. This expectation was

increased upon the student's successful completion of the initial goal. Also, this specification permitted precise daily communication between therapist, student and teacher. The student was encouraged to modify or alter the goals if desired, and a compromise between teacher and student was then negotiated.

After the goals were agreed upon, the therapist asked the student to indicate which privileges he/she wished to receive for completion of each responsibility. This generally took the form of one to two "in-class" privileges to be granted by the teacher and one "bonus" privilege for the week to be granted by a school person of the student's choice. The therapist's responsibility then became one of convincing or encouraging the teacher and/or administrator to grant the student's top choices of privileges, since these were felt to be crucial for the success of the contract.

Termination goals were derived from the initial goals agreed upon by the student and teacher. In most cases, they were an increase in the initial expected behaviors. However, some teachers were satisfied with the completion of the initial goals. Termination goals were thus defined in this meeting and written into the contract.

The therapist informed both the teacher and student that the final contract agreed upon in this session was negotiable only after it had been in effect for three weeks. With this understanding the teacher, therapist and student

signed the final draft of the contract.

The therapist stipulated that the student could fade to weekly cards contingent upon (1) carrying daily cards for a minimum of four weeks and (2) achieving contract termination goals for a minimum of ten consecutive days within that period. In addition, termination with the Family and School Consultation Project would occur if the contract goals were met for four consecutive weeks on the daily cards.

At the end of the session, the teacher was requested to (1) sign all class cards presented by the student, (2) grant privileges as earned, and (3) contact the therapist regarding any questions. The student was asked to present the class cards to all participating teachers and to give them to the therapist at the end of the day.

In the School Only condition, the contract was implemented as soon as the student and therapist had contracted with all interested teachers. In the Family and School condition the contract was presented to the parents for final negotiation before it was implemented in the school. The therapist monitored the student's daily class cards in both conditions, although the student in the Family and School condition was also monitored by his parents. The data from these cards were vital in determining the success or failure of the program, hence the need for consistent, reliable, and valid information. Since the therapists felt it was also valuable and actually

desirable to have the teachers monitor rather than the therapist, this became a goal of the fading procedure.

Four-Month Interview

Four months from the initial treatment contract (defined as the first school or family contact after family session 1 for the Family and School or School Only groups) or, in the case of the Controls, four months from the first family interview, another family interview was scheduled. The purpose of this meeting was to have the parents and student fill out the posttreatment Parent Evaluation and Client Evaluation Forms; in addition, they were asked to complete an Evaluation of Treatment Form. This four-month interview did not necessarily constitute the end of treatment for cases could be faded or terminated at any time, but this was considered to be the standard interval for data-collection purposes.

APPENDIX C

THERAPIST INTERVIEW SCHEDULE AND RESULTS

1. Did you instruct this family on the nature and value of positive reinforcement?

YES	NO
(13)	*(0)*

If YES, what did you say?

2. How often do you reinforce positive statements made by one family member to another?

ALWAYS	ALMOST ALWAYS	SOMETIMES	ALMOST NEVER	NEVER
(5)	*(7)*	*(1)*	*(0)*	*(0)*

3. When family members are positive to each other in an interaction situation, how often do you point this out to them?

ALWAYS	ALMOST ALWAYS	SOMETIMES	ALMOST NEVER	NEVER
(2)	*(7)*	*(4)*	*(0)*	*(0)*

4. Did you instruct this family on the negative effects of punishment?

YES	NO
(8)	*(5)*

If YES, what did you say?

5. When family members are negative to each other in an interaction situation, how often do you point this out to them?

ALWAYS	ALMOST ALWAYS	SOMETIMES	ALMOST NEVER	NEVER
(0)	*(0)*	*(2)*	*(6)*	*(5)*

6. How often do you carry out verbal behaviors (such as positively reinforcing the child for carrying class cards) with the specific intention of modeling the appropriate behaviors to the family?

ALWAYS	ALMOST ALWAYS	SOMETIMES	ALMOST NEVER	NEVER
(8)	*(4)*	*(1)*	*(0)*	*(0)*

7. When you are doing something which you consider to be modeling, how aware do you think the family members are of your intentions?

VERY MUCH AWARE	SOMEWHAT AWARE	NOT SURE	NOT VERY AWARE	NOT AT ALL AWARE
(3)	*(6)*	*(4)*	*(0)*	*(0)*

8. If during an interview you pick up on a family member's or your own behavior as an example of a good model, do you point this out to the family members?

ALWAYS	ALMOST ALWAYS	SOMETIMES	ALMOST NEVER	NEVER
(4)	*(4)*	*(5)*	*(0)*	*(0)*

9. When discussing a problem, to what extent do you reinforce and encourage opinion/feeling statements made by the family members?

ALWAYS	ALMOST ALWAYS	SOMETIMES	ALMOST NEVER	NEVER
(5)	*(7)*	*(1)*	*(0)*	*(0)*

10. When discussing a problem, to what extent do you attempt to elicit opinion/feeling statements from all the family members during treatment?

ALWAYS	ALMOST ALWAYS	SOMETIMES	ALMOST NEVER	NEVER
(6)	*(5)*	*(2)*	*(0)*	*(0)*

11. How often do you attempt to draw silent family members into discussion?

ALWAYS	ALMOST ALWAYS	SOMETIMES	ALMOST NEVER	NEVER
(6)	*(7)*	*(0)*	*(0)*	*(0)*

12. When a usually silent family member speaks, do you specifically reinforce that member for his/her talking behavior?

ALWAYS	ALMOST ALWAYS	SOMETIMES	ALMOST NEVER	NEVER
(6)	*(7)*	*(0)*	*(0)*	*(0)*

13. In an interview situation, when family members are negotiating a contract item, for example, do you believe each person is saying what he/she wants to say without holding back?

	COMPLETELY OPEN	SOME RESERVATION	GREAT DEAL OF RESERVATION
Father	*(2)*	*(5)*	*(0)*

(NOTE: Only 7 of the 13 families had fathers in the home, hence N=7.)

	COMPLETELY OPEN	SOME RESERVATION	GREAT DEAL OF RESERVATION
Mother	*(6)*	*(6)*	*(1)*
Kid	*(3)*	*(6)*	*(4)*

14. If a family member has a tendency to interrupt, do you discourage such behavior (by ignoring, instructing, etc.)?

ALWAYS	ALMOST ALWAYS	SOMETIMES	ALMOST NEVER	NEVER
(1)	*(3)*	*(1)*	*(3)*	*(5)*

15. If interruptive behavior occurs in the family, do you specifically reinforce non-interruptive behavior?

ALWAYS	ALMOST ALWAYS	SOMETIMES	ALMOST NEVER	NEVER
(0)	*(2)*	*(2)*	*(3)*	*(6)*

16. In working with this family, did you consciously attempt to alter their decision-making patterns (for example, discourage authoritarian decisions, consider different alternatives before coming to a decision, etc.)?

YES	NO
(10)	*(3)*

If YES, how?

17. If YES, do you think the family members were aware of your attempts?

VERY MUCH AWARE	SOMEWHAT AWARE	NOT SURE	NOT VERY AWARE	NOT AT ALL AWARE
(7)	*(3)*	*(0)*	*(0)*	*(0)*

(NOTE: The attempt to change decision patterns was made only in 10 cases, hence N=10.)

18. How often do you play back taped interactions to this family in order to point out "goods" and "bads"?

ALWAYS	ALMOST ALWAYS	SOMETIMES	ALMOST NEVER	NEVER
(0)	*(0)*	*(0)*	*(0)*	*(13)*

19. You probably have some ideas based on theory and experience about how a "healthy" family interacts and makes decisions. (For example, do they interrupt each other a lot? Is there democratic-type interaction in problem-solving situations?) Judging from your knowledge of this family, how would you rate their interaction in a problem-solving situation--contracting, for example?

VERY GOOD	GOOD	O.K.	BAD	VERY BAD
(1)	*(4)*	*(3)*	*(3)*	*(2)*

20. Now, thinking about this family's interaction patterns, how often do you think they do the following things:

Positively reinforce each other

ALWAYS	ALMOST ALWAYS	SOMETIMES	ALMOST NEVER	NEVER
(2)	*(7)*	*(4)*	*(0)*	*(0)*

Be negative to each other

ALWAYS	ALMOST ALWAYS	SOMETIMES	ALMOST NEVER	NEVER
(1)	*(2)*	*(1)*	*(7)*	*(2)*

Take a long time to reach a decision

ALWAYS	ALMOST ALWAYS	SOMETIMES	ALMOST NEVER	NEVER
(3)	*(3)*	*(3)*	*(4)*	*(0)*

Remain silent for long periods of time

ALWAYS	ALMOST ALWAYS	SOMETIMES	ALMOST NEVER	NEVER
(2)	*(1)*	*(2)*	*(4)*	*(4)*

Interrupt each other

ALWAYS	ALMOST ALWAYS	SOMETIMES	ALMOST NEVER	NEVER
(1)	*(2)*	*(1)*	*(4)*	*(5)*

Agree with each other

ALWAYS	ALMOST ALWAYS	SOMETIMES	ALMOST NEVER	NEVER
(1)	*(6)*	*(3)*	*(2)*	*(1)*

Disagree with each other

ALWAYS	ALMOST ALWAYS	SOMETIMES	ALMOST NEVER	NEVER
(1)	*(1)*	*(2)*	*(7)*	*(2)*

21. Do you believe that the interaction patterns in this family have a relationship to the problems you have encountered during treatment?

YES	NO	NO IDEA
(8)	*(3)*	*(2)*

If YES, please explain.

22. Were there any specific interaction patterns that you would have liked to or did change in this family?

YES	NO
(11)	*(2)*

If YES, what were they?

If you did make changes, what did you do?

APPENDIX D

FAMILY INTERVIEW SCHEDULE AND RESULTS

1. How often did you feel free to discuss your opinions and feelings during interviews?

	FREQUENTLY	SOMETIMES	SELDOM	*Missing Data*
2-parent	*(17)*	*(4)*	*(0)*	*(0)*
1-parent	*(11)*	*(1)*	*(0)*	*(0)*

2. How often did the therapist encourage you to talk and discuss your opinions and feelings during interviews?

	FREQUENTLY	SOMETIMES	SELDOM	*Missing Data*
2-parent	*(19)*	*(1)*	*(1)*	*(0)*
1-parent	*(10)*	*(2)*	*(0)*	*(0)*

3. Did the therapist discuss positive reinforcement (rewards, praise, etc.) with you?

	YES	NO	*Missing Data*
2-parent	*(21)*	*(0)*	*(0)*
1-parent	*(11)*	*(1)*	*(0)*

4. How often did you feel that the therapist was positively reinforcing (praised your behavior, encouraged you, etc.) during interviews?

	FREQUENTLY	SOMETIMES	SELDOM	*Missing Data*
2-parent	*(19)*	*(1)*	*(0)*	*(1)*
1-parent	*(11)*	*(1)*	*(0)*	*(0)*

5. Did the therapist give you instructions on when to reward and when to withhold privileges?

	YES	NO	*Missing Data*
2-parent	*(21)*	*(0)*	*(0)*
1-parent	*(12)*	*(0)*	*(0)*

6. How often did the therapist model (i.e., show you a good way to do or say something) during interviews?

	FREQUENTLY	SOMETIMES	SELDOM	*Missing Data*
2-parent	*(17)*	*(3)*	*(1)*	*(0)*
1-parent	*(11)*	*(0)*	*(1)*	*(0)*

7. How would you say that your behavior toward other members of your family has changed since treatment began?

	POSITIVE	NEGATIVE	NO CHANGE	*Missing Data*
2-parent	*(17)*	*(1)*	*(3)*	*(0)*
1-parent	*(11)*	*(0)*	*(1)*	*(0)*

APPENDIX E

DECISION-MAKING TASK

Adolescent Vignettes

IN THE STORIES WHICH FOLLOW, IMAGINE THAT YOU ARE IN THIS SITUATION, AND THAT YOU AND YOUR PARENTS ARE NOW DISCUSSING HOW TO SOLVE THE PROBLEMS DESCRIBED. YOU MAY NOT LIKE ANY OF THE SOLUTIONS LISTED AFTER THE STORY, BUT THINK OF THEM AS THE ONLY ONES YOU HAVE.

You have taken a paper route where you have to deliver papers every evening of the week, and you get paid $10.00 for this work. You have been working pretty hard and have been tired in the evenings. Your school grades have gone down from a B to a D. You are now taking a full load of classes and your parents are worried about your grades. You and your parents are talking about this problem.

Below are 6 possible solutions. Choose the answer which you think would be the best way to solve this problem, and write a 1 on the line next to it. Write a 2 beside the next best solution, and so on. The number 6 should be next to the solution you think is the worst.

___ You can continue to work provided you do an extra hour of school work every night.

___ Your parents are willing to make your allowance $4.00 per week instead of $2.00 per week if you give up your job.

___ You can keep the job if you do at least 1 hour of schoolwork before you deliver the papers.

___ You must give up the job now and bring your grades up. If you have a B average at the next marking period, then you can start work again.

___ You must work fewer hours until you get a B average.

___ You can keep the job provided your grade point average goes back up to a B the next marking period. If it does not go up to a B, then you must give up the job.

Have you had a problem similar to the one in this story?

YES___ NO___

Do you have any friends who have had a similar problem?

YES___ NO___

You have two important homework assignments due tomorrow morning, two assignments which could bring your grade point average up from a D to a B. You are watching your favorite TV program and don't feel like doing the homework at this time. By the time the program is over it will be pretty late, and you may be too tired to do a good job on your homework. You and your parents are talking about what should be done at this time.

Below are 6 possible solutions. Choose the answer which you think would be the best way to solve this problem, and write a 1 on the line next to it. Write a 2 beside the next best solution, and so on. The number 6 should be next to the solution you think is the worst.

___ You can continue watching the program, but if you don't get at least a B in the two assignments, you will be grounded the rest of the week.

___ You can continue watching the program, but you'll do the homework before you go to sleep tonight.

___ You can continue to watch the program, but if you don't get at least a B in the two assignments, you won't be allowed to watch TV for another week.

___ If you turn off the TV now and finish your homework, your parents will take you to a movie of your choice on Saturday.

___ If you turn off the TV now and finish your homework, you can stay out 1 hour past your normal curfew this Friday.

___ If you turn off the TV now and finish your homework, you can watch two extra hours of TV tomorrow.

Have you had a problem similar to the one in this story?

YES___ NO___

Do you have any friends who have had a similar problem?

YES___ NO___

You have been skipping many of your classes for the past four weeks, attending only about 2 of 5 classes a day. The Assistant Principal has called your parents and asked them to meet with you and your counselor, saying that you might be suspended from school unless your attendance improves. The three of you are now discussing ways to increase your attendance.

Below are 6 possible solutions. Choose the answer which you think would be the best way to solve this problem, and write a 1 on the line next to it. Write a 2 beside the next best solution, and so on. The number 6 should be next to the solution you think is the worst.

___ For attending all your classes every day, you can go out both Friday and Saturday nights.

___ If you miss more than 2 classes any one day, you will have to stay home that evening.

___ You will get a dime for every class you attend, but a dime will be taken out of your allowance for every class you miss.

___ You will not get your weekly allowance unless you attend at least 4 of 5 classes every day.

___ For attending all 5 classes every day, your parents will give you money to go to a movie of your choice on Saturday.

___ If you go to all your classes every day, your allowance will be raised by $1.00 per week.

Have you had a problem similar to the one in this story?

YES___ NO___

Do you have any friends who have had a similar problem?

YES___ NO___

Parent Vignettes

IN THE STORIES WHICH FOLLOW, IMAGINE THAT YOU ARE IN THIS SITUATION, AND THAT YOU AND YOUR CHILD ARE NOW DISCUSSING HOW TO SOLVE THE PROBLEMS DESCRIBED. YOU MAY NOT LIKE ANY OF THE SOLUTIONS LISTED AFTER THE STORY, BUT THINK OF THEM AS THE ONLY ONES YOU HAVE.

Your child has taken a paper route where he delivers papers every evening of the week, and gets paid $10.00 for his work. He has been working hard and has been tired in the evenings. His school grades have gone down from a B to a D. He is now taking a full load of classes and you are worried about the low grades. You want your child to bring his grades up, and you are talking to him about this problem.

Below are 6 possible solutions. Choose the answer which you think would be the best way to solve this problem, and write a 1 on the line next to it. Write a 2 beside the next best solution, and so on. The number 6 should be next to the solution you think is the worst.

___ He can continue to work provided he does an extra hour of school work every night.

___ You are willing to raise his allowance from $2.00 a week to $4.00 a week, if he will give up his job.

___ He can keep the job if he does at least 1 hour of schoolwork before he delivers the papers.

___ He must give up the job now and bring his grades up. If he gets a B average the next marking period, then he can start work again.

___ He must work fewer hours until he gets better grades.

___ He can keep the job provided his grade point average goes up to a B again the next marking period. If it does not go up to a B, then he must give up the job.

Have you had a problem similar to the one in this story?

YES___ NO___

Do you have any friends who have had a similar problem?

YES___ NO___

Your child has two important assignments due tomorrow morning, two assignments which could bring his grade point average up from a D to a B. He is watching his favorite TV program and says he doesn't feel like doing the homework at this time. By the time the program is over it will be rather late, and he will probably be too tired to do a good job on the homework. You and your child are talking about what should be done at this time.

Below are 6 possible solutions. Choose the answer which you think would be the best way to solve this problem, and write a 1 on the line next to it. Write a 2 beside the next best solution, and so on. The number 6 should be next to the solution you think is the worst.

___ He can continue watching the program, but if he doesn't get at least a B in the two assignments, he will be grounded the rest of the week.

___ He can continue watching the program, but he must do his homework before he goes to sleep tonight.

___ He can continue to watch the program, but if he doesn't get at least a B in the two assignments, he will not be allowed to watch TV for another week.

___ You will take your child to a movie of his choice on Saturday, if he turns off the TV now and does his homework.

___ If he turns off the TV now and finishes his homework, he can stay out 1 hour past his normal curfew this Friday.

___ If he turns off the TV and finishes his homework, he can watch two extra hours of TV tomorrow.

Have you had a problem similar to the one in this story?

YES___ NO___

Do you have any friends who have had a similar problem?

YES___ NO___

Your child has been skipping many of his classes for the past four weeks, attending only about 2 of 5 classes a day. The Assistant Principal has called you and asked you and your child to meet with the school counselor, saying that he might be suspended from school unless his attendance improves. You are now talking to your child, trying to find a way to increase his attendance.

Below are 6 possible solutions. Choose the answer which you think would be the best way to solve this problem, and write a 1 on the line next to it. Write a 2 beside the next best solution, and so on. The number 6 should be next to the solution you think is the worst.

___ For attending all his classes every day, your child can go out both Friday and Saturday nights.

___ If your child misses more than 2 classes any one day, he will have to stay home that evening.

___ You will give your child a dime for every class he attends, but you will take out a dime from his allowance for every class he misses.

___ You will give your child his weekly allowance only if he attends 4 of 5 classes every day.

___ For attending all 5 classes every day of the week, you will give your child money to go to a movie of his choice on Saturday.

___ You will raise your child's allowance by $1.00 if he attends all of his classes every day.

Have you had a problem similar to the one in this story?

YES___ NO___

Do you have any friends who have had a similar problem?

YES___ NO___

APPENDIX F

EXPERIMENTER'S INSTRUCTIONS OF THE TASK

What I am going to do with you is an exercise in decision-making. [*Hand out vignette booklets.*] There are three problem situations described in there which are common to some families, and listed under each problem situation are six solutions. These problems may not be real problems to you, in that they may not happen in your family, but think of them as real for the moment. What I would like you to do is to read each problem situation carefully, and then read the six solutions listed underneath each. You may not like any of these solutions, but think of them as the only ones you have. O.K.? Now, before you start, for each problem situation, place a 1 beside the solution you like the best. Place a 2 beside the one you like next best, and so on. You should have a 6 next to the solution you like the least. Don't repeat the same number two times. O.K.? Any questions? Now go ahead.

[*After all the family members have completed their forms, take them back and hand out blank forms to each of them.*]

Thank you. This is the same form that you just completed. Don't write on it. Now, it's possible that you may have disagreed on the solutions that you wrote down on the forms. For example, one of you may have chosen the

third solution as the best one, while another person may have chosen the last one. What I would like you to do now is to talk over each problem situation one at a time and come to a decision on which all of you can agree. That is, pick one solution for each problem. You must pick one of the solutions listed underneath. Remember now, think of the problem as real in your family and these are the only solutions you have. I'll be here, but just ignore me completely. Any questions? Now go ahead. Once again, pretend that I am not here and please do not talk to me.

APPENDIX G

EVENT-RECORDER TECHNIQUE

Stepwise Procedures To Be Used in Tape Analysis:*

1. Listen to audiotape before using it in conjunction with the event-recorder. That is, familiarize yourself with any unusual characteristics of the tape.
2. Turn on event-recorder at least 30 seconds before turning on the tape recorder.
3. On cue from tape, depress all three buttons simultaneously--this indicates the <u>beginning of the discussion</u> period.
4. Let the person begin talking before depressing the appropriate button.
5. Let the person stop talking before releasing the appropriate button.
6. Release button as soon as the person stops talking--that is, do not assume the person is merely pausing.
7. Any vocalization (laughing, moaning, etc.) must be recorded as talk time.
8. On cue from tape, depress all three buttons simultaneously--this indicates the <u>end of the discussion</u> period.

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* The event-recorder and button-box combination employed here was devised by Stuart (1969).

Confirmation Procedures:

1. After event-recorder tape has been made, replay the audiotape and follow the speech patterns visually. If the speech patterns do not coincide or if verbalizations have been omitted or added, repeat the whole analytic procedure.
2. If the audiotape and the event-recorder tape match, replay the audiotape again, and indicate where each vignette discussion begins and ends.
3. Label the beginning of each event-recorder tape; then inscribe the tape with the following information--family name, pretest or posttest, date of coding, and date of task.

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