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Researching the "Perverse Triangles": A Simulation Approach

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RESEARCHING THE "PERVERSE TRIANGLE:"

A SIMULATION APPROACH

A Thesis

Presented to

The Faculty of the Department of Psychology

The College of William and Mary in Virginia

In Partial Fulfillment

Of the Requirements for the Degree of

Master of Arts

by

Melvin R. Eldridge, Jr.

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APPROVAL SHEET

This thesis is submitted in partial fulfillment of
the requirements for the degree of

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ABSTRACT

Two experiments using simulated family interaction tested Haley's (1967) "perverse triangle" hypothesis that covert, cross-generation coalitions are dysfunctional for families and their members. The repeated-measures design of both studies was based on a training exercise developed by Coppersmith (1985) in which participants role-play potentially problematic triadic arrangements. The simulation conditions included: (1) a primary parental alliance, with the parents having the closest relationship in the family; (2) an overt cross-generation alliance, where the closest relationship was between the parent and the child; (3) a covert, cross-generation coalition involving a close relationship between a parent and a child against the other parent; and (4) "triangulation", involving simultaneous covert, cross-generation coalitions between the child and each parent. Experiment 1 was conducted in separate workshops for mental health professionals and advanced undergraduate students and followed closely Coppersmith's training exercise (including a brief lecture on triadic family theory). The results demonstrated that as alliance/coalition structure became increasingly cross-generational and covert, families experienced increasing levels of conflict and distress. Experiment 2 used the same simulations but incorporated controls for demand characteristics and order effects. Here, the hypothesized increase in individual and family distress was only partially supported. The task used in Experiment 2 to facilitate family interaction appeared to inhibit rather than promote the needed interaction.

RESEARCHING THE "PERVERSE TRIANGLE:"
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Researching the "Perverse Triangle:"

A Simulation Approach

Psychiatry and clinical psychology have a long history of conceptualizing symptomatic behavior as an aberration intrinsic to an individual. Whether one takes a behavioral, biological, or psychodynamic view of "psychopathology", it is the individual who is seen to possess the problem and who becomes the focus of treatment. In contrast, family systems theory introduces the idea that problems can best be understood by examining the context of relationships in which they occur. Based on cybernetics and general systems theory, this view conceptualizes the family as an ongoing social system, with emergent properties not reducible to the characteristics of individual family members (Hoffman, 1981). Causality is seen as circular rather than linear, because one person's behavior not only affects but is affected by another's action. From the view of a family model, symptomatic behavior is inextricably interwoven with the current organization of relationships in the family (Haley, 1976; Minuchin, 1974).

In the early 1960s, clinicians and researchers began observing individuals with their families in attempts to better understand problem behavior. Immediately striking was the importance of three person relationships. Weakland

(1960), for example, suggested that the schizophrenic was the recipient of conflicting messages from at least two family members. Haley (1959) observed that in families with a problem member the triad that emerged most visibly involved a coalition between two people, usually of different generations, at the expense of a third. For example, a father might enter a coalition with a child against the mother by speaking negatively about her and secretly enlisting the child's support. He noted, too, that simple alliances between two people, not involving a third, were rare and when formed did not persist (Hoffman, 1981).

One concept that emerged from these observations was the importance of generation lines in the family hierarchy. Haley (1967, 1980), Minuchin (1974), and Bowen (1966) all developed theoretical statements based on the idea that clear generation lines separating the parental and sibling subsystems characterize well-functioning families. Haley (1967) proposed an organizational theory of pathology based on a triadic arrangement he termed the "perverse triangle". In his classic paper, "Toward a Theory of Pathological Systems", he outlined the characteristics of such a triangle: (1) of the three persons in the triangle, one is of a different generation than the other two, (2) a coalition is formed between two people of different

generations against the third, and (3) the coalition is concealed or denied. He argued that reoccurring interactions based on the perverse triangle organization would predictably lead to a pathological system, whether in a family or other social system. Haley defined a pathological system in terms of the family as "one resulting in continual conflict, in divorce, or in the kind of symptomatic distress in one or more family members that requires community attention" (Haley, 1980, p. 100). In essence, the perverse triangle was one in which the separation of generations is breached in a covert way.

Minuchin (1974), too, developed a theory of pathology based on triadic relationships. In his study of children with psychosomatic disorders, he described four problematic patterns he termed "rigid triads." These are: triangulation, parent-child coalition, detouring-attacking, and detouring-supporting. Triangulation describes a situation where two parents are involved in covert conflict and attempt to gain the child's support against the other. In this arrangement, each parent simultaneously requests the child's loyalty against the other parent. Parent-child coalition, in contrast, involves one parent siding with the child against the other. In the detouring triads, parents detour their own conflicts onto the child, either attacking him for being "bad" or overly supporting him for being

"sick". In both detouring patterns, overt parental conflict is avoided and the child becomes the focus. Like Haley, Minuchin believes that triadic relationships such as these are fundamental to various types of dysfunctional families (Minuchin, 1974; Hoffman, 1981).

A growing body of research now indicates that clear generation lines (or boundaries) are associated with better functioning of the family and its individual members. Blurred generation lines generally have been operationalized in terms of either (1) cross generation alliances, where the primary nuclear-family relationship is between a parent and child rather than between parents or, (2) hierarchical reversals, where one or both parents are equal to or lower in the family hierarchy than a child. Studies can further be divided by methods used: (1) those using the observation of live or recorded behavior of family members interacting together or (2) those employing the self-reports of family members about their families. Both observational and self-report studies have provided support for the importance of clear generation boundaries in the well-functioning family.

A first group of studies illustrates the use of direct observation in this area of research. In a study of schizophrenic and normal families, Mishler and Waxler (1975) studied family coalition structure by measuring the

number of sequential communications between parents that were uninterrupted by the child. They reported more instances of mother-father coalitions in normal than in schizophrenic families, as demonstrated by a greater number of uninterrupted communications between the parents in families not containing a schizophrenic child. In a similar study, Shepperson (1981) assessed the coalition structure of normal and moderately disturbed families by videotaping their interactions and measuring the frequency and duration of eye contact and vocal statements made between family members. His assumption, as in the Mishler and Waxler study, was that the amount of communication between family members is an indication of the strength of that relationship. Shepperson reports that in both groups of families the parental dyad had the greatest amount of verbal and nonverbal communications, although the effect was found to be stronger in the normal than in the disturbed families. In these studies, the investigators' use of the term "coalition" is misleading, since a coalition usually refers to a relationship of two against one. What the communication measures in these studies identified may more appropriately be termed an alliance, in keeping with current family therapy literature. In a third study, Gilbert, Christensen, and Margolin (1984) observed distressed and nondistressed families in negotiation and

problem-solving situations in order to assess family alliance patterns. To operationalize an alliance, these investigators coded the content and affect of the interactions, rather than relying on a process measure such as frequency of interactions. Alliance scores for all dyads were computed by assigning numerical values to the various codes, yielding an overall family alliance pattern. The results showed that, in distressed families, the strength of the marital alliance was lower than other alliances and that one parent tended to be more supportive of the target child than the other parent.

A second group of studies employed direct self-report via interviews and questionnaires to investigate family alliance patterns (Teyber, 1983b; Wilson and Rohrbaugh, 1985; Rohrbaugh and Peterson, 1986). In order to test the structural family therapy assumption that the parental dyad is primary in well-functioning families, Teyber conducted a group comparison study of college students on academic probation and those maintaining acceptable grades. Subjects were asked, "Thinking of the bonds of emotional closeness and involvement, what was the primary and most important relationship in your family?" They could choose from among any family dyad, including grandparents. Students on academic probation reported significantly more

cross-generation primary alliances than those not on probation. Wilson and Rohrbaugh (1985), testing the same theoretical assumption, replicated and extended Teyber's findings by expanding the range of adjustment measures to include loneliness and likelihood of seeking professional counseling, in addition to academic achievement. Again, students who identified their parents as having the strongest or closest family relationship showed significantly better adjustment than those from families where the marital alliance was not primary. In a similar study, Rohrbaugh and Peterson (1986) conducted home interviews and found that the families of poorly adjusted high school students reported significantly higher numbers of cross-generation primary alliances in their families than did families of well adjusted students. Academic and behavior problems (e.g. truancy and disruptive behavior) were used by the high school guidance counselors to identify poorly adjusted students.

Another group of studies using self-report methods provides additional support for the importance of clear generation lines in the family hierarchy. In a study of the families of heroin addicts, schizophrenics, and normals, Madanes, Dukes, and Harbin (1980) used the Family Hierarchy Test (Madanes, 1978) to assess the extent of hierarchical reversals present in the families. This

procedure requires the individual and the family to view various patterns of stick figures and to choose the pattern that bests represents his or her family. Hierarchical reversals are indicated by patterns in which the offspring are equal to or higher in the hierarchy than the parental generation. The results showed a higher occurrence of hierarchical reversals in both the addicts' and schizophrenics' families than in non-clinical families. In a related study, Madden and Harbin (1983) studied the families of assaultive adolescents using the same Family Hierarchy Test. Again, the presence of blurred generation lines, represented by hierarchical reversals, differentiated disturbed families from families without a problem member.

This collection of studies illustrates the varied ways in which the concept of generation boundary has been investigated, and provides support for the clarity of generation lines in well-functioning families. It remains, however, for two distinctions to be made in this area of family research: (1) the distinction between relationships involving cross-generation alliances and cross-generation coalitions and (2) the distinction between the overt and covert expression of such relationships. Haley's perverse triangle is clear in this regard. The perverse triangle is a covert, cross-generation coalition formed between two

people of different generations against a third. Haley distinguishes between an alliance, which can be based on common interests and not involve a third person, and a coalition, where two people join together against a third. Haley further hypothesizes that the covert or concealed nature of most coalitions enhances the conflict inherent in this arrangement (Haley, 1967; Hoffman, 1981).

It is clear from Haley's formulation that triadic interactions involving covert coalitions pose a particularly difficult problem for researchers. How does one investigate a phenomenon that is defined as covert or denied? Previous methods have failed to adequately test the specific hypotheses offered by family theorists, particularly Haley. It is clear that new designs are needed to document the pathology of the "perverse triangle".

A training exercise developed by Coppersmith (1985) to demonstrate the importance of triangles in family functioning suggests an approach to this problem. In the exercise, family groups of three are formed (mother, father, child) and asked to complete a task such as planning a family outing. Participants either play the role of a family member or actively observe the interaction. Three simulations of family interactions are conducted with the following prescribed interaction

patterns: (1) an overt, cross-generation alliance between mother and child; (2) a covert, cross-generation coalition between mother and child against father; and (3) covert, cross-generation coalitions between the child and each parent (triangulation). According to Coppersmith, workshop participants typically report increasing levels of tension as they move through the simulations. Common reactions include increasing feelings of anxiety, anger, betrayal, and confusion, particularly from individuals outside the coalition. Coppersmith notes, too, that observers of the interactions see increasing levels of confusion and conflict within the families, and find that they must attend more to the analogic, nonverbal behavior to understand the interactions. In the third simulation, two secret, incompatible coalitions operate to "triangulate" the child, who, according to Coppersmith, becomes enormously stressed in attempts to maintain the complex relationships.

Although the purpose of the Coppersmith's training exercise is to impart experiential learning about family triads, the simulation method may also provide a promising way to research triadic concepts in an experimental setting. The advantage of a simulation method would be the precise knowledge of when and where a coalition is in operation, whereas previous studies were unable to provide

this information. Procedural issues, however, such as demand characteristics and order effects must first be addressed if the research potential is to be realized.

First, Coppersmith typically preceeds the exercise with a lecture on triadic family theory; hence, trainees may simply be reporting what they are "supposed" to experience. Second, participants are usually exposed to the simulations in a fixed order, from least to most "pathological". It may be that the effects reported by Coppersmith are contingent upon this order. Third, families stay together through all simulations in Coppersmith's exercise. The results may be different if a new family is composed for each simulation. Finally, it is possible that mental health professionals, aside from possessing a familiarity with family theory, would react differently than others in such a situation. Using the Coppersmith exercise as a point of departure, the present research attempted to document the effects of cross-generation alliances and coalitions on individual and family distress as reported by participants and observers. Four simulations were conducted with the following patterns of triad structure: (1) a primary parental alliance (PPA), wherein the parental alliance was designated as the most dominant relationship in the family, (2) an overt cross-generation alliance (CGA) between mother and teenager, (3)

a covert cross-generation coalition (CGC) between mother and teenager against father, and (4) covert cross-generation coalitions between the teenager and each parent (triangulation). The first condition was added to Coppersmith's original simulations so that the triad structure presumed to be most adaptive and healthy would be represented. "Distress" was assessed via questionnaires of role-playing family members (inside perspective) and of observers (outside perspective) who were blind to the conditions and purpose of the study. Two experiments were conducted. Experiment 1 essentially replicated Coppersmith's exercise as described in the 1985 paper with the addition of the primary parental alliance (PPA) condition. Two groups of subjects, mental health professionals and family therapy students, were used in Experiment 1, following identical procedures with both groups. Subjects for Experiment 2 were recruited from the Williamsburg, Virginia community and from the College of William and Mary. Experiment 2 incorporated procedures for the control of order effects and demand characteristics. It was hypothesized that individual family members would report and exhibit increasing levels of individual distress and increasing levels of family dysfunction as triad structure increased in "pathology". These effects were

expected to occur regardless of order effects, demand characteristics, intact family effects, or subject characteristics.

EXPERIMENT 1

The purpose of Experiment 1 was to replicate and document Coppersmith's observations of the training exercise and to test the viability of the simulation method for studying family-related hypotheses. A repeated measures design was employed so that six families (three from the mental health professionals workshop and three from the student workshop) participated in four simulated family interactions. Triad structure was the repeated measures variable; role (mother, father, teenager) and professional experience (mental health professional, college student) were between subject variables.

Method

Subjects

Subjects were 15 mental health professionals from a Williamsburg, Virginia community mental health center, and 15 undergraduate students from the College of William and Mary. The professionals consisted of social workers, psychologists, and psychiatrists who were experienced therapists of varied theoretical backgrounds. Student subjects were volunteers from a Family Psychology course, the majority of whom were upper-level psychology majors.

Both groups received a lecture on triadic family theory immediately prior to the exercise. The experiment was conducted identically with each group in the order prescribed by Coppermith (from least to most "pathological").

Design and Prodecure

Nine subjects from each workshop were divided into "families" comprised of a mother, father, and a teenager (three families in each workshop) following role appropriate sexes. The remaining 6 subjects in each group served as family observers, two per family. Each family participated in each of the four role-played interactions representing the four triad structure patterns, beginning with the PPA condition and proceeding to the triangulation condition.

At the beginning of each simulation, participants privately were given printed instructions specifying the interactional rules that would generate the triad structure. The instructions defined each members role and the alliance or coalition structure for that simulation. Instructions for all conditions are shown in Appendix A. After participants studied their instructions, families were given the task of planning a family outing, and were allowed 10-15 minutes to role-play the interaction.

Two observers watched each simulation and completed forms similar to the participants'. While the family members were positioned close together, observers sat apart from the group and made independent ratings. Family members also made independent ratings and were asked not to discuss their instructions until all simulations were complete.

Instruments

Actor Reaction Forms and Observer Reaction Forms were similar but not identical. Both consisted of bipolar adjective scales that assessed three levels of functioning: the individual, each dyad, and the family as a whole. The difference was only that observers made individual-level ratings on each family member, while participants rated only their own individual reactions. Actor and Observer Reaction Forms are shown in Appendix B.

The Dimensions of functioning on the reaction forms were chosen from Coppersmith's description of typical reactions to the training exercise. For example, she observed that as families proceed through the simulations, individuals describe increasing feelings of tension, confusion, anger, and betrayal, and the family begins to have problems communicating, solving problems, and deciding on leadership. The adjective scales were drawn from these reports.

Results

To evaluate the reliability of observer ratings, a series of Pearson correlation coefficients was computed for each of the six observer pairs. Each pair made the same twenty ratings of a family (six individual, six dyad, and six family-level items) during each of four simulations. Correlations were computed between observers across the four simulations ($N=4$) for each of the twenty items. Of the one hundred twenty coefficients computed in this manner, a full one third were negative, with r s ranging from $-.90$ to $.98$. With such extreme variation in inter-observer reliability, it was decided not to include observer data in further analyses.

In order to reduce the large number of items on participants' reaction sheets and to construct a set of dependent measures, separate factor analyses were performed on the individual, dyad, and family-level ratings from each of the four simulations. SPSS-X principle components extraction with varimax rotation was utilized for these analyses (Nie, 1985). The results showed essentially identical underlying factor structures in all four simulations; thus only one analysis is presented for

illustration. Table 1 shows the factor loadings from the CGA simulation.

 Insert Table 1 about here

From the individual-level analysis, a single, general factor emerged that contained all items. The first dependent measure developed for subsequent analysis was thus labeled individual distress and was computed by summing all individual-level items. Factor analysis of the dyad-level ratings revealed two factors, one containing mother-father and father-teen items, and a second containing mother-teen items. Factor loadings from this analysis show that for each dyad, the "close" and "conflictual" items held together and thus could be combined into a single scale. On this basis, the second, third, and fourth dependent measures were constructed to represent dyad conflict between mother-father, mother-teen, and father-teen, respectively. This was accomplished by summing the two dyad-level scales for each pair. A final factor analysis yielded a single factor that contained all family-level items. These were summed to represent the fifth dependent measure, family dysfunction. Some scales required reverse scoring before being combined into factor-derived measures.

A Mixed Model Analysis of Variance (ANOVA) was then performed on each of the five dependent measures. In each analysis, triad structure (PPA, overt CGA, covert CGC, triangulation) was the repeated measures variable, while role (mother, father, teen) and professional experience (mental health professional, undergraduate student) were between subject variables. In addition, a second series of ANOVAs was performed on the five dependent measures which incorporated "family" as a between subject variable. The latter results are reported below as "Intact Family Effects."

Individual Distress

The ANOVA performed on the individual distress measure yielded a significant main effect for triad structure ($F(3, 36) = 53.17, p < .001$), and a significant triad structure x role interaction ($F(6, 36) = 4.81, p < .001$). Professional experience was unrelated to reported distress. Figure 1 shows the individual distress means for mother, father, and teenager across the four triad structure conditions. As can be seen from the graph, the level of distress for all family members increased across the first three simulations but not the fourth. Family members reported the lowest level of distress in the PPA simulation. In the second (overt CGA) simulation, distress increased for everyone, but especially for fathers who were

excluded from the alliance. The third (covert CGC) condition brought still more distress for all family members, but in the fourth (triangulation) simulation mothers reported even higher distress while for fathers and teens distress decreased.

 Insert Figure 1 about here

Dyad Conflict

ANOVAs performed on measures of perceived dyad conflict yielded significant main effects for triad structure for all three family dyads, and a significant triad structure x experience interaction for mother-teen dyads. Here, there were no significant effects for role. Figure 2 shows the dyad conflict means for professionals and students across the four triad structure conditions.

 Insert Figure 2 about here

For mother-father dyads, the significant triad structure effect ($F(3,36) = 38.65, p < .001$) can be seen in the top panel of Figure 2. Conflict between mothers and fathers increased across the first three conditions as cross-generation alliances and coalitions were introduced into the family structure. The largest difference was

between the PPA and the overt CGA condition. In the fourth simulation, hypothesized to be most conflictual, there was a small decrease in mother-father conflict.

The center graph in Figure 2 shows the mother-teen conflict means for professionals and students. Here, there was both a significant triad structure effect ($F(3, 36) = 21.75, p < .001$) and a significant triad structure x experience interaction ($F(3, 36) = 8.41, p < .001$). Comparable levels of mother-teen conflict were reported by students and professionals in all conditions except the fourth (triangulation) where perceived distress increased more dramatically for mental health professionals than for students. Both groups reported the least conflict, not during the PPA simulation as expected, but in the second simulation when an open cross-generation alliance was formed between mothers and teenagers. Conflict increased slightly when mothers and teens formed a coalition against father in simulation three.

The significant triad structure effect for father-teen conflict ($F(3, 36) = 22.22, p < .001$) can be seen in the bottom panel of Figure 2. As predicted, conflict was lowest in the first simulation where the primary alliance was between parents. In the second and third conditions, mothers and teens were in cross-generation alliances and coalitions that excluded fathers, and conflict between the

father-teen dyads rose dramatically. In the final simulation, father-teen conflict decreased as teens became involved in simultaneous coalitions with mother and fathers.

Family Dysfunction

Figure 3 shows students' and professionals' perceptions of family dysfunction in the four simulations ($F(3, 36) = 31.69, p < .001$). Professionals and students both reported that family dysfunction increased across the first three conditions. The groups diverged in their reactions to the fourth (triangulation) simulation, where professional families continued to report increasing dysfunction while student families reported less dysfunction. There were no significant effects found for role in this analysis.

 Insert Figure 3 about here

Intact Family Effects

A second series of ANOVAs was performed on the five dependent measures incorporating "family" rather than experience as a between subject variable. The ANOVAs showed that the family variable consistently interacted with triad structure, indicating that structure effects were stronger in some families than others.

Discussion

The results of Experiment 1 offer clear support for the prediction that cross-generation relationships, particularly those involving covert coalitions, are detrimental to individual and family functioning in simulated family interactions. On both individual and family levels, distress/dysfunction increased as predicted when family members were required to interact according to increasingly boundary-breaching and covert rules. Surprisingly, the double coalitions in the triangulation condition consistently elicited less individual and family distress than the single covert coalition. This pattern was not predicted. Feedback from participants indicated that role-playing the triangulation instructions was very difficult and often ended not just in extreme confusion but also in feelings of absurdity and humor. The final condition may thus have been less stressful, even though this is not believed to happen in real families.

The pattern of results obtained on dyad conflict measures was less clear. Only mother-father conflict conformed to the expected increase; again, however, the triangulation condition produced less conflict than the covert CGC. Mother-teen and father-teen conflict did not increase across conditions but did exhibit interpretable patterns. Mothers and teens were not really in conflict

until fathers entered the picture, forming their own coalitions with the teenagers in the fourth simulation. This may explain why conflict between mothers and teens did not substantially escalate until the triangulation condition. In contrast, father-teen conflict was highest during the overt CGA and covert CGC simulations, when father was excluded from the primary mother-teen relationship. Interesting, too, was the dramatic decrease in father-teen conflict in the fourth simulation when mothers had to compete with fathers for closeness with the child. It was also during the fourth simulation that mothers' individual distress was at its peak.

Experiment 1 confirms Coppersmith's (1985) observations of the training exercise and supports the hypothesis that cross-generation alliances and coalitions are dysfunctional for family relationships. The experiment also provides encouragement for further use of the simulation method in family research.

EXPERIMENT 2

Experiment 2 was designed to test the same general hypotheses as Experiment 1 but with the addition of more stringent experimental controls. First, the subjects in Experiment 2 did not receive a lecture on family triangles; they were thus "uninformed" about the theory and specific hypotheses being tested. Second, because the results of

Experiment 1 could have been contingent on the order of participation in conditions, order effects were controlled for by having families proceed through the simulations in either a forward (least to most triad pathology) or a reverse (most to least triad pathology) order. Third, subjects were mixed from simulation to simulation so that "new" families were formed for each simulation; no three-person group participated together more than once. Finally, in order to gain some control over the task performed by the families, a more structured decision-making exercise (Fierra and Winter, 1966) was used in Experiment 2. A repeated measures design was again employed with triad structure as the repeated measures variable and role and order/workshop as between subject variables.

Method

Subjects

Subjects were 16 adults (8 men, 8 women) enlisted from the Williamsburg, Virginia community and 8 college freshman (4 men, 4 women) from the College of William and Mary. The age of adult subjects ranged from 36 to 63 years with an average of 42 years; all student subjects were 18 years of age. Adult females and males acted in the roles of mother and father, and college students in the role of teenager. All of the adult subjects were experienced parents with

children of at least high school age. Student subjects were volunteers from an Introductory Psychology Course and received class credit for their participation in the study. Eight upper-level psychology students volunteered to serve as observers for the experiment.

Design and Procedure

The experiment was conducted in two workshops involving 12 subjects per workshop. Although each subject participated in all four triad structure conditions, families did not remain "intact" throughout the simulations. Rather, family membership was mixed following each interaction such that no three-person group (mother, father, teenager) participated together more than once. In workshop 1, one half of the families began with the PPA condition and proceeded to the triangulation condition (PPA, overt CGA, covert CGC, triangulation). For the remaining half of the families in workshop 2, the order was reversed. The procedure followed in Experiment 2 was identical to that in Experiment 1, with the exception of the task assigned to families. The Fierro-Winter (1966) decision-making tasks were used in Experiment 2 in place of simply asking participants to plan a family outing. The task involved four exercises (one per simulation) requiring the family to read a list of items pertaining to an activity and rank order them according to group preference.

Instruments

Actor and Observer Reaction Forms in Experiment 2 were slightly different from those in Experiment 1. The bipolar adjective scales were replaced with seven-point scales based on a single adjective. Appendix C shows the Actor and Observer Reaction Forms used in Experiment 2.

Results

As in Experiment 1, the reliability of observer ratings was evaluated by computing Pearson correlation coefficients for each of the four observer pairs. Each pair of observers made the same twenty-six ratings during each of eight simulations, four during the forward-order workshop and four during the reverse-order workshop. Correlation coefficients were computed between observers' ratings across the eight simulations ($N=8$) for each of the twenty-six items. The resulting one hundred four coefficients ranged from $-.61$ to $.95$ and more than thirty percent were negative. Again, because inter-observer reliability was so poor, it was decided not to include observers' data in further analyses.

As in Experiment 1, data reduction was undertaken by performing separate, SPSS-X principle components factor analyses (Nie, 1985) on individual, dyad, and family-level items for each simulation. Again, essentially identical factor structures emerged from ratings made in each

simulation. To illustrate this structure, Table 2 shows the factor loadings from the CGC simulation. Factor analysis of the individual-level items produced three factors, labeled interpersonal support, comfort, and anger. The first factor contained items assessing how influential, cooperative, happy, and supported participants felt during the simulated interactions; the second factor, comfort, was bipolar and included the items "relax" and "tense"; and the third factor contained items reflecting anger and betrayal. Summary scores for each of these factors were computed by summing across the items with significant factor loadings.

 Insert Table 2 about here

Dyad-level factor analysis revealed a single factor which contained all items. Nevertheless, for consistency with Experiment 1, the fourth, fifth, and sixth dependent measures were constructed to represent dyad conflict between mother-father, mother-teen, and father-teen, respectively. This was accomplished by combining the two dyad-level items for each pair. The factor analysis of family-level items also revealed a single, general factor, which was again labeled family dysfunction. Thus, a seventh dependent measure was constructed by summing all

the family-level items. Some scales required reverse scoring before being combined into factor-derived scores.

A Mixed Model Analysis of Variance (ANOVA) was then performed on each of the seven dependent measures. In each analysis, triad structure (PPA, overt CGA, covert CGC, triangulation) was the repeated measures variable, while role (mother, father, teenager) and order/workshop (forward, reverse) were between subject variables.

Individual Measures

Figure 4 shows the means for the interpersonal support, comfort, and anger measures obtained in the forward and reverse-order workshops for each triad structure condition. Since there were no significant main effects or interactions involving role, this variable is not shown. The ANOVA performed on the interpersonal support measure yielded a significant triad structure x order/workshop interaction ($F(3, 54) = 4.80, p < .005$) but no main effects. Support between family members was predicted to be strongest during the PPA condition and to decrease in each following condition. The top panel of Figure 4 illustrates that participants in the forward order workshop exhibited this trend, while those in the reverse-order workshop did not. Surprisingly, reverse-order participants reported the most support during the triangulation condition (the initial simulation for that

group) and the least support during the overt CGA condition. If anything, reverse-order participants showed a trend of increasing support from the PPA to triangulation conditions.

 Insert Figure 4 about here

The ANOVA performed on the comfort measure produced nonsignificant effects for triad structure, order/workshop, and role. The main effect for triad structure closely approached the conventional level of significance, but as the center graph in Figure 4 shows, the trend was opposite to that predicted. The bottom graph in Figure 4 shows the means for the anger measure across the four conditions. Nonsignificant effects for triad structure, workshop/order, and role were found in this analysis.

Dyad Conflict

Conflict means for mother-father, mother-teen, and father-teen dyads appear separately in Figure 5. Only the two workshops are plotted, as there were, again, no significant main effects or interactions involving role. The ANOVA for mother-father conflict yielded a significant triad structure x order/workshop interaction ($F(3, 54) = 4.06, p < .01$). As the top panel of Figure 5 shows, reported conflict in the forward-order workshop showed the

expected increase across the four simulations. In contrast, those in the reverse-order workshop reported the most conflict during the last (PPA) simulation, with much less conflict in the remaining simulations.

The mother-teen ANOVA also yielded a significant triad structure x order/workshop interaction ($F(3, 54) = 2.47, p < .05$), but of a somewhat different form. Neither line in the middle panel of Figure 5 conforms to the predicted increase in conflict with increasingly "pathological" triangles. In the forward-order workshop, there was an initial increase in conflict between the PPA and the overt CGA conditions, after which conflict decreased through the triangulation condition. In the reverse-order workshop, conflict was high during the PPA simulation, decreased dramatically through the covert CGC condition, and rose sharply in the triangulation condition.

 Insert Figure 5 about here

A significant triad structure x order/workshop interaction was also found for father-teen conflict ($F(3, 54) = 2.72, p < .05$) along with a significant main effect for triad structure ($F(3, 54) = 8.73, p < .001$). Again, neither line in the bottom panel of Figure 5 conforms to the predicted increase in conflict across conditions. For

participants in both workshops, conflict was greatest during the PPA simulation. Forward-order participants reported a decline in conflict during the overt CGA simulation, but showed a gradual increase through the final triangulation simulation. For the reverse-order workshop, there was a sharp decrease from the PPA to covert CGC condition, followed by an increase in conflict during the triangulation simulation.

Family Dysfunction

Figure 6 shows the family dysfunction means for the forward and reverse order workshops across the four triad structure conditions. The ANOVA performed on family dysfunction produced a significant triad structure x order/workshop interaction ($F(3, 54) = 14.56, p < .001$). As can be seen from the graph, family dysfunction in the forward-order workshop increased across the simulations as predicted. Thus, as increasingly pathological alliances and coalitions were introduced into the family structure, this index of family dysfunction increased. In

 Insert Figure 6 about here

contrast, dysfunction reported by the reverse-order participants was highest during the PPA simulation. They reported decreases at both the overt CGA and covert CGC

conditions, with an increase during the triangulation simulation. The main effect for triad structure was nonsignificant and there were no significant main effects or interactions involving role.

Discussion

The results of Experiment 2 provided only limited support for the prediction that simulated family interactions would become increasingly dysfunctional as prescribed triad structure grew more "perverse". Individual-level predictions were substantiated on one of the three measures, interpersonal support. Here, the interaction with order/workshop was not expected and demonstrated that the results were contingent upon a forward-order participation in the simulations. While differences between simulations were found on all three dyad conflict measures, only one, mother-father conflict, was in the hypothesized direction. The surprising finding here was that reverse-order participants reported dramatically more conflict during the PPA simulation (hypothesized to be nonproblematic) than during any other. Limited support also was obtained on the measure of family dysfunction. Whereas forward-order participants reported increasing dysfunction across conditions as predicted, reverse-order participants exhibited almost the exact opposite trend. Thus, the hypothesis that cross generation

relationships involving alliances and coalitions would be dysfunctional for the family and its individual members was only partially supported due to the limited number of significant effects and the consistent interaction of triad structure with order.

A problem with the experimental task should be considered before firm conclusions are drawn. It appeared that introducing the more structured Fierra-Winter tasks had a strong inhibiting effect on participants' interactions. In these exercises, the family group was asked to read over a number of items pertaining to family events (e.g. vacations, new cars, menus) and to rank order the items as a group regarding their preferences. The rationale for using the Fierra-Winter tasks simply was that they would require interaction among the members. It was clear, however, that the tasks actually disrupted the desired interaction. Participants tended to disregard the interaction instructions and attended primarily to their own preferences in reaching the group decision. For example, a mother, supposedly in a coalition with her teenaged daughter against the father, reported later that her preference in vacation spots more closely matched her husband's than her daughter's preference. Following the instructions (which she did not do) would require that she overlook her "true" preference in order to act out the

mother-daughter coalition. Unfortunately, participants tended to focus more on the task than was intended rather than acting out their assigned roles. Consequently, the potentially confounding elements of the Coppersmith exercise could not be properly evaluated

Conclusions

In this study the primary question was whether simulated family interactions involving cross-generation alliances and coalitions produce individual and family distress and dysfunction. The first experiment suggested that, yes, such "perverse" relationship patterns do produce conflict in the family and create negative emotional reactions in family members. However, because of potential demand characteristics and order effects, firm conclusions could not be drawn from Experiment 1 alone. Experiment 2 also supported the "perverse triangle" hypothesis, but here significant order effects qualified that support. Several questions, then, were raised about the pattern of results and the utility of the simulation method in family research.

One important question was how well the actual patterns of family interaction were simulated. That is, how successful were the simulations in reproducing the important elements of the "real life" phenomenon and in creating a true-to-life experience for the participants.

Impressions formed by the experimenter (and substantiated by participants) indicated that the simulations in Experiment 1 elicited more realistic reactions from participants than those in Experiment 2. Participants in Experiment 1 reported feeling "involved" in the interactions and experiencing clearly identifiable emotional reactions. This was less the case in Experiment 2, where some participants reported uncertainty about how to enact their roles while participating in the task. Though the subjects in Experiment 2 were less knowledgeable in regard to family theory than those in Experiment 1, and thus less susceptible to demand characteristics, it appeared that changing the simulation task was largely responsible for the different levels of involvement.

Another important question concerns the lack of observer agreement in both Experiment 1 and 2. Observers essentially were unable to agree on participants' reactions during the four simulations. In the second experiment this was not surprising, given the unclear effects and the occasional confusion surrounding the task. In Experiment 1, however, lack of observer agreement was surprising. Here, the pattern of effects was relatively clear and participants reported experiencing clear reactions to the simulations. One would expect, then, that their behavior would be interpreted more easily and

reliably by observers, especially by those who are trained clinicians (as in the first experiment). That this was not the case raises interesting questions about clinicians' observational skills and ability to gauge a family's distress.

The study might be improved by: (1) selecting a task that has a low chance of distracting participants from following role-play instructions, (2) using longer simulations and/or warm-up exercises to familiarize participants with each other and promote a sense of cohesion, (3) training observers and establishing reliability prior to the study, (4) using trained actors as subjects to minimize apprehension and to facilitate more spontaneous interactions, and (5) using a between-subjects design in order to avoid order effects and the possibility that subjects' participation in one simulation contaminated their responses in another.

The use of simulations in family research should continue to be explored. This method enables the testing of subtle and hard-to-measure phenomenon, such as the effects of covert family rules on family functioning, while maintaining the experimental control that often is absent in observational studies. Though there are potential problems associated with the simulation of complex interactions, further research can provide the needed

information for simulation procedures to be refined. It may be that the important aspects of family life can be studied and better understood through the use of simulations.

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Table 1
Factor Loadings from Analysis of Individual, Dyad, and
Family-level Items from Actor Reaction Questionnaire (CGA
simulation): Experiment 1.

Individual-level Items

	<u>Factor 1</u>
relaxed	.81
emotional	-.54
confused	-.64
angry	-.78
happy	.78
betrayed	-.78
cooperative	.77
included	.69
% total variance	53.8

Dyad-level Items

	<u>Factor 1</u>	<u>Factor 2</u>
M-F close	-.81	---
conflictual	.79	---
M-T close	---	-.90
conflictual	---	.93
F-T close	-.74	---
conflictual	.87	---
% total variance	45.4	30.4

Family-level Items

	<u>Factor 1</u>
family was:	
close	.86
conflictual	-.85
funny	.82
respectful	.82
prob. solving	.89
clear leadership	.77
unclear communica.	-.64
% total variance	66.0

Note: Factors with eigenvalues greater than 1.0 were rotated to a varimax solution.

Table 2
Factor Loadings from Analysis of Individual, Dyad, and
Family-level Items from Actor Reaction Questionnaire (CGA
Simulation): Experiment 2.

Individual-level Items

	<u>Factor 1</u>	<u>Factor 2</u>	<u>Factor 3</u>
relaxed	---	.73	---
influential	.72	---	---
betrayed	---	---	.88
cooperative	.68	---	---
angry	---	---	.77
happy	.73	---	---
tense	---	-.86	---
supported	.72	---	---
comfortable	---	.78	---
% total variance	48.6	18.5	11.6

Dyad-level Items

	<u>Factor 1</u>
M-F close	.82
conflictual	-.64
M-T close	.61
conflictual	-.58
F-T close	.67
conflictual	-.66
% total variance	44.7

Family-level Items

	<u>Factor 1</u>
family was:	
close	.79
conflictual	-.54
funny	.64
respectful	.77
prob. solving	.89
clear leadership	.58
clear communication	.84
% total variance	54.1

Note: Factors with eigenvalues greater than 1.0 were rotated to a varimax solution.

APPENDIX A

Interaction Instructions for Participants

PPA

- Mother: You are a mother. Your close relationship with your husband is as strong or stronger than your close relationship with your teenaged child.
- Father: You are a father. Your close relationship with your wife is as strong or stronger than your close relationship with your teenaged child.
- Teenager: You are a teenager. You have an equally close relationship with each of your parents.

Overt CGA

- Mother: You are a mother. You have an especially close relationship with your teenaged child. This relationship is open and can be commented on.
- Father: You are a father. You are aware of an especially close relationship between your wife and your teenaged child. This relationship is open and can be commented on.
- Teenager: You are a teenager. You have an especially close relationship with your mother. This relationship is open and can be commented on.

Covert CGC

- Mother: You are a mother. You have an especially close relationship with your teenaged child. This relationship is secret and cannot be commented on.
- Father: You are a father. You sense that there is an especially close relationship between your wife and your teenaged child. This cannot be commented on.
- Teenager: You are a teenager. You have an especially close relationship with your mother. This relationship is secret and cannot be commented on.

Triangulation

Mother: You are a mother. You have an especially close relationship with your teenaged child. This relationship is secret and cannot be commented on.

Father: You are a father. You have an especially close relationship with your teenaged child. This relationship is secret and cannot be commented on.

Teenager: You are a teenager. You have an especially close relationship with both your mother and father. Both relationships are secret and cannot be commented on.

APPENDIX B

Actor Reaction Form - Experiment 1During this exercise, I felt:

relaxed	1	2	3	4	5	6	7	tense
emotional	1	2	3	4	5	6	7	unemotional
confused	1	2	3	4	5	6	7	clear
angry	1	2	3	4	5	6	7	not angry
happy	1	2	3	4	5	6	7	sad
betrayed	1	2	3	4	5	6	7	supported
cooperative	1	2	3	4	5	6	7	competitive
included	1	2	3	4	5	6	7	left out

Mother and Father were:

close	1	2	3	4	5	6	7	distant
conflictual	1	2	3	4	5	6	7	harmonious

Mother and Child were:

close	1	2	3	4	5	6	7	distant
conflictual	1	2	3	4	5	6	7	harmonious

Father and Child were:

close	1	2	3	4	5	6	7	distant
conflictual	1	2	3	4	5	6	7	harmonious

During this exercise, my family was (or had):

close	1	2	3	4	5	6	7	distant
conflictual	1	2	3	4	5	6	7	harmonious
funny	1	2	3	4	5	6	7	serious
respectful	1	2	3	4	5	6	7	disrespectful
good problem solving	1	2	3	4	5	6	7	poor problem solving
clear leadership	1	2	3	4	5	6	7	unclear leadership
unclear communication	1	2	3	4	5	6	7	clear communication

Observer Reaction Form - Experiment 1

Father was:

relaxed	1	2	3	4	5	6	7	tense
confused	1	2	3	4	5	6	7	clear
involved	1	2	3	4	5	6	7	withdrawn

Mother was:

relaxed	1	2	3	4	5	6	7	tense
confused	1	2	3	4	5	6	7	clear
involved	1	2	3	4	5	6	7	withdrawn

Teen was:

relaxed	1	2	3	4	5	6	7	tense
confused	1	2	3	4	5	6	7	clear
involved	1	2	3	4	5	6	7	withdrawn

Mother and Father were:

close	1	2	3	4	5	6	7	distant
conflictual	1	2	3	4	5	6	7	harmonious

Mother and Teen were:

close	1	2	3	4	5	6	7	distant
conflictual	1	2	3	4	5	6	7	harmonious

Father and Teen were:

close	1	2	3	4	5	6	7	distant
conflictual	1	2	3	4	5	6	7	harmonious

This family was (or had):

close	1	2	3	4	5	6	7	distant
conflictual	1	2	3	4	5	6	7	harmonious
funny	1	2	3	4	5	6	7	serious
respectful	1	2	3	4	5	6	7	disrespectful
good problem								poor problem
solving	1	2	3	4	5	6	7	solving
clear								unclear
leadership	1	2	3	4	5	6	7	leadership
unclear								clear
communication	1	2	3	4	5	6	7	communication

APPENDIX C

Actor Reaction Forms - Experiment 2During this exercise, I felt:

	not at all		moderately			extremely	
relaxed	1	2	3	4	5	6	7
influential	1	2	3	4	5	6	7
betrayed	1	2	3	4	5	6	7
cooperative	1	2	3	4	5	6	7
angry	1	2	3	4	5	6	7
happy	1	2	3	4	5	6	7
tense	1	2	3	4	5	6	7
supported	1	2	3	4	5	6	7
comfortable	1	2	3	4	5	6	7

Mother and Father were:

close	1	2	3	4	5	6	7
conflictual	1	2	3	4	5	6	7

Mother and Teen were:

close	1	2	3	4	5	6	7
conflictual	1	2	3	4	5	6	7

Father and Teen were:

close	1	2	3	4	5	6	7
conflictual	1	2	3	4	5	6	7

During this exercise, my family was (or had):

close	1	2	3	4	5	6	7
conflictual	1	2	3	4	5	6	7
funny	1	2	3	4	5	6	7
respectful	1	2	3	4	5	6	7
good problem solving	1	2	3	4	5	6	7
clear leadership	1	2	3	4	5	6	7
clear communication	1	2	3	4	5	6	7

Observer Reaction Form - Experiment 2

	not at all		moderately			extremely	
<u>Father was:</u>							
tense	1	2	3	4	5	6	7
happy	1	2	3	4	5	6	7
withdrawn	1	2	3	4	5	6	7
angry	1	2	3	4	5	6	7
comfortable	1	2	3	4	5	6	7
<u>Mother was:</u>							
tense	1	2	3	4	5	6	7
happy	1	2	3	4	5	6	7
withdrawn	1	2	3	4	5	6	7
angry	1	2	3	4	5	6	7
comfortable	1	2	3	4	5	6	7
<u>Son/daughter was:</u>							
tense	1	2	3	4	5	6	7
happy	1	2	3	4	5	6	7
withdrawn	1	2	3	4	5	6	7
angry	1	2	3	4	5	6	7
comfortable	1	2	3	4	5	6	7
<u>Mother and Father were:</u>							
close	1	2	3	4	5	6	7
conflictual	1	2	3	4	5	6	7
<u>Mother and Son/daughter were:</u>							
close	1	2	3	4	5	6	7
conflictual	1	2	3	4	5	6	7
<u>Father and Son/daughter were:</u>							
close	1	2	3	4	5	6	7
conflictual	1	2	3	4	5	6	7
<u>This family was (or had):</u>							
close	1	2	3	4	5	6	7
conflictual	1	2	3	4	5	6	7
funny	1	2	3	4	5	6	7
respectful	1	2	3	4	5	6	7
good problem solving	1	2	3	4	5	6	7
clear leadership	1	2	3	4	5	6	7
clear communication	1	2	3	4	5	6	7

In making these ratings, how much attention did you pay to participants'

Verbal behavior %
Nonverbal behavior %
100 %

Figure 1 — Distress Means

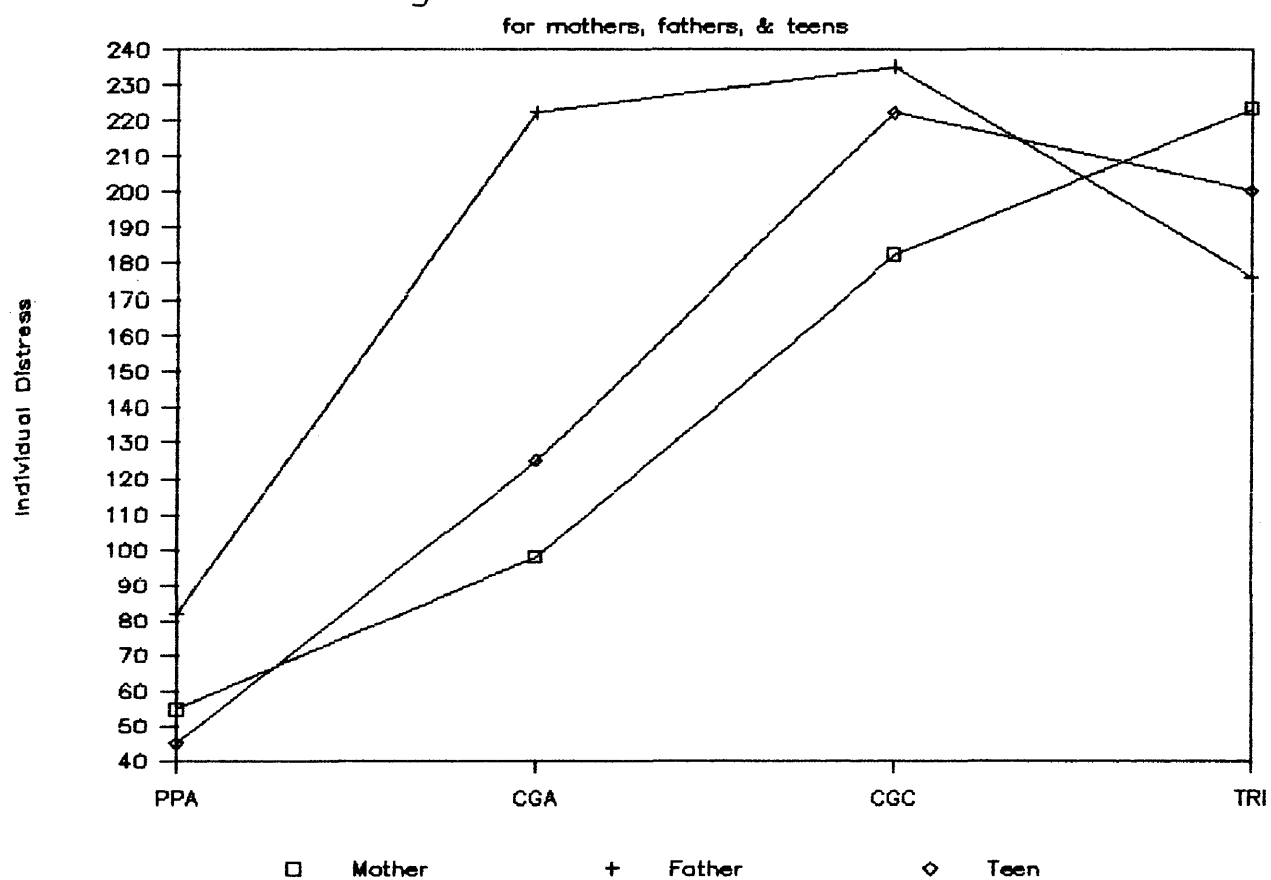


Figure 2 — Dyad Conflict Means

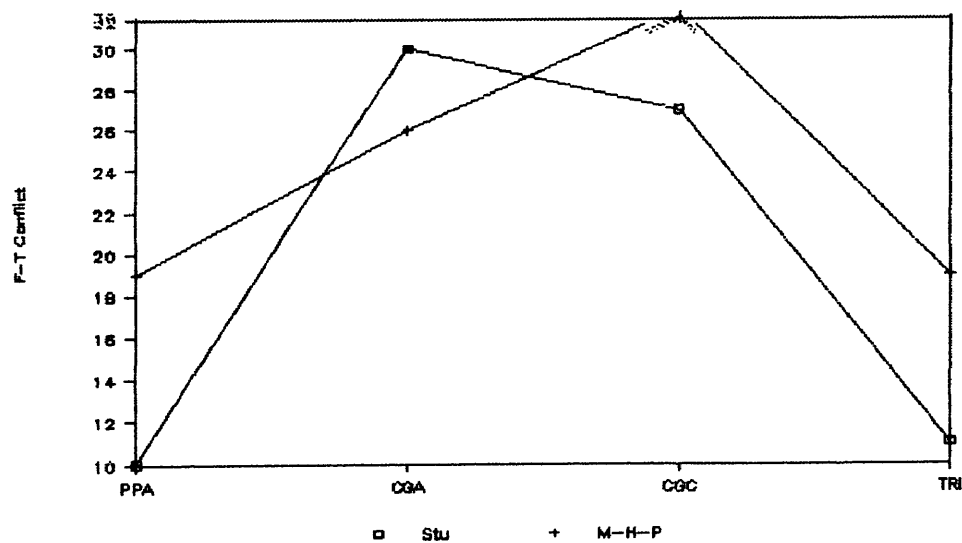
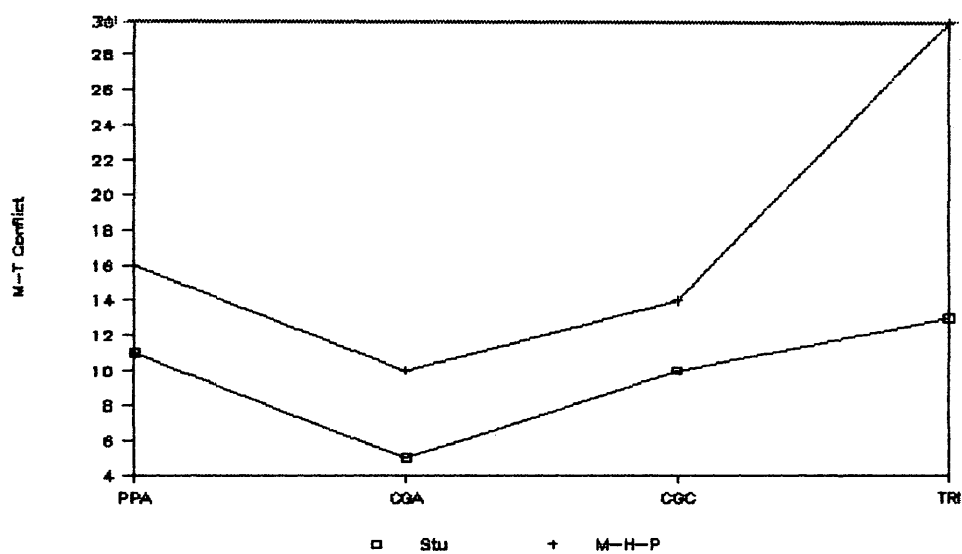
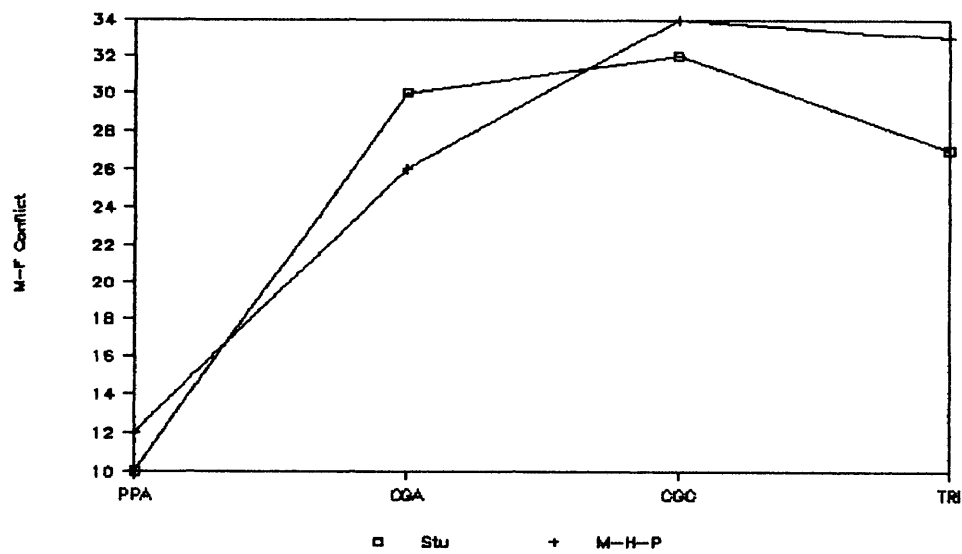


Figure 3 — Family Dysfunction

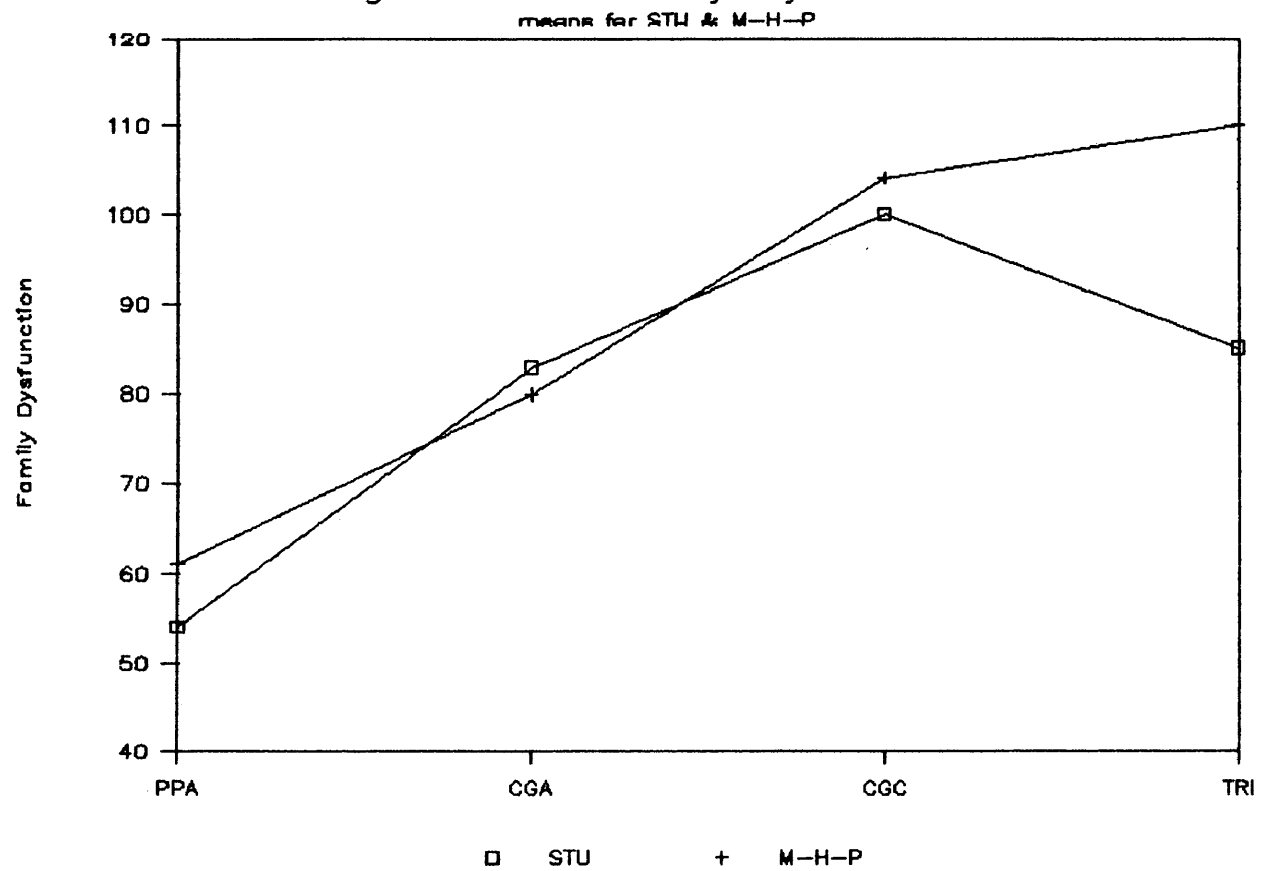


Figure 4 Means for Individual Measures
for Forward and Reverse Workshops

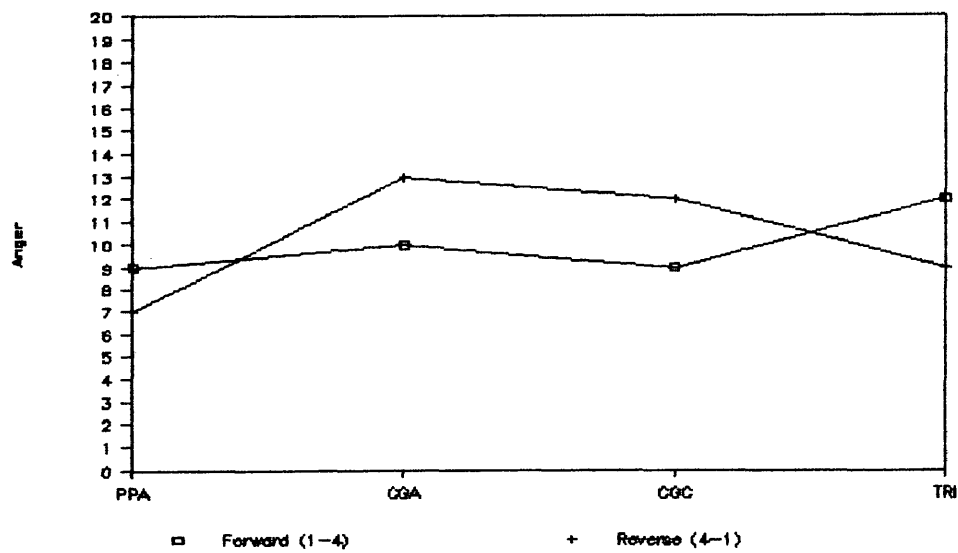
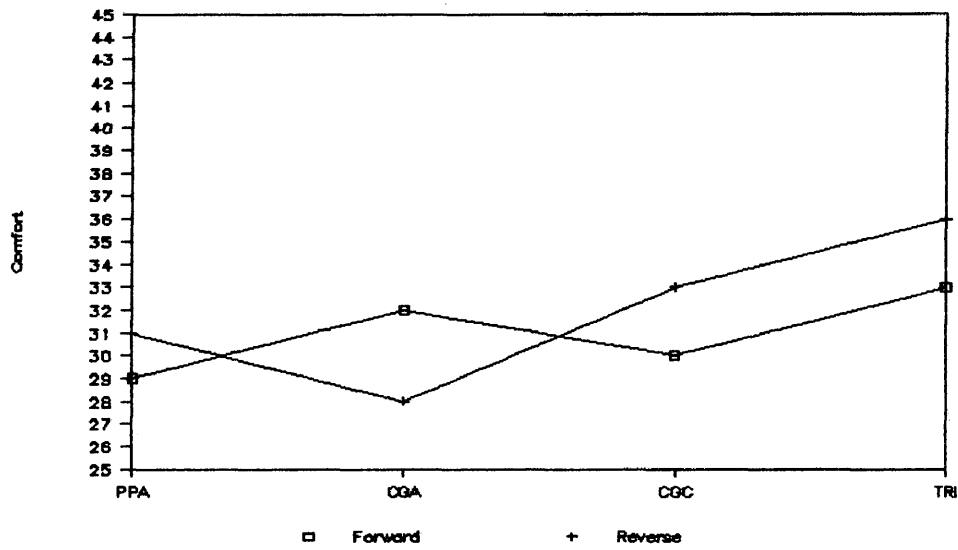
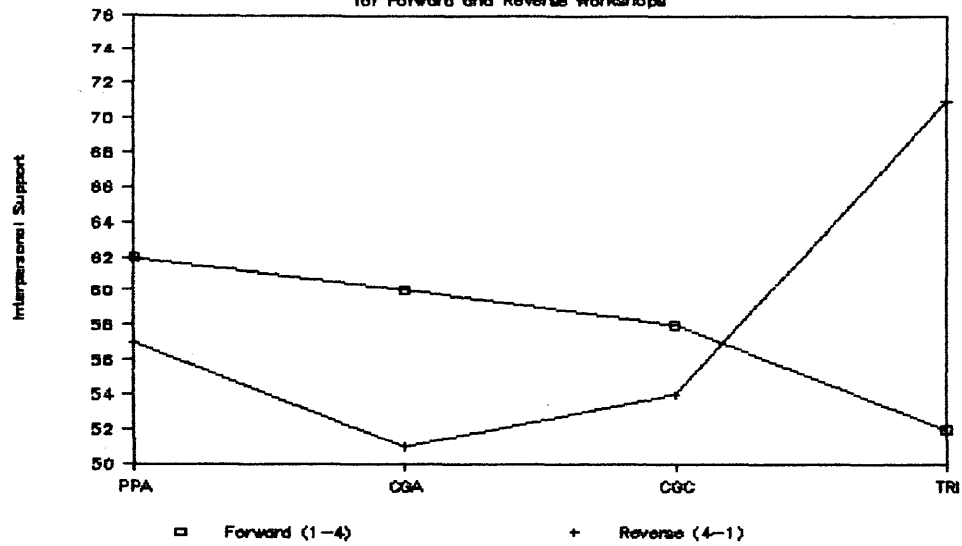


Figure 5 — Dyad Conflict Means
for Forward & Reverse Workshops

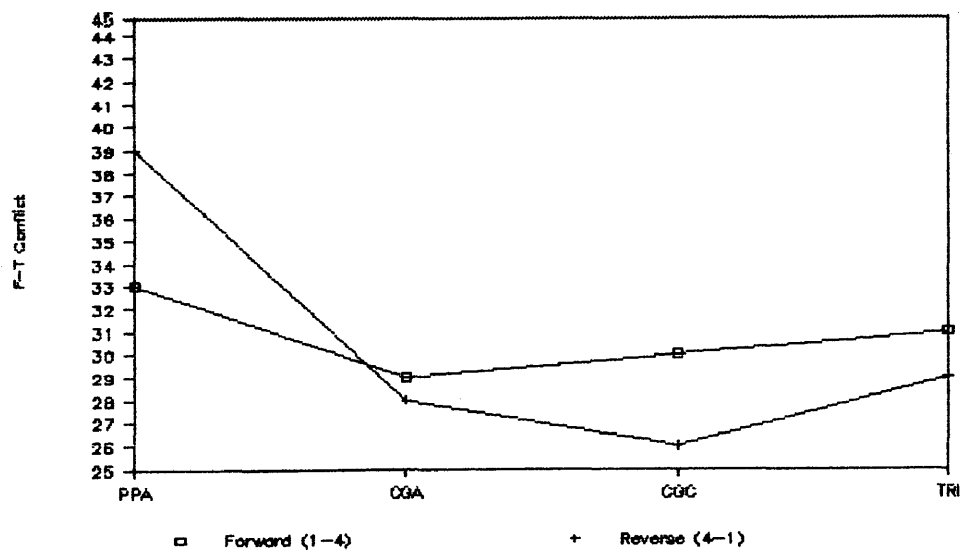
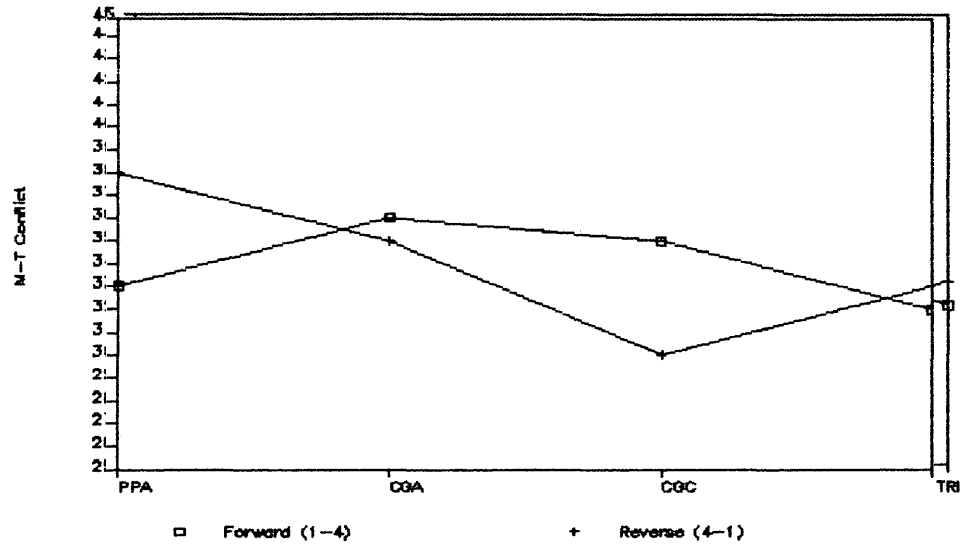
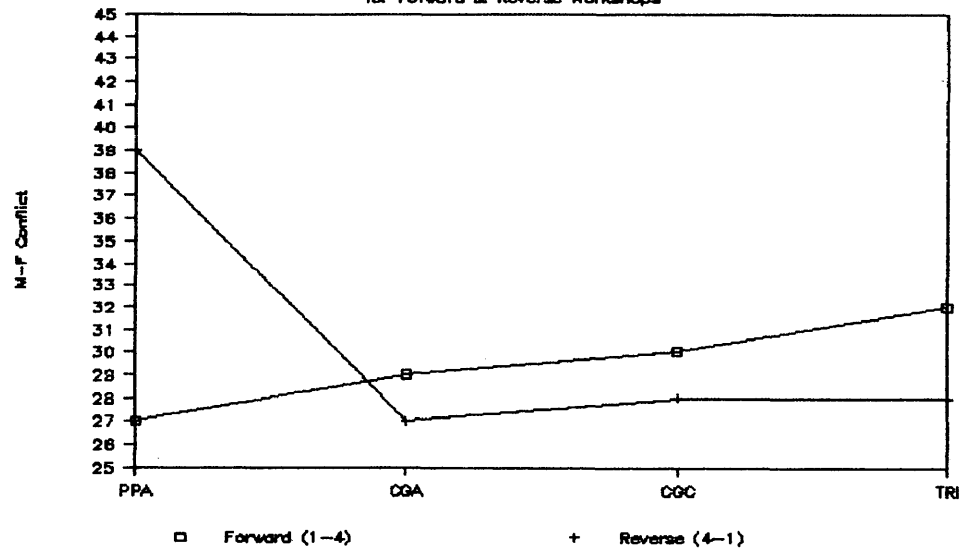
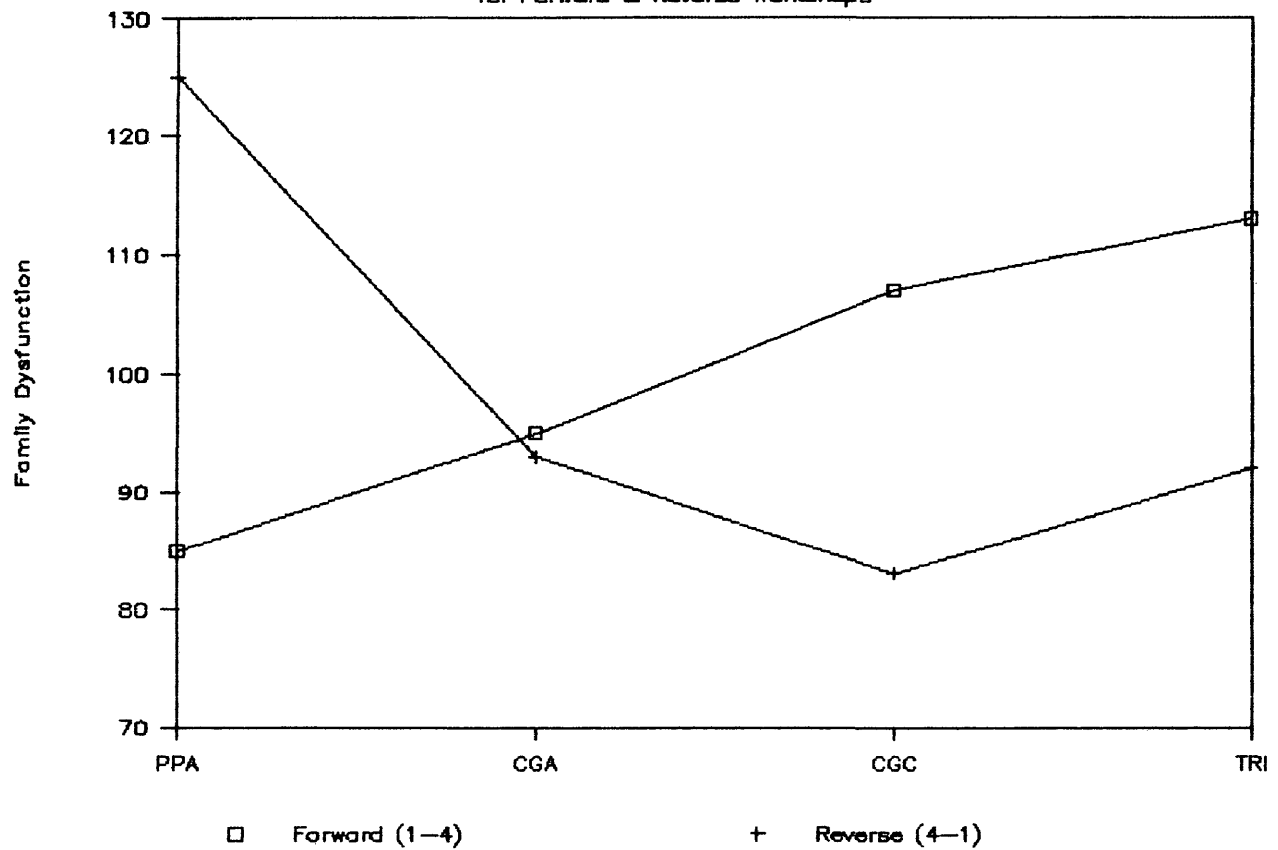


Figure 6 – Family Dysfunction Means
for Forward & Reverse Workshops



VITA

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