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The impact of systemic family processes and structures on mental illness and family violence

Al A. Shigo
University of New Hampshire, Durham

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Shigo, Al A., Ph.D.

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U·M·I
300 N. Zeeb Rd.
Ann Arbor, MI 48106

THE IMPACT OF SYSTEMIC FAMILY PROCESSES AND STRUCTURES ON MENTAL ILLNESS AND FAMILY VIOLENCE

BY

AL A. SHIGO
BS, University of Pittsburgh, 1970
MSW, University of Pittsburgh, 1974
MA, University of New Hampshire, 1983

DISSERTATION

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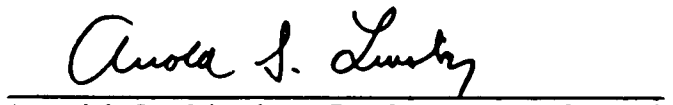

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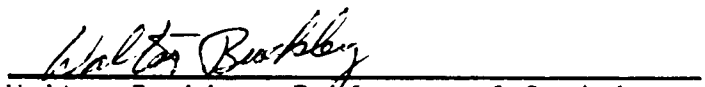

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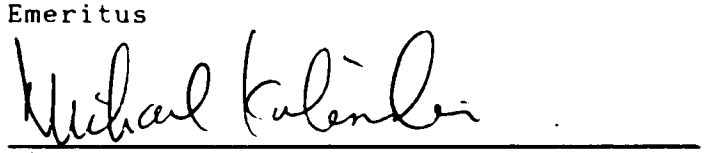

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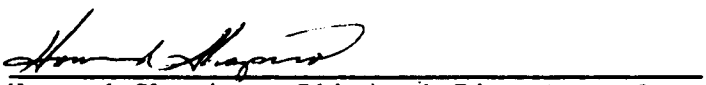
of Family Studies



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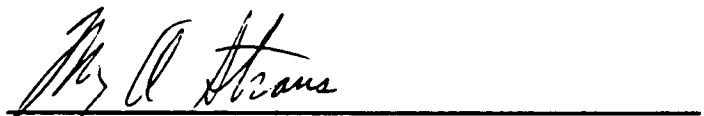

Murray A. Straus, Professor of Sociology

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To **Kathy,**
Allison Joy, and **Kristopher Michael,**

Without their support, caring, and love
this study would not have been possible

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ABSTRACT

THE IMPACT OF SYSTEMIC FAMILY PROCESSES AND STRUCTURES ON MENTAL ILLNESS AND FAMILY VIOLENCE

by

Al A. Shigo
University of New Hampshire, December, 1990

The relationship of both family structure and process variables to both mental illness and family violence are examined in this study. A non-clinical sample of 100 university student families and a clinical sample of 100 in-patient families at a psychiatric hospital are utilized. Both non-clinical and clinical samples are utilized with subjects of similar age. Within the broader context of General Systems Theory and family systems theory in particular, the inter-systemic variable of bounding and the intra-systemic variable of linking are tested in there relationships to both mental illness and family violence. Open, random, and closed family system types are also tested in relationships to family violence and mental illness.

These systems variables are measured through a new family assessment instrument, the "Family Process and Structures Questionnaire". Reliability and construct validity are discussed. The hypothesis was supported that bounding and linking would show significant effects

on family violence and mental illness. A positive relationship trend was found between bounding and family violence and a significant positive relationship was found between bounding and mental illness. A significant negative relationship was found between linking and both mental illness and family violence. Partial support was found for a curvilinear relationship between linking and family violence. A significant interaction effect was found between bounding and linking on family violence.

The important impacts of family system type variables were supported in the study. Open family type showed a significant, negative relationship to family violence and mental illness, while closed family system type showed a significant, positive relationship to both family violence and mental illness. Both random family system and closed family system type showed significant positive relationships to mental illness. The relationship between random family systems and mental illness was found to be particularly strong. Both full and partial predictive models were developed for family violence and mental illness. Both clinical and non-clinical predictor models are also presented. Results clearly suggest the importance of the inclusion of both intra-systemic and inter-systemic variables in family systems research. Clinical implications of findings are discussed for both family violence and mental illness.

Chapter I

THEORETICAL BASIS OF THIS STUDY

INTRODUCTION

Previous research on family violence has tended to focus on psychological factors and social-structural factors. Historically, psychological variables related to family violence and mental illness have been studied within a pathological framework. In the area of child abuse, the psychopathological model has had its focus on specific psychological characteristics of the parent. (Gelles, 1978) Steele and Pollack hold that child abusing parents have severe emotional problems (1968), while Kempe locates the problem as a defect of the individual character structure (1962). A careful review of the literature by Gelles (1973); (Shigo, 1988) found the psychological explanation of violence to be too narrow, to have many internal inconsistencies, and to be based on clinical opinion rather than scientific evidence.

The present study is an attempt to look at family process, structure, and organizational variables in their relationship to family violence and mental illness. This is within a non-pathological perspective. The study attempts to identify more "normal range" family processes and structures commonly occurring in

complex, social systems, with the focus on family systems. More normal range family process and structure variables have been identified in field studies (Kantor and Lehr, 1975). However, these variables have not been empirically tested in their relationship to either family violence or mental illness. This study explores the relationship of these organizational, systemic structures and processes in their association to family violence and mental illness as outcome variables.

Family structural and process concepts have been related to family coping and family vulnerability to stress going as far back as families experiencing the Depression of the 30's (Angel, 1936; Cavan, 1938). Hill studied families under stress and began to identify family structural issues a decade later. However, family organizational variables with a specific focus on intra and inter-systemic distance regulation mechanisms have not been studied to any extent in their relationship to either family violence or mental illness (Shigo, 1983). Yet, in the study of the family, the importance of these concepts to both clinical and sociological knowledge, and the need for empirical study has clearly been recognized (Family System Therapy: A Decade Review, 1980; Finkelhor, 1977).

This study seeks to understand the relationship of intra and inter-systemic structure and process variables

to both family violence and mental illness. These systemic variables, operationally defined as family structure and process variables are suspected of contributing to family violence, whether this be in the form of child or spouse abuse, or an increase in tension within the whole family system. It is suspected that extreme degrees of these family structures and processes may also contribute to a high level of tension within the family system in the form of increased types of conflict, systemic rigidities and/or breakdown in family structure, and systemic interdependencies of a low or high nature. When these tensions are internalized this is seen to increase the likelihood of mental illness within the family system. When these tensions are externalized, this is theorized to increase the likelihood of family violence in the family system.

Specifically, this research is an attempt to empirically use family structural and process concepts of "bounding" and "linking" as identified by Kantor and Lehr (1975), to partially explain family violence and mental illness phenomena. These concepts of "bounding" and "linking" respectively address questions of: (1)How does a family set up and maintain its boundaries (territory)? (2) How does a family regulate distance among its members?

Purposes of This Research

The importance of this study, both theoretically and in its practical applications, can be divided into five specific aims:

1.) To empirically test family structural and process concepts of bounding and linking, in their relationship to both mental illness and family violence as outcome variables. Although the merits of a naturalistic, comprehensive study of family life are clearly evident in the depth and detail of the Kantor and Lehr (1975) study, a survey of the research literature reveals little if any use of the bounding and linking concepts. Yet, the importance of these concepts has clearly been recognized (Finkelhor, 1977).

This study will attempt to operationalize the concepts of bounding and linking by designing a new measurement tool in the form of a structured questionnaire. This questionnaire was previously pretested by clinicians in structured interviews on a random sample of 17 families, and confusing and conceptually inaccurate questions were eliminated or modified in completing the final self-administered questionnaire. This questionnaire was then administered to 50 families (Shigo, 1983), and analyzed for reliability and internal consistency.

2.) To empirically test the relationship of "family

types" as identified by Kantor and Lehr, to both mental illness and family violence. This study also addresses the issue that many studies of family functioning do not look at over-arching family system "types" which may regulate or have an impact on specific family processes. These "types" address the issue that how "open" or "closed" a system is in terms of boundaries may have a relationship to both family violence and mental illness. This is seen as an important factor in how families utilize a wide range of services as consumers, both in clinical and non-clinical areas.

In this study, "family types" are defined as stereo-typic systems which differ in both their structural arrangements and strategic styles. Three family types are identified and conceptually labeled as "open", "random", and "closed" family type. These three types of systems are based on three different homeo-static models- each type viewed as a variant of the generalized concept of the family as a semi-permeable system.

3.) To conceptually and operationally separate "inter" from "intra" systemic family variables. The theoretical section of this study will explore how the mixing of these two fundamentally different concepts has resulted in inaccurate operationalization, poor concept definition, and resultant inconsistent study results in specific prior studies cited.

4.) To apply general systems theory concepts to the real-life, everyday operation of the family group, as a complex social system. Theoretically, this study is also an attempt to address the value of a rapidly growing body of knowledge on "general systems theory" and its application to family studies (Straus, 1973; Olson, Sprenkle, Russell, 1979). As such, it attempts to develop one partial link in closing the gap between the often abstract formulations of "general systems theory"(Bertalanffy, 1968; general systems theory; Buckley, 1967; termed modern systems theory; Sztompka, 1974; termed multiple systems theory); and the practical, real-life operation of the family as a complex social system.

5.) To develop a measurement tool which can be used in the evaluation of family systems to specify treatment goals, use of services, and areas of intervention to aid in decreasing child and spouse abuse, mental illness, and other forms of family dysfunction. It is hoped that the specific questionnaire developed will have predictive value in the early prevention and decrease of child abuse, battered wives (spouses), and other forms of family violence.

It is also hoped that this measurement tool will be useful in helping to measure specific family structures and processes which are constructive to family growth and development. In this regard, the Family Strategies

and Structures Questionnaire provides a first step in the construction of a comprehensive family system evaluation tool.

General Systems Theory as a Theoretical Model

General Systems concepts suggest a theoretical model in this research as they help to more accurately describe and explain the complex interplay of many variables which comprise dynamic family structures and process patterns, and their impacts on family violence and mental illness. In this study, "family structure" is defined as the characteristic, patterned interactions and interrelations among family members. Mental illness and family violence occur within the context of complex psychosocial systems. Even in the situation of a family with considerable breakup and detachment, a relatively isolated individual still operates in a larger social context within a family identity and a past evolved family history. We are part of evolving, changing, psychosocial systems from the time of our birth, through the years of socialization, to the time of our death.

Family structures and processes, from a very subtle to an even pervasive manner, can shape the ways in which we react to events outside the family. Often, how we perceive and respond to crisis or stressful events can be modified or buffered by coping skills, behavior, and perceptions of social reality learned and cultivated within the family system (Eshleman, 1985)

As a family is a complex social system made up of many interactive parts, one manner in which the family can be characterized and studied is through identification of its' more pronounced structures, "processes", and functions. Those processes and structures do not occur in a static framework, but operate in a dynamic inter-related "system". The concept of "process" is virtually coterminous with the concept of "system" (Kantor and Lehr, 1975). To describe what is meant by "family process" it is important to clarify what is meant by "system". "System" is defined as a set of things or parts that meet two requirements: first, these parts are directly or indirectly related to one another in a network of reciprocal causal effects, and second, each component part is related to one or more of the other parts of the set in a reasonably stable way during any particular period of time (Buckley, 1967). As this study has its focus on the family system as one type of social system, it is important to look at the main elements of social systems. The chief characteristic of such systems is an almost continuous interchange not only within the system, but across the boundary between the inner environment and the outer environment. Given this understanding of system, "process" can then be described as the actions and interactions of the various component parts of the system both within and across its environmental borders (Kantor and Lehr, 1975). These

processes and structures do not occur in a static framework, but operate in a dynamic interrelated system. Of these structures and processes the focus of this study is on the main structure and process variables of "bounding" and "linking" and the relationship of these variables to both mental illness and family violence.

The independent variable of "bounding" is defined as a mechanism in which families maintain and establish their boundaries or territory within the larger community space by regulating and incoming and ongoing "traffic". Traffic is defined as the movement of people, objects, events, and ideas. In physical space traffic is regulated by doors and hallways, room assignments and groupings; analogically ideas and events are regulated in much the same way. Bounding issues are seen as issues of safety, identity, and a sense of group existence or demarcation. Bounding is therefore defined as an inter-systemic variable. The second main independent variable of "linking" is defined as the regulating of distance, the physical and conceptual associations and disassociations of all persons within the families spatial interior. In this sense, linking is defined as an intra-systemic variable in this study.

General Systems Theory as both theory and method of analysis provides concepts contributing to theoretical explanations which describe and explain the way parts of the family are inter-related and the implications of the

parts for actions and outcomes of the whole family as a social unit as well as actions of individual members within the family. As such, general systems theory as both a method of analysis and an explanatory scheme can take into account the dynamic interactions of family processes and structures and their impacts on family violence and mental illness.

Regarding explanatory power, general systems theory attempts to more accurately provide an explanatory framework which takes into account the complexity of variable relation-ships which constitute the social system of the family. This explanatory scheme is more consistent with social reality than the two variable, linear association model, which has dominated statistical treatment in sociology in the past.

To capture the reality of family life, it is necessary to study the dynamic interplay of family structures and processes in their inter-relationship as opposed to use of a uni-causal model. General Systems Theory can more effectively explain outcomes of multivariate relationships. As a theory, it can therefore offer explanations for the dynamic interaction of components which give the family the potential of being a self-adaptive system.

In the study of variables contributing to family violence and mental illness, many characteristics of the family system have been studied. Among these, family

organization and family power structure have been part of the subject of study as important elements of the family in their relationship to family violence. This study focuses on structure and process variables and their relationship to both family violence and mental illness; the study theorizes that family process and structure variables play a significant role in the development of both positive and negative feedback patterns which can either increase or decrease "systemic tension". Systemic tension is defined as an increased state of arousal and activation of the entire system which has impacts on individual elements of the system in terms of their integrity and survival as unique parts of the system. In family systems, the impacts can be a perceived threat to individual ego integrity or a perceived threat to a desired goal for the individual family member or continuance of the entire system. If externalized this heightened system tension can lead to family violence. If internalized this systemic tension can lead to mental illness among family members.

The importance of family structure and process variables in family functioning and family organization has been the subject of discussion and theorizing in the clinical literature. Moreover, it has emerged within the historical perspective of sociological theory and its relationship to the functioning and organization of the family as a social system.

Historical Perspective of Sociological Theory and Its Relationship to Family Organizational Variables

The variables of "bounding" and "linking" address the identity of people- their individuality and their connectedness. They pertain to persons having separate identities, yet relating to and being part of the larger social whole from which they collectively begin to define and impose structure on the social world.

When Kantor and Lehr define bounding as a mechanism in which families maintain and establish their boundaries or territory within the larger community space by regulating both incoming and ongoing "traffic", they are describing the movement of people, ideas, objects, and events both into and out of the family's perimeter space. This means only certain ideas and people are given access through the system's boundary. This helps to define the family's boundary in terms of structured access patterns. These structured access patterns help shape the rigidity or flexibility of the system's boundaries and contribute toward the development of the family's identity.

Bounding is a measure of family boundaries or family system boundaries. As seen by Kantor and Lehr, bounding is both conceptually and operationally defined in this paper as an "inter-systemic" variable. As such, "inter-systemic" means that bounding specifically relates to structures and processes existing between social systems. It is a characteristic of the whole

family system, rather than an attribute of individual family members, although it can effect the nature of relationships between family members. As bounding is an inter-systemic variable it cannot be utilized to describe any system in isolation from other systems. Bounding therefore, takes into consideration social context relationships to and between other social systems. In this sense, degrees of bounding in family systems must always be measured in relation to the larger societal and cultural framework.

"Linking" is a process which can be seen to actualize both the connectedness (integration) and the regulation of distance (differentiation) of individuals within the family group.

> Linking is defined as the regulation of distance the physical and conceptual associations and disassociations of all persons within the family's spatial interior. (Kantor and Lehr, 1975)

Linking involves the dynamic processes of the individual dealing with his separateness and connectedness within the family group. As such, in this study, linking is conceptually and operationally defined as an "intra-systemic" variable.
Specifically, linking is a variable of interpersonal distance, operational in terms of mutidimensional processes occurring "within" the family system.

Linking operations, because they directly affect inter-personal relations, are much more closely connected with "target" issues of affect, power, and meaning- than are bounding operations, which comparatively take place at the family's perimeter. In contrast to bounding, linking and the focus of specific linking mechanisms is not on family targets or goals, but on family members and their movements-associations and disassociations- as bearers of targets. In this sense, linking is what takes place between family members in regards to separateness and connectedness dynamics.

As far back as the time of the Enlightenment, Rousseau grappled with the complex issue of man retaining his individuality and freedom, while at the same time submitting himself and his will to a collective social entity. For Rousseau, man's freedom remained a fundamental ideal, but one which was not to be attained by shaking off all society and civilization or by reverting to a so-called "natural state." (Zeitlin, 1968)

Rousseau proposed a solution to this "self-collectivity" problem which involved finding a form of society in which every member would be protected by the united power of the entire political organization, and in which each individual, through uniting with others, remains free and equal-obeying nobody but himself. This

led Rousseau to seek an ideal solution of the integration of the "individual self" and individual will into a collective order through his proposal of the "Social Contract." (Zeitlin, 1968)

The "Social Contract" represented a new society which enables the individual to be absorbed into the "common, general will" without losing his own will, because in giving himself to this common will he gives himself to an impersonal force-almost indeed a natural force. In the "Social Contract", Rousseau states:

> Each man, in giving himself to all, gives himself to nobody; and as there is no associate over which he does not acquire the same right as he yields to others over himself, he gains an equivalent for everything he loses, and an increase of force for the preservation of what he has. (Zeitlin, 1968)

Although concepts such as the "natural state" and "general will" are unclear and difficult to conceptually define, in Rousseau's "Social Contract", the issues for which he was trying to find an ideal solution, exist in the real life world of family functioning, and in the associations and disassociations of the individual with the family as a collective entity.

The variables of bounding and linking ultimately involve similar kinds of differentiation and integration processes which take place in family systems.

In contrast to bounding, linking is defined as an intra-systemic variable, operational in this study to measure integration and differentiation processes within the family as a social system.

From the development of his "voluntaristic theory of action" and the "unit act" in the Structure of Social Action, to the development of the integrative conceptual scheme of "systems of action" in The Social System, Parsons was concerned with clarifying and describing the interplay of integration and differentiation processes both within and between social systems. Parsons stated that there is an essential uniformity in the processes of differentiation in systems of action, whether they be in social systems or personality systems (Parsons, Bales; 1955).

Parson's concerns with the relation of differentiation to the concept commonly paired with it, that of integration, help us to understand and clarify how bounding and linking processes are related and dynamically interactive. The observation that differentiation processes go hand in hand with integration processes (Allport, 1973), was interpreted by Parsons as a consequence of the organization of "action" in systems. Parsons therefore defined "differentiation" as, a process of change of the system which disturbed whatever approximation to a stable state existed before the differentiation began. (1955)

This "disturbance" was seen to set up repercussions, not only at the foci of differentiation, but throughout other parts of the system. Thus what Parsons saw as integration was defined as:

> . . . the set of adjustments in the rest of a particular system which were necessitated by fulfilling the conditions necessary to maintain the newly differentiated state and at the same time, those necessary to the continuance of the whole as an ongoing system. (1955)

Parsons identified two specific features of the differentiating process. The first was that differentiation was seen to take place in some kind of "pattern of phases", which involved inter-related variables. This was seen to be related to task oriented groups, the family being only one type of case. The importance of this theoretical notion for this study, is that Parsons' conception of differentiation as a combination of interrelated multivariable processes fits the Kantor and Lehr notion of bounding and linking as composite, dynamically interrelated variables. As integration and differentiation are characterized as more likely being non-linear and multidimensional, with bounding and linking we have composite, interrelated variables which attempt to partly describe and operationalize the multi-dimensional reality of family process and structure. Therefore, in testing the

relationships of these composite variables with both mental illness and family violence, we are actually testing multidimensional concepts which may show a combination of linear and non-linear functions to the dependent variables.

The second feature put forth by Parsons was that differentiation processes seem to occur by relatively discontinuous stages, which Parsons interpreted provisionally to mean that integrative processes must have a chance to catch up with the consequences of a given step in differentiation, before the latter process can go further without severely affecting system functioning.

In the ways in which Parsons saw the inter-relatedness between integration and differentiation processes, Kantor and Lehr (1975), theorize that bounding, as a process, can set the stage or parameters for linking processes within the family, and reverse effects can also occur. For example, the intensity and quality of family member interrelationships can both depend on and be influenced by, how thick or impenetrable of a boundary wall is constructed between the family system and the larger social world.

As Parsons saw integration and differentiation processes to be related, linking or the regulating of distance between family members within the family's spatial interior can also influence the degree and

particular characteristics of bounding- the extent to which the family, as a homeostatic system, maintains a rigid isolating boundary from other social networks, or the degree to which the family system boundary is diffuse- too structurally weak and accessible to allow for a stable organizational structure and a sense of family identity and regulatory functions to occur.

At the extreme; weak, diffuse bounding brings into question the family's ability to function as a social "system", and whether or not individual family members can be considered to form any social aggregate or social entity, apart from biological ties. Under these conditions, whether or not the family can be considered to constitute a "system" is brought into question. In the clinical literature weak, diffuse bounding often labeled as family detachment or family breakup has been associated with problems in early identity formation, and development of a positive self concept or sense of stability in formation of the psychological self.

In viewing characteristics of bounding, we are partly analyzing degrees of "systemness". Cambell (1958), addresses this issue in identifying indices of "common fate", "similarity", and "proximity" as possibly operational to this task. The justification for Campbell's article lies in his belief that too often concepts of "system" and "homeostasis" or "dynamic structure" are made axiomatic and lose their

status as testable hypotheses. In this study bounding and specific bounding submechanisms are operationalized, and therefore, provide ways to measure attributes of families, allowing for the testing of hypotheses regarding family structural arrangements and their relationships to family violence and mental illness as outcome variables.

Bounding and Linking mechanisms as described by Kantor and Lehr (1975) are broken down in this study to very specific, operational, family structural arrangements and processes. The composite variable of bounding breaks down into the submechanisms of: mapping, routing, screening, and patrolling. The composite variable of linking breaks down into the submechanisms of: bridging, buffering, blocking-out, channeling, and recognizing. These submechanisms help to describe and clarify differentiation and integration functions, both within the family and between the family and other social systems.

Bounding and Linking, in this study, are applied specifically to family systems, yet can be looked at as primary properties of social systems in general on the micro level and studied in terms of polar dichotomies (being placed on a continuum with extremes). In this sense, they are similar to Parson's description and analytical framework of "pattern variables".1

In his commitment to the development of concepts

that reflected the properties of all action systems, Parsons was lead to a set of concepts denoting some of the variable properties of these systems. Termed "pattern variables" they allowed for the categorization of the modes of orientation in personality systems, the value patterns of culture, and the normative requirements in social systems. (Turner, 1978)

These "pattern variables" were identified in terms of polar dichotomies to allow for a rough categorization of decisions by actors, the value orientations of culture, and the normative demands on status roles. Parsons' conceptualization of pattern variables is important to this study, as it helps to clarify the main independent variables of bounding and linking, and to increase our understanding of complex, dynamic family processes.

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1 Pattern variables were developed in collaboration with Edward Shils and were elaborated upon in "Toward a general theory of action", pp. 76-98. Parsons' debt to Max Weber's concern with constructing "ideal types" can be seen in his presentation of the pattern variables.

In defining both bounding and linking processes, we are concerned with investments to the self verses investments to the collective "group" or entity of the family. In the area of bounding, these investments are played out more between the family and other competing2 social systems.

In linking, the area of investment is directed more within the family itself, with investments played out more so between the independent self of each family member, verses commitments to the whole family.

In contrast to linking, bounding involves investments to the self vs. the collectivity in terms of "distance regulation" at the interface of the family system with other social systems. Families attempt to establish distance regulation order at interface by constructing and preserving a harmonious set of mutually supported values, norms, and expectations. These mutual values and normative patterns help shape the identity of any particular family system. To the extent that greater investments or almost exclusive investments are made to the collective nature of the family, family boundaries can be characterized as more closed, tending toward rigidity. Sole investments to the family system makes

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2Competition is defined here as rivalry for resource allocation and resource investment, in contrast to conflict which contains in its definition, mutually exclusive goals.

rigid bounding and family isolation more likely to occur. Greater investments to the self, and to other social networks outside the family system would tend to open up family boundaries. With the opposite extreme, sole investments outside the family with little family investment and involvements makes diffuse bounding and family disorganization more likely to occur. These are polar extremes, and it is recognized that most families function in the middle range or somewhere along a continuum between the two extremes. These examples, as ideal types, are used to clarify the operation of bounding as an inter-systemic variable and to show its importance in how the family operates in relation to other social systems. This is equally important in understanding self-collectivity issues within the family. Thus, with this type of interplay, we can see how bounding and linking can set the stage for each of these family processes to take place. One affects the other. Yet, bounding and linking are seen as mutually interactive, related, but separate family concepts.

In sum, the variables of bounding and linking are seen to have much in common with Parsons' pattern variables descriptive of "self-collectivity" processes. However, to effectively study bounding and linking in their own right and to study their interaction, two separate levels of analysis are required. This is so, as bounding as an independent variable is defined as a

measure of the interpenetration and interrelationship of one social system to another, while linking as an independent variable is defined as a measure of the degree of relationship between individual family members as psycho-social entities within the social system of the family itself. That two levels of analysis are needed to accurately measure the interplay of bounding and linking mechanisms is not new theoretically. Parallels can be found in "The Social System", in which Parsons was concerned with the interplay of the processes of differentiation and integration, both within and between social systems. Parsons theorized an essential uniformity in the processes of differentiation and integration in systems of action, whether they be corporate social systems of individual personality systems, and whether the level of analysis be macroscopic or microscopic. (Parsons, 1955)

For example, if we define family integration on a micro level as the interpenetration of perspectives--the sharing of a set of common values and beliefs--between individual family members, we are left asking the question--what, on the macro level, makes these conditions of family integration more likely to occur? We find ourselves having to consider what kinds of boundaries separating the family as a whole from the social world would have partly created this particular kind of climate for uniting family members?

By necessity, we are drawn to a macro level analysis. This appears to illustrate what Parsons meant by the essential interplay of the processes of differentiation and integration both within and between social systems. It also becomes evident that there is no such simple thing as family integration and differentiation that exists only in degrees of more or less. At the very least, we must look toward kinds of integration and differentiation within family roles. Not only does measurement of the concepts within the family become role related or role specific, but subsystems of the family such as the marital subsystem or parental subsystem need to be included when we attempt to measure integration and differentiation processes within the family.

To be integrated in one sphere necessitates a certain degree of differentiation in another. For example, over-involvement in work roles may set the stage (reciprocally) for under-involvement and distancing from the parental role and a lack of integration and closeness that constitutes a certain degree of differentiation from one's children.

Within the family, a mother that is too highly integrated, too intrusive with her children, is most likely to be too socially and emotionally differentiated from her spouse.

In this study, as an intra-systemic variable,

linking and its submechanisms are closely aligned with integration and differentiation processes. It is also multidimensional. As Kantor and Lehr defines linking as the regulation of distance between family members; this regulation can take place on the two dimensions of both the physical and conceptual associations and dissasociations of all persons within the family's spatial interior.

Conversely, as an inter-systemic variable, bounding and its submechanisms describe integration and differentiation processes between the family and the larger community space. Bounding can also be seen to reflect the multidimentional nature of integration and differentiation processes, as bounding is defined as a mechanism in which territorial space —intersystemic distance or closeness and the regulation of other social entities—occurs indirectly through the direct regulation of the incoming and outgoing flow of ideas, objects, events, and people in terms of system boundaries.

Other pattern variables described by Parsons share common characteristics of bounding and linking, and can help increase our depth of understanding of these concepts.

For example, the pattern variable of "affectivity-affective neutrality" describes a dimension which concerns the amount of emotion or affect that is

appropriate to a given situation. (Parsons, 1955) As defined by Kantor and Lehr, linking partly involves the degree of emotional investment family members have in each other. Kantor and Lehr (1975), describe this as the degree of investment family members have for each other as affective targets in emotional exchanges. This is but one aspect of distance regulation between family members contained in the conceptual definition of linking.

In summary, "distance regulation" involves how obligated, invested, and responsible family members consider themselves to be for each other, in combination with privacy and individualistic needs. In terms of both physical and emotional distance, the central issue is - how far or how close family members are in proximity to each other.

Although bounding and linking help measure inter-systemic properties, they are isomorphically two interrelated processes. How close or how far apart family members are to each other in terms of emotional investment, cognitive orientations, and obligations depends also on how thick or how rigid of a boundary wall exists around the family system itself.

For example, if bounding is rigid and an almost closed boundary or perimeter space exists between the family system and other social entities (neighborhood, peer groupings)..., it is hypothesized that investments

of family members are also likely to be too rigid, too emotionally intense, too enmeshed, and too confined within family walls. Conversely, linking processes may also become rigid and overinvestments among family members may occur, as the family is found lacking in variety of response and relationship patterns from within.

If bounding processes are two diffuse, family organization, identity, and stability patterns- both in structure and process- are likely to suffer. Linking processes in this case may become too haphazard, too weak, and too disconnected. The family system can then become to chaotic and disorganized, spiraling toward its own further fragmentation. As Kantor and Lehr contend, if the family system fails to develope a territory, it virtually ceases to exist, for it becomes indistinguishable from the larger social space. It ceases to become a separate entity.

Another dimension of bounding and linking which involves rigidities at one extreme, and diffusion at the other, addresses the issue of values, beliefs, and idea systems.

Parsons also appears to recognize this issue in his development of the pattern variable of "universalism-particularism". This variable addresses the issue of how values, beliefs, and idea systems are developed in families and how flexible or rigid family members are

with each other in this process.

For example, families marked by diffuse bounding are likely to be at the universalistic end of the continuum, with family members having difficulty in the development of their own moral code and the family itself lacking in organization around an integrated moral code which allows for prioritizing of actions and decision making as families "map" their society in their development of a values and belief code. Kantor and Lehr refer to this process of family organization around values and development of a moral operating code as "mapping". (This is operationalized in the methods section of this study). If moral screening mechanisms are weak, or mapping does not occur- a high degree of ambivalence or normlessness around values and beliefs can occur. As families attempt to make prioritized decisions, conflicts and tensions can emerge or increase, under such circumstances, the relationship between mapping and family violence and mental illness, two possible manifestations of such tensions and conflict, will be tested in this study.

Bounding and linking mechanisms which are too rigid can also be too inflexible to allow for variety in family members regarding important differences in cultural and societal perceptions and the questioning by family members of societal norms and value priorities. As a result the flexibility and adaptability of the

family as a system to societal change is likely to decrease.

In sum, Parsons' pattern variables have been presented to help clarify and better understand the multi-dimensions of bounding and linking processes. Parsons was inclined to view "pattern variables" as value orientations that circumscribe the norms of the social system and the decisions of the personality system. The family as a social system is both a reflection of and a screen between the dominant patterns of value orientation in a particular culture, and the internal family world.

In this study, Parsons' pattern variables help to make clear the scope and type of value orientations, affective distance regulation functions, and self-collectivity issues processed through bounding and linking processes and structures.

Hess and Handel's Contribution to Understanding the Relationship of Bounding and Linking to Family Violence

Although the family mechanism of bounding can generally be seen as more sociological in nature than linking, the focus of this study—the combined and interactive effects of bounding and linking mechanisms—implies analysis of the family as a psycho-social entity.

As linking is conceptually defined as an intra-systemic variable or mechanism which has to do with the regulation of distance between family members, its province is the psycho-social interior of the family.

The family, as a psycho-social entity, is at once a significant source of individuality--the self, and the expression and affirmation of the most binding ties in social life. The family is the primary social entity. It is thereby, in this interplay of the self and collectivity, doubly and conflictfully—imperative to its members (Hess and Handle).

"The family is no less a region where there is a meeting of body and mind. For in no other human group does the body play such a decisive role in both the formation and outcome in the nature of relationships. The family is not only the primary locus of sexuality; it is also the group where the body and its functions

are given their first meanings, where touch has its freest reign, and at the extreme--unites or serves to alienate through an action of love or physical violence". (Hess and Handle, 1967)

The family is also a basic and primal organization,

> ...where eating becomes social and elimination is trained, where tension and relaxation take on their initial character. Respiration, digestion, endocrine secretion, and muscle tone become responsive to the moods and communication of other family members... (Handle, 1967)

Bounding and linking mechanisms reflect to what degree and under what circumstances culture and the larger social world can enter into the family's wall, while at the same time actualizing the dual nature of how culture and the larger social world is created by the inner working and interpersonal meanings of family members as an interactive, psycho-social system. For example, Hess and Handel state:

> The psycho-social interior of the family is not an isolated realm. It is a region of the larger social world. Families do not merely reflect the larger culture and social structure; they create meanings and relationships and individualities, utilizing the broader culture in differential ways. Families can be more or less involved with the larger society as they have their own ways of defining themselves and their boundaries (Hess and Handel, 1967).

Family structure and process variables point to and reflect pervasive family themes of individuality and collectivity. Specifically, bounding and linking processes and structures help illuminate family reciprocal

problems of individuality--as a product of group life (the social self) and the family's corporate character--as a product of its members. Operationalizing the processes and structures of bounding and linking provide us with a way to measure this dual nature of family life.

In this study, an analysis of interaction effects between bounding and linking mechanisms and submechanisms allows for a way to empirically test how individual family linkages shape the collective nature of the family as a social system; and hopefully, to measure what extent reciprocally, the family (as a social system) in relation to other social entities affects the degree of linkage, interpersonal development, and interpersonal distance of individual family members. Ultimately related to these processes is the identity formation of individual family members, and the creation of tensions and stresses within the family.

In this study, family violence is hypothesized to be one outcome of extreme degrees of both ends of the continuum of bounding and linking processes. It is suspected that extreme degrees of these family structures and processes can contribute to a high level of tension with the family system in the form of increased types of conflict, and/or systemic rigidities. At the extreme low end, the absence or marginal existence of these

structures and processes is suspected to contribute to family violence or mental illness due to a breakdown in family organization at levels necessary to promote a sense of family identity, stable identity of the self or "self-concept" of individual family members, and degree of supportive connection conducive to healthy functioning and recognition of the self and stability of the family system. If these mechanisms are at the extreme low end or virtually nonexistent, the ability of a family to function as a systemic entity- the degree to which it is a "system" is seriously questioned. It is felt that if the above factors are externalized, increased rates of family violence can result. This is seen as being more likely to occur at the high end of the continuum because family members have greater emotional investment and energy investment in each other. They are more closely enmeshed with each other and if externalized these processes can result in higher rates of family violence.

Mental Illness is also examined as an outcome variable in this study. It is hypothesized that one of the factors in mental illness is the internalization of stress, conflict, and systemic tension- more likely to occur when bounding and linking processes are at the extreme ends of the continuum. Also, at the low end, a lack of structure and organization likely to be the result of very low bounding and linking is also felt to

be a contributing factor in mental illness. At the high end- it is hypothesized that extremely high levels of bounding and linking can lead to an increase in systemic tension, which in turn if internalized can contribute to mental illness. It is also hypothesized that higher rates of family violence may be found in the non-clinical population due to the internalization of stress and conflict in the clinical population. This is examined in the study by comparing the clinical and non-clinical samples regarding family violence rates.

Another test of the above hypothesis, albeit less direct, will be the examination of the relationship between family violence and mental illness in the two samples.

Clinical Studies Related To Bounding and Linking Mechanisms

The theoretical concepts of bounding and linking have been addressed most directly in the clinical theory and family therapy practiced by Salvador Minuchin. In his search for the process through which family problems, dysfunctional relationships, mental illness, stress, and family violence patterns developed, Minuchin looked toward family structure and boundary patterns between family members, as having theoretical and causal significance. This concern about "boundaries" and family subsystems is most closely related to bounding and linking mechanisms, as both primarily focus on family structural patterns and inherent processes shaped by

or occurring in combination with family organizational factors.

Minuchin saw "family structure" as the invisible set of functional demands that organized the ways in which family members interacted. The family was seen as a system that operates through transactional patterns. Repeated transactions were seen a establishing patterns of how, when, and to whom to relate. These patterns were seen to underpin the family system.

Minuchin viewed the family system as differentiating and carrying out its functions through subsystems. A "family subsystem" was defined to include the individual, and dyads such as husband and wife or mother and child. Subsystems could be formed by generation, sex, interest, or function.

Minuchin saw each person in the family as belonging to different subsystems in which they have differing levels of power and learn differentiated skills. In different subsystems, Minuchin saw the individual as entering into different relationships. People accomodate kaleidoscopically to attain the mutuality that makes human intercourse possible. (Minuchin, 1974)

For the avoidance of dysfunctional family patterns, Minuchin hypothesized and carried into actual practice the theory that the "boundaries" of family subsystems must be clear. To be "clear", they must be defined well enough to allow subsystem members to carry out their

functions without undue interference, but they must allow contact between the members of the subsystem and others. "The composition of subsystems organized around family functions is not nearly as significant as the clarity of subsystem boundaries." (Minuchin, 1974) For example, Minuchin saw a parental subsystem that includes a grandmother as functioning quite well, so long as lines of authority and responsibility were clearly drawn.

Minuchin saw some families as turning upon themselves to develope their own microcosm, with a consequent increase in intrusive communication, overprotection, and generally over-involvement of family members with each other. As a result, healthy distance decreased and boundaries became blurred. This was seen as leading to a diffusion of differentiation within the family system. Such a system was seen as having a high possibility of becoming overloaded and lacking the resources necessary to adapt and change under stressful circumstances. Minuchin saw other families as developing overly rigid boundaries, which made communication across subsystems difficult and handicapped the protective functions of the family.

Theoretically, Minuchin identified these two extremes of boundary functioning as enmeshment and disengagement. He theorized that all families fell somewhere along a continuum whose poles were the two

extremes of diffuse boundaries and overly rigid boundaries, as shown in Figure 1-1. below:

DISENGAGED ---------- CLEAR ..... ENMESHED

(Rigid Boundaries) (Diffuse Boundaries)

Minuchin theorized that family operations at the poles of the continuum in Figure 1-1., indicated areas of possible pathology and increased family stress. There are several field studies and much discussion in the clinical literature which supports this theory, but little in the way of empirical research which either supports or rejects his contentions.

The specific hypothesis, that families in which bounding and linking mechanisms are either high (RIGID) or low (DIFFUSE) leads to increased family violence and mental illness, deals with the polar extremes of bounding and linking mechanisms. In this structural sense, it is similar to the polar extremes of disengaged and enmeshed boundaries. However, in the present study, bounding and linking mechanisms address intra and inter-systemic processes and it is a combination of both variables at the polar extremes which is seen to be important in elevated levels of family violence. Interaction effects between inter and intra systemic boundaries and processes do not seem to be taken into

consideration or elaborated on in Minuchin's theoretical model. Also, specific mechanisms involved in boundary formation and distance regulation are not delineated.

The aspects of distance regulation and boundaries between family members in relationship to heightened emotion, stress, and violence in family systems have also been studied by Murray Bowen in clinical practice.

In periods of increased stress or tension, Bowen contends that boundaries between family members can break down, resulting in a state which he has termed, "the undifferentiated ego mass" (Bowen, 1966).

Bowen appears to place families on a continuum similar to Minuchin in ability to establish boundaries between family members. A major theoretical concept in Bowen's theory is the degree of "differentiation of self" both within a person and existing between family members. Families are placed on a continuum of extreme differentiation and rigid boundaries to the obverse of boundary diffusion or "undifferentiated ego mass".

Although Bowen's concepts point to distances between family members, and appear multi-dimensional as "distance" is seen in conceptual, emotional, and physical linkages; he does not provide any empirical testing of these theoretical concepts to confirm their relationship to heightened family stress, family dysfunction, or family violence.

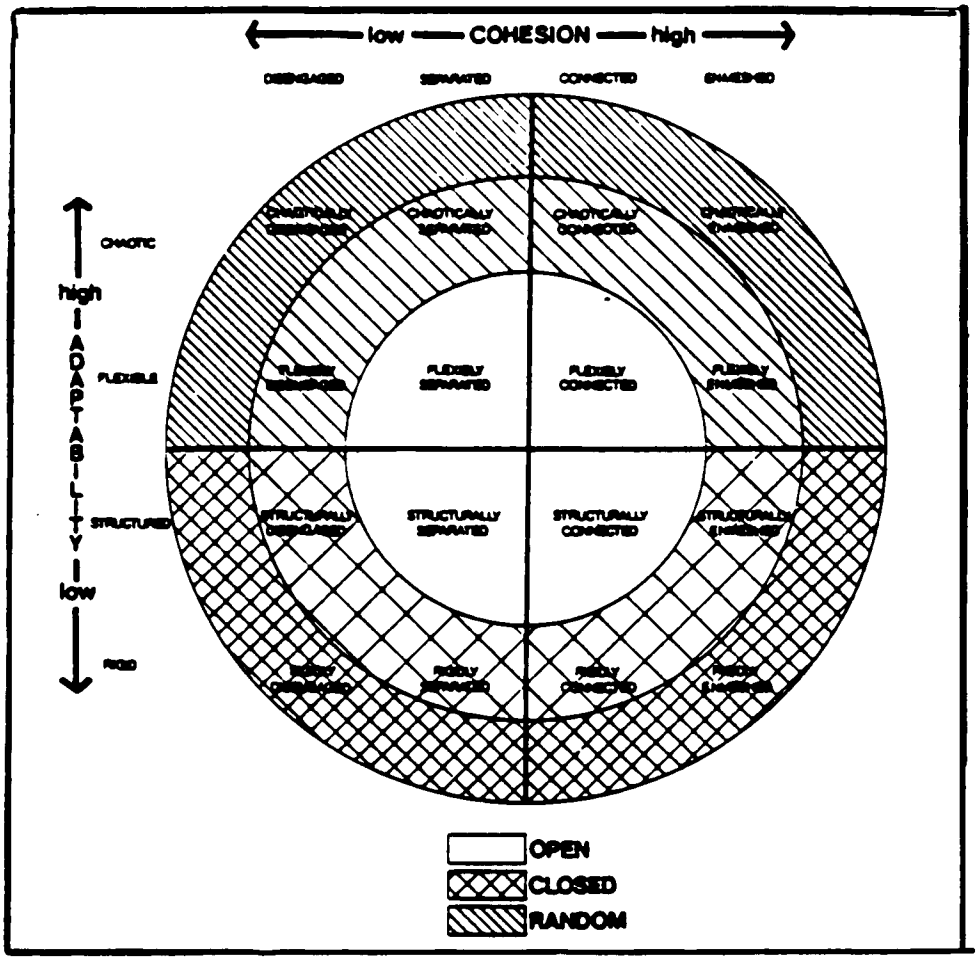
Empirical Testing of Clinical Concepts Related to Bounding and Linking

Empirical testing of family concepts (cohesion and adaptability) which appear to have concept and operational similarity to bounding and linking mechanisms has been done by David Olson and Candyce Russel in their development of the "Circumplex Model of Marital and Family Systems."

The authors claim that a conceptual clustering of numerous concepts from family therapy and other social science fields reveals two significant dimensions of family behavior, "cohesion and adaptability". As shown in Figure 1-2., the model proposes that a balanced level of cohesion and adaptability is the "most functional to marital and family development."

The circumplex model also proposes the need for a balance on the cohesion dimension between too much closeness (which is seen as leading to enmeshed systems, and too little closeness (which is seen as leading to disengaged systems). It is also hypothesized that there also needs to be a balance on the "adaptability dimension" between too much change, (which leads to chaotic systems) and too little change (which leads to or is a characteristic of rigid systems).

Figure 1-2. The Circumplex Model of Marital and Family Systems



The definition of family cohesion used in the Circumplex Model is seen as having two components: (1) the emotional bonding family members have with one another, and (2) the degree of individual autonomy a person experiences in the family system. (Olson et al., 1979)

The definition of adaptability used in the model is seen as " the ability of a marital/family system to change its power structure, role relationships, and relationship rules in response to situational and developmental stress." (Olson, 1979) Two studies are cited that specifically test the circumplex model. In the first study, Russel compares 31 families with adolescents, that are divided into high and low functioning groups. As hypothesized, high functioning families were found to have had moderate scores on family adaptability and cohesion, and low functioning families had extreme scores on these two dimensions. High functioning families were also seen to score high on the facilitating dimensions of support and creativity.

The second test study of the model was done by Sprenkle and Olson. This study focused exclusively on the "adaptability" dimension in couples, but also considered the facilitating concepts of support and creativity. It was hypothesized and found that the egalitarian leadership style, which was seen to reflect

a moderate level of adaptability, was most characteristic of non-clinical families. Clinic couples had more extreme scores on leadership and were generally wife led. A combination of high support and egalitarian leadership was especially found to be characteristic of non-clinic couples.

In another study by Joan Druckman entitled, "Effectiveness of Family Ordered Treatment for Adolescents: A Test of the Circumplex Model," 29 families with juvenile offenders were assessed using the Moos Family Environment Scale (1951). Cohesion and adaptability dimensions were measured before and after treatment. At pretest, families having low scores on cohesion and high scores on adaptability, scored moderate on post-test. Those with very high family cohesion, had the highest rate of recidivism i.e., referral to court for some new offense. Although these findings are seen as offering support for the Circumplex Model, problems appear to exit in concept definition. The authors state that as they found 40 concepts within the family field which relate to the cohesion dimension, this fact indicates the significance of cohesion as a unifying dimension. However, that this many concepts can be combined into one dimension or composite variable may also be highly indicative of concept ambiguity.

For example, in the Circumplex Model, the Kantor and Lehr mechanism of "bounding" is associated with ex-

tremely high cohesion, with Wynnes' concept of pseudo-mutuality, and the Bowen concept of "undifferentiated ego mass." As such, it appears as a misrepresentation of the Kantor and Lehr term. According to their definition, bounding can actually be placed on a continuum--reflective of extremely low, high, or midrange cohesion. Therefore, as we can see, the concepts are not entirely similar. To combine bounding, an inter-systemic variable, with a list of what appears to be intra-systemic characteristics, (i.e., consensus, parent child coalition) implies a mixing of inter-systemic and intra-systemic concepts into one concept or dimension. This negates looking at interaction effects between inter and intra-systemic variables which may be important in stress elevation, family dysfunction, and family violence levels. This kind of combining of variables also does not recognize that two levels of analysis--between social systems and within social systems are required to effectively measure bounding and linking characteristics. This difference may also need to be taken into consideration in looking at what accounts for certain degrees of family cohesion, and in operationally defining family cohesion as a separate, independent variable, important in the study of family functioning.

In any event, bounding appears not to be viewed by Kantor and Lehr as "dysfunctional", as the Olson study implies. The term "functional" is viewed as problematic

in itself, in the Circumplex Model study, as relational contexts must always be specified when "functional" is used.

Despite a possible variable contamination, the Circumplex Model comes closest to an actual empirical testing and measurement of family structural and process variables related to bounding and linking mechanisms. The model offers support for the hypothesis that overly rigid or diffuse family boundaries can negatively effect family functioning and interfere with optimum individual development in family systems.

In terms of this study, the Circumplex is seen to have limitations in its use of the term, "most effective family functioning", and in the mixing and clouding of inter and intra-systemic variables. In comparison, in this study, an attempt is made to keep concept definition clear and operationalizable through specifying individual submechanisms of bounding and linking and separating inter from intra-systemic variables. However, individual submechanisms of bounding and linking will be examined in terms of how well they fit into each of these composite variables and the resulting effects on predictive ability of the bounding and linking concepts in relation to mental illness and family violence.

Statement of Hypotheses

The general theoretical model of this study views the systemic variables of bounding and linking and open, random, and closed family types, as significant variables in their proposed association to family violence and mental illness.

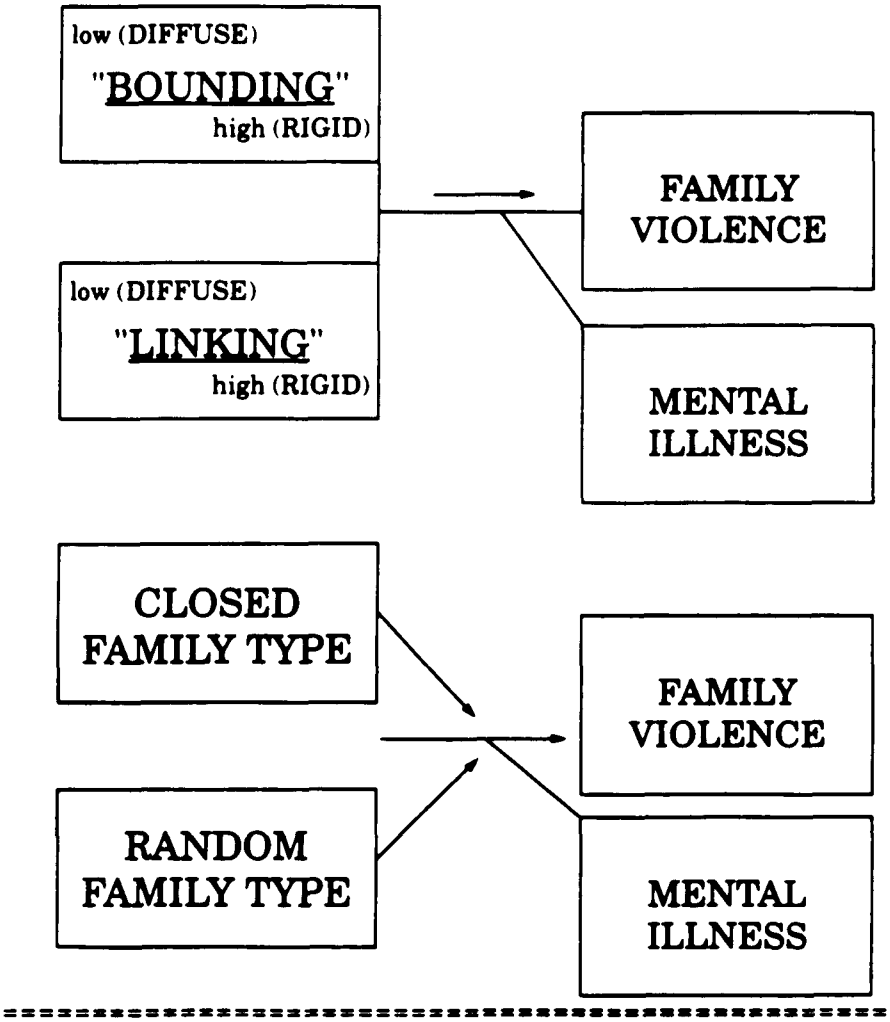
The major goal of this study is to empirically use family structure and process concepts of bounding and linking and family system types, and test the relationship of these concepts to family violence and mental illness.

The first specific hypothesis to be tested is that families in which bounding and linking mechanisms are either high (rigid) or low (diffuse), tend to generate higher levels of family violence in comparison to medium (midrange) levels of these two independent, systemic variables. The second specific hypothesis tested is that families in which bounding and linking mechanisms are either high (rigid) or low (diffuse), tend to generate higher levels of mental illness. In addition the study will:

(1) Test for the combined effects of bounding and linking on mental illness and family violence. It is important to note that the first specific hypothesis claims that it is families in which bounding and linking mechanisms are either high(rigid) or low(diffuse) in

combination that tend to generate higher levels of family violence and mental illness in comparison to medium (midrange) levels of these two systemic variables. The proposed relationship representing the combined effects of bounding and linking on family violence and mental illness as outcome variables, as stated in hypothesis (1) is shown by the causal flow (combined flow) diagram illustrated in Figure 1-3.

Figure 1-3. Combined Causal Flow Diagram



The third specific hypothesis to be tested is that "random" and "closed" family types tend to generate higher level of family violence and mental illness in comparison to the "open" family type. In addition, the study tests three additional hypotheses regarding family types, family violence, and mental illness:

(4) A negative relationship will be found between degree of open family type and family violence. (As family systems become more open family violence will decrease). A negative relationship will be found between open family type and mental illness. (As family systems become more open, mental illness will decrease).

(5) A positive relationship will be found between degree of closed family type and family violence. (As family systems become more closed, family violence will increase.) A positive relationship will be found between closed family type and mental illness. (As family systems become more closed mental illness will increase.)

(6) A positive relationship will be found between random family type and family violence. (As family systems become more random, family violence will increase.) A positive relationship will be found between random family type and mental illness. (As family systems become more random in nature, mental illness will increase.

Chapter II

SAMPLE AND METHODS

Justification for Utilization of the Hospital Sample

This study involves the use of both a clinical and non-clinical sample. The study hypothesizes that families in which bounding and linking mechanisms are either high (rigid) or low (diffuse), tend to generate higher levels of both mental illness and family violence in comparison to medium (midrange) levels. It was felt that families in both of these theoretical extremes would be more represented in such a clinical sample. If as hypothesized, families at the extreme ends, with low and high bounding and linking scores are more represented in the clinical sample, and the non-clinical sample shows more of a clustering of bounding and linking scores in the middle range, both samples will be combined in the data analysis to facilitate examination of the effects across the entire range of bounding and linking scores. The effects of bounding and linking will also be examined in separate non-clinical and clinical samples.

The use of a hospital in-patient sample representative of such a clinical population is perhaps the only way to obtain sufficient families that are extreme in respect to the above variables and theoretical

discussions in this study.

The clinical sample was taken from the New Hampshire Psychiatric Hospital and was composed, for the most part, of the in-patient population on admission wards and also some longer term treatment programs. As such, the hospital population represented by this time-limited, in-patient sample should be generalizable to other in-patient psychiatric hospital populations, and to a lesser extent, to other "clinical populations" such as patients in treatment at mental health centers or other out-patient treatment facilities.

The non-clinical sample of this study was taken from undergraduate students and their families at the University of New Hampshire. These students were in their 3rd and 4th years of their undergraduate programs. Most were in sociology programs and classes. The age of these students was in the 20 to 30 yr. range.

An attempt was made to attenuate the clinical hospital sample to persons under 30 or to keep it within the same 20 to 30 age range as the non-clinical sample. This also kept the two samples within the same stage of the family life cycle to avoid age related developmental confounding as much as possible.

There are also specific advantages which justify the use of a psychiatric hospital in-patient sample, despite already stated limitations in generalizability.

Identified patients enter psychiatric hospitals

under the conditions of extreme psychiatric distress (severe emotional problems), extreme family conflict or stress, and repeat admissions over chronic psychiatric illness. These conditions often reflect repeated reactions and adaptations over various periods of time to certain types of family systems and family process and structural styles, as well as reactions of the family to different types of trauma and family crises. Often extremes of either family rigidities or family disorganization appear to characterize these families. It is hypothesized in this study, that high levels of family conflict and stress, when internalized, can result in "illness" states in one or more family members, while conflicts and stress externalized can often result in physical violence between family members. These two conditions are strongly typical of psychiatric hospitalizations.

Therefore, in using a mental patient family sample, we would expect to find a greater probability of cases which are either "rigid" or "diffuse" in bounding and linking characteristics, and hence of being able to see the effects of such structures and processes.

If both "rigid" and "diffuse" bounding and linking mechanisms result in higher rates of family violence in a population where substantial rates of stress and conflict are thought to be internalized in "illness" states, then a stronger case can be made for the effects

of these specific, structural, systemic variables in association to higher rates of family violence in more normal populations. It is theorized that stress and conflict are more likely to be externalized in non-clinical populations. This theory will be tested in this study by comparing clinical and non-clinical populations on rates of mental illness and family violence.

Using a psychiatric in-patient sample has another advantage in terms of constructing a clear and concise questionnaire. This study began with a pilot study in which a newly developed questionnaire was pretested for clarity and ease of understanding. It was thought that if the questions were clear enough to be understood by people under stress and often experiencing some confusion, then the questions should certainly be clear and understandable to a more normal population not going through the stress and often difficult adjustment and problems of hospitalization.

Sample and Procedures for Obtaining Data

The first phase of this study used a random sample of admissions to New Hampshire Hospital during the Fall of 1980. This produced a sample of 17 families, each having one member admitted to New Hampshire Psychiatric Hospital during the admission process.

During the first phase, structured interviews were conducted by clinicians. The clinicians helped to

identify unclear and confusing questions from the structured interview format so that, in the second phase of the study, the interview format could be converted into a self administered questionnaire.

Despite help from clinicians, some patients were chosen by random sample who were either too confused or disoriented to take part in the structured interviews. This resulted in additional random sampling to obtain just a small sample of 17 families. In another procedure which served partially as a test for clarity of questions as well as reliability, the questionnaire was given to two or more members of each of these 17 pilot study families. It was found that family members scored very much alike- with an average score difference of + or - 3 score points. When a single family member took the questionnaire within a time span of several weeks, this test- retest on the same questionnaire yielded very similar results (average score difference of + or - 2 score points). Therefore, in the second phase of this study, which involved a sample of 50 families, only one member from each of the 50 families was tested. During the final phase, in which 100 clinical and non-clinical subjects were tested, the same procedure was utilized. From the initial pilot study, through the second phase which involved administering the questionnaire to another 50 subjects, it was felt that all confusing or unclear questions had been corrected on the question-

naire.

The second phase of this study used time period sampling to obtain a sample of 50 families, each family again having one family member admitted to New Hampshire Hospital. The time period for the sample of patients chosen was from the Spring of 1981 to the Spring of 1982. During this time period both voluntary and involuntary patients became part of the sample in order of their admission. As the self-administered questionnaire used in the second phase of the study required patients who could complete the questionnaire independently, time period sampling made it possible to drop patients out of the sample who were either too confused or disoriented to understand and accurately answer the self administered questionnaire, without substantially reducing the sample size.

Although both samples were time samples, the change from random to time period sampling during the second phase of this study was seen as an effective operational strategy for reducing the variability of the sample in terms of making it possible to select out patients who would most likely give inaccurate answers on the self administered questionnaire. This problem would arise due to the confusion or level of disorientation of some patients. Time period sampling also allowed for greater control over internal validity through greater accuracy of responses to the questionnaire, while keeping the

sample size from being too drastically cut.

One of the limitations in the use of a hospital sample was seen to be the likelihood of increasing measurement error due to the possible confusion and disorientation of hospitalized subjects. This was seen as even a more sensitive problem as the study attempts to both operationalize and measure newly defined, conceptually complex, composite variables. Time period sampling made it possible to partly reduce measurement error through selecting out patients too confused to accurately answer questions.

During the 3rd phase of the study the time period sampling procedure was continued to obtain a sample of 100 patients admitted to New Hampshire Hospital. This constituted the clinical sample for this last phase of the study. During this last phase, the Family Strategies and Structures Questionnaire was provided to patients as a self administered questionnaire. A clinician was present only to explain the informed consent face sheet on the questionnaire and to answer any questions the patient might have about participation in the study. This was seen as being essential to the patient, as patients frequently had questions either about not wanting the questionnaire results to be part of their hospital chart or not wanting their participation in the study to increase their length of hospital stay. Patients were assured

that neither would happen as the questionnaire was totally confidential and would not be part of their hospital record.

Before beginning the Family Processes and Structures Questionnaire, subjects were asked to answer questions on the basis of their family of orientation and to rate their family prior to and up to their last year in high school, particularly on the 1st 40 family process and structure questions. This method was used as it gave ratings of family type, structure, and process during the period of early family life- from youth up to ones' last year in high school.
This provided a consistent time frame for everyone. Also, regarding issues of time perspective and causal implications, it addressed the issue for the clinical sample of family structure and process changing in response or as a consequence to identified or diagnosed illness. In other words, it allowed for an assessment of family structure and process prior to identified illness in one or more family members and suggests that the family structure observed did not result from the illness, hospitalization, or diagnosis of mental illness. Thus, it provides at least some leverage in the question of directionality.

Independent Variables

Bounding, linking, and **family type** constitute the main independent variables in this study.

"Bounding" is defined as a mechanism in which families maintain or establish their boundaries or territory within the larger community space by regulating both incoming and ongoing "traffic". "Traffic" is defined as the movement of people, objects, events, and ideas both into and out-of the families' spatial interior. The movement or entrance of various value and belief systems into and out-of the family is also part of the definition of family traffic. In physical space traffic is regulated by doors and hallways, room assignments and groupings; analogically, ideas and events are regulated in much the same way. Bounding issues are issues of safety, identity, and a sense of "group" existence. This main independent variable is a measure of family structure and process in relation to how the family interrelates with other social systems. In this sense, bounding is a—between systems variable.

"Linking" is defined as the regulating of distance, the physical and conceptual associations and dissassociations of all persons <u>within</u> the family's spatial interior. Linking operations deal more with individual members, or individual elements within the family

system. In terms of distance, how close or far apart are family members from and with each other? How often do they support each other--emotionally and physically? "Linking" operations tend to be more closely connected with target issues-"targets" being defined as affect, power, and meaning. (Kantor and Lehr, 1975)

Linking takes place inside the family system--inside the family's boundary. As such, it is a measure of intra-familial support and the degree of sharing of meaningful communication between family members. Linking operations, because they directly affect interpersonal relations are much more closely connected with target issues than are bounding operations, which take place at the family perimeter or boundary. Nevertheless, the focus of linking mechanisms is not on the targets themselves, but on family members and their movements as bearers of targets. Linking as an interactive relationship variable describes to what degree and in what ways family members are connected to each other and paradoxically, their respect for each others differences, individuality and privacy. This is these essence of the Kantor and Lehr term-"distance regulation".

Measurement of Independent Variables

High (rigid), medium (midrange), and low (diffuse) levels of both bounding and linking were operationalized during the first phase of this study by questions which were part of a structured interview format. At least five questions addressed main factors of both of these independent variables, while two questions on the questionnaire addressed each of the several specific sub-mechanisms of the bounding and linking concepts. Content validity was established by selecting key words and descriptive statements from the Kantor and Lehr book. (see content validity section for greater detail and explanation)

During the second phase of this study, the structured interview format was dropped and the method of operationalization and data gathering on these two variables was by self-administered questionnaire. Rating of degrees of bounding and linking were done by Likert Scale. This allowed for a measure of intensity of these family processes and structures. Use of the Likert technique produced an ordinal scale, that for the most part required non-parametric statistics in data analysis. (See questionnaire in Appendix section)

Content Validity Procedures

Both the concepts of "bounding" and "linking" were introduced by the Kantor and Lehr book, "Inside

the Family: Toward a Theory of Family Process". Content validity was established by taking key words, descriptive phrases, and short sentences- as these words were connected with usage of the terms "bounding" and "linking" in Kantor and Lehr (1975).

A literature search which included a review of both Sociological Abstracts beginning in 1970, and the Social Science Citation Index (all available volumes), revealed no empirical test studies dealing with concepts of bounding and linking and their use as operationalized variables in empirical studies. There were empirical studies dealing with other family processes and structural variables having some similarity to these concepts-Olson's work on "cohesion" and "adaptability". (Olson, et al., 1979) However, these works are not equitable with the Kantor and Lehr concepts.

The following list of key words, phrases, and descriptive sentences from Kantor and Lehr was used to structure questions on "bounding" and "linking". The use of Kantor and Lehr's phrases, of course, does not provide information on the central issues of construct, predictive, and discriminate validity. These are empirical questions which have partly been addressed in the second phase of this study and hopefully will be answered through the course of the final phase of this study. This phase will also use a non-clinical sample for comparison purposes and to increase generalizability

of specific results.

Key Words, Descriptive Terms, and Phrases Used to Describe "Bounding" and "Linking" Concepts:

> Bounding: Inter-systemic concept, deals with family response as a unit, family ties as a whole system, imposition of metaphorical space, territoriality, parameters of a system of systems, a regulatory concept, regulation as a system- in terms of ideas, idea systems which are allowed to be dialogued within the family walls, events which are allowed to take place or to be exchanged, demarcation of a perimeter space, a sense of whats ours as a family, degree of restriction of outsiders, a boundary variable-how thick is the family wall in terms of family secrets, idea sharing, and dialogue with others. (Kantor and Lehr, 1975)

In physical space it is easier to see how a family regulates "traffic" across its borders. For example, gates pathways doors and hallways all determine where people must walk if they hope to get in or out. Analogically, ideas and events are regulated in much the same way. For example, members of a family decide what kinds of things are allowed to enter the family space and under what conditions, and what kinds of people, ideas, or beliefs are simply not permitted admission. Looking at this in another fashion, it can be seen that bounding issues are issues of safety, of providing an enclosure for the protection of family members against external danger. In bounding, a family demarcates a perimeter and defends its territory. In actual working language, a family says, "This is ours. We are safe here." If a family system fails to develop a territory, it virtually ceases to exist, for it becomes indis-

tinguishable from the larger space. It is in the working out of its bounding activities, and marking off how it is the same or different from those around it, that the family operationally defines itself to the community. (Kantor and Lehr, 1975)

> Linking: Intra-systemic concept, an interaction variable, seen to be the quality of interpersonal relations, interpersonal attempts to unite, how often family members are brought together, quality and quantity of family communication, support, and affect sharing, a variable of sharing while recognizing privacy needs, separate family member identity needs, family channeling, bridging, ability to diffuse conflict, deals with how often family members are recognized and the conditions of inter-relation.

Linking operations, because they directly affect interpersonal relations, are much more connected with target issues than are bounding operations, which take place at the family interface. Nevertheless, the focus of linking mechanisms is not on the "targets" themselves but on family members and their movements as bearers of targets. (Kantor and Lehr, 1975) In this manner, for example, we can look at affective or emotional closeness or distance between family members as a measure of family support or non-support. But at the same time, we must also look at distance regulation around privacy issues in combination with support to get a more accurate, comprehensive picture of how the family is functioning regarding "distance regulation" and how this relates to family problems or the functioning and problems in functioning of individual family

members.

Kantor and Lehr theoretically contend that there are 4 sub-mechanisms of **bounding: mapping, routing, screening,** and **patrolling.**

They posit 5 sub-mechanisms of **linking: bridging, buffering, blocking, channeling, and recognizing.**

In the development of the questionnaire from phase one through phase three of this study, at least two questions were designed to be a measure of each of the 9 sub-mechanisms identified by Kantor and Lehr.

Identification of Sub-mechanisms and All Matching Questions

Bounding Sub-mechanisms:

1.) mapping: map or picture of the exterior culture. Cultural items which are safe and highly valued, and those that are not. Communicated value system. Corresponding questions which address this sub-mechanism are QUESTIONS: 5, 13- see questionnaire in appendix section.

2.) routing: the direction of "traffic" to both interior and exterior spaces. This is seen as a characteristic of family organization. QUESTIONS: 6, 16

3.) screening: the filtering of both incoming and ongoing traffic, permitting some people to pass and prohibiting others. QUESTIONS: 3, 30, 31

4.) patrolling: a family gatekeeper or boarder guard, to oversee the flow of traffic. Without such guarding, screening decisions could not be made or enforced. QUESTIONS: 32, 33

Linking Sub-mechanisms:

1.) bridging: bringing of family members into closer voluntary contact, with one another or with objects. Bridging may involve 3 or more parties in the family. Bridging is seen as the primary connection in establishing meaningful family relationships. Operationally defined as an inter-relationship support variable. Questions: 23, 34, 35

If a family has no bridging mechanisms for bringing family members closer together, feelings of alienation are bound to develop. The ability to relate is itself effective bridgemaking. Experience simply does not occur until some relationship or contact is established between two or more persons. Therefore bridging is one of the primary conditions for learning, in which people make, or are helped to make, meaningful connections in their total experience. (Kantor and Lehr, 1975)

2.) buffering: a maneuver in which different persons or persons and objects move farther apart or voluntarily separate. Buffering is seen as the obverse of bridging. It puts physical or conceptual distance between people and objects. Dodging, escaping, avoiding, and distancing all suggest unilateral buffering tactics. The voluntary aspect of buffering is important, which is the shared realization that something or someone needs to be protected from harm, at least temporarily. Such participation must be on a voluntary and not a coercive basis, to operationally separate buffering from blocking out. Questions: 8, 36

3.) blocking out: defined as the coercive or voluntary separating of persons and objects. The target of blocking-out may have a very frustrated or angered response.
Questions: 37, 17

4.) channeling: is defined as the voluntary or coercive bringing together of people or people and objects. It involves the pushing of another in a specific direction or toward a specific destination. This mechanism is usually employed to get things done. Channeling operations are those performed by someone when he feels justified in pushing someone else toward certain targets or goals that have been selected for the other person. Questions: 27, 39

5.) recognizing: seen as the referencing sub-mechanism of linking. Recognizing establishes the relevance of all linking phenomena. Simple recognizing also includes the labeling of people, things, and events as good or bad. Non-recognizing can also be functional in its non-

support of behaviors or ideas which the family, overall considers to be inappropriate. Questions: 11, 28, 38

Family "mechanisms", and "sub-mechanisms" following from them, take on a specific conceptual meaning in the Kantor and Lehr study. They state that, "family mechanisms are patterns of organization that support, defend, and implement the family system's traffic control functions at the interface of its access and target dimensions". As this statement implies, Kantor and Lehr conceptually see "mechanisms" as structures, as well as- process. By looking at "structure" as patterened process, the author feels this definition will help to clarify the conceptual ambiguity.

Conceptualization and Measurement of Family Type

In this study, three major "types" of family systems are identified. They are designated as closed, open, and random. These stereotypic systems differ in both their structural arrangements and strategic styles. These three basic system "types" are based on three different homeostatic models. Each is a variant of the generalized concept of family as a **semipermeable system.**

A general conceptualization of each "type" follows with specific characteristics, identified by Kantor and Lehr listed:

Open-Type Family: Hierarchical authority structure exits; however, control, bounding and linking, and decision making are regulated. Distance regulation occurs by a process of group consensus, which tends to

extend the family territory into the larger community space and/or to bring the exterior culture into the family space. Space in the open-type family is moveable space. Individuals-family members are allowed to regulate the direction and destination of their incoming and outgoing traffic as long as they do not cause discomfort to other members or violate the consensus of the group.

Frequent visits with friends, unlocked doors, open windows, individual or group explorations of the community and its resources, and a freedom of informational exchange are all "open-type" family features. Other characteristics include the following:

Desire for beneficial interchange with the community is fostered. Structural strain and deviant traffic patterns are permitted but restrained, adaptation to individual family member needs and family system needs is encouraged. Movable space, only rare censorship, and closeness is encouraged, but temporary distancing of members and privacy is also encouraged. Authority operates, for the most part, by consensus. Organization is present but flexible. Schedules are employed as general guidelines, yet they are flexible and not rigid. The family lifeplan of the open-type family is modifiable.

Random-Type Family: The family lacks any organized authority structure. Random family structure in terms of control is an aggregate of individual styles-verticle decision making and individual control predominates over hierarchical organizational authority structure and control. Space is dispersed space. Each person develops his or her own "bounding patterns" and distance regulation. Each family member defends his own as well as his family's territory, as a result there may be as many territorial guidelines as there are members of the family. Features of family life that one might normally expect to find inside a family's space occur outside a random household as well. In general, bounding and linking patterns are aterritorial. Random strategies deemphasis the territorial defense of the family. Family members have a tendency to extend entry and exit prerogatives broadly, not only to members, but to guests and strangers as well. Individuals regulate their own living movements within the interior space of random families. Random linking strategies are efforts to allow people to gather and withdraw from one another without the usual constraints on individual movements. Other identifying characteristics include the following: Time is irregular time, boundaries are defined in terms of variety loop patterns with maximal distance regulation freedom, pluralistic set of values and expectations, structural strain and deviant

exploratory traffic patterns are not only permitted but encouraged, disequalibrium is the random homeostatic ideal. Energy investments in the random family are fluctuating. Investments in general are dominated by a strong spontaneous quality. Family members attach, detach, commit, and shift their energies at will. Random families can also be very creative, with decision making processes which reflect the family's belief in the viability of diverse meanings and images. The random family life plan is spontaneous to the extreme.

Closed-Type Family: This type of family has an hierarchical authority and control structure to the highest degree. Space in the closed family is fixed space. Bounding, the major social mechanism for regulating traffic, is carried out by those designated as authorities by the family in such a way that the family's discrete space, distinct and apart from the larger community space, is created. Locked doors, careful scrutiny of strangers, parental control over media, supervised excursions and unlisted telephones are all features of the closed type family. Closed bounding goals include the preservation of territoriality, self-protection, privacy to the extreme, and in some families, secretiveness. Perimeter traffic control is never relinquished to outsiders. Linking, the major social space mechanism, is rarely left to family consensus, but prescribed by parental authorities. Other identifying characteristics of the closed-type family include the following: Boundaries defined in terms of fixed constancy loops. Feedback patterns establish and preserve a harmonious set of mutually supported values, norms, and expectations. Strain and deviant traffic patterns are not permitted as this is seen as too much of a challenge to the goal of steady state equalibrium. Criterion variables include fixed space, close screening, and monitoring by traditional authorities, difficulty in adaptation to change, strong discipline often resulting in strong endurance, traditional values, maximization of efficiency and productivity, perimeter traffic control never relinquished to outsiders. The closed family life plan is often well organized, but can be rigid in its tight organization.

Operationalization of Family Type:

In the first phase of this study, the structured interview contained ten multiple choice questions. The content of each question was taken from a list of

phrases used by Kantor and Lehr to describe "open", "random", and "closed" family types. (See also content validity section of methods chapter for details of procedures)

During the second and third phase of this study, the self administered questionnaire contained the same 10 multiple choice three part questions, with unclear and difficult to understand questions eliminated or clarified on the questionnaire. The 10 three choice questions had the following format:

a.) open b.) random c.) closed

An example of a particular question is given below:

> Which one of the following statements most accurately describes your family:
> a.) In a crisis, most family members come to help.
> b.) In a crisis, family members help out, but its hard to tell which family member will help out.
> c.) In a crisis family members in authority help out.

The responses to these questions were summed to create three scores for each family: random, open, and closed. Each could vary from zero to a maximum score of ten.

Operationalization of the Dependent Variable of Family Violence

One of the dependent or outcome variables in this study is family violence. For this study the term "violence" has been conceptually defined as an act of physical force intended to cause pain or injury to another person. (Gelles and Straus, 1978)

During the first and second phases of this study, the dependent variable of "family violence" was operationalized by use of a modified version of the Conflict Tactics Scale, as developed by Straus in 1979. A modified version of the Scale asked the subject to rate form N items on the basis of how often family members collectively did the "k." through "s." actions on the scale. Items k. through s. of the Conflict Tactics Scale were summed to obtain a physical aggression index. (see Appendix Section)

The Conflict Tactics Scales were initially designed to measure the use of reasoning, verbal aggression, and violence within the family. (Straus, 1979)

These three modes of dealing with conflict are defined by Straus as follows:

1.) Reasoning: the use of rational discussion, argument and reasoning, an intellectual approach to the dispute, which for purposes of the instrument is called the "reasoning scale". In this study, as in the Straus study, the R Scale is the sum of items a., b., and c.

2.) Verbal Aggression: the use of verbal and non-verbal acts which symbolically hurt the other, or use of threats to hurt the other, which for the purpose of the instrument is called the "verbal aggression scale". In this study, and in the Straus Study the Verbal Aggression Scale is the sum of items d.-through-j.

3.) Violence: the use of physical violence against another person, as a means of resolving the conflict, which is called the violence scale. The sum of items "k." through "s." will constitute the Physical Aggression Index in this study.

Modification of Form N (Conflict Tactics Scale):

In the previous study (Shigo, 1983) a modified

version of form N was used to obtain an overall measure of conflict and violence within the family. This was done as in the initial phase of the study one of the goals was to obtain measures on the family as an entire system. This type of "whole systems" measure was sought recognizing that it would produce limitations in comparability of the study. For example, it cannot be compared to other role-specific family violence studies done by Straus. Another limitation, to the initial phase of the study was that it did not separately measure child to child, and parent to child physical aggression, which is more normatively acceptable in American Society than husband to wife physical violence. Therefore, to address this limitation, in the present study specific role relationship Conflict Tactic Scales were used to make this expanded study comparable with other studies of family violence.

Family violence was measured by the specific role-relationship conflict tactic scales of: mother-respondent, father-respondent, and father-mother. This addressed both parent-child conflict and conflict between parents or husband to wife physical violence.

Operationalization of the Dependent Study Variable of Mental Illness

In the third phase of this study, "mental illness" was added as a second outcome variable. In measurement of the dependent variable of Mental Illness, the study combined, within the design of a single study, two traditions in conceptions of mental illness: A survey test of mental illness/mental health characteristics by use of the psychiatric rating scale known as the Symptom Distress Checklist, (SCL-90 scale), a 90 question instrument allowing for ratings on anxiety, depression, and psychoticism. And measurement of mental illness through admissions to mental hospitals with clinical diagnosis of mental illness.

The evolution of the SCL-90 scale can be traced historically to the "Discomfort Scale". It was developed by Parloff, 1952 and later refined by Frank, 1954 based on the familiar Cornell Medical Index. Since then, the SCL has been used in many versions, and its form still varies. There is a 58-item version in common use. An abridged version, consisting of 35 items, is often used in drug evaluations.

The scale described and utilized in this study consists of 90 items, ergo, the abbreviation:SCL-90. It is the most comprehensive and standard scale of this type. The SCL-90 consists of 9 subscales or dimensions of mental illness. They are as follows:(1) somatization (2) obsessive-compulsive (3) interpersonal sensitivity

(4) depression (5) anxiety (6) hostility (7) phobic anxiety (8) paranoid ideation (9) psychoticism. (see operationalization section)

The present- and most up to date- form of the scale includes an expansion, in which additional items were added resulting in an expansion of the anxiety dimension and the formulation of four scoring dimensions not previously represented. There are also seven items that deal with other miscellaneous disturbances, such as appetite and sleep. The first five scoring categories have been established through study of over 2500 patients. Extensive validation of the four later developed factors has been completed.

Advantages of use of the SCL-90 index as a measure of mental illness is that it provides a detailed, standard quantitative method of operationalizing and thus measuring mental illness (determining the extent of a patient's problems) from the patient's point of view, and on this basis was very adaptable to a self-administered questionnaire format in adding it on to the family process and structures questionnaire. As such it offers fast, efficient administration, while affording a high degree of patient acceptance. It also provided a comprehensive, multidimensional measure of the dependent variable of mental illness- as opposed to just one limited measure or dimension. Also a total symptom distress score can be calculated by adding separate scores

from each of the dimensions. This is how the dependent variable of mental illness is operationalized in this study.

CHAPTER III

FINDINGS

Differences Between Clinical and Non-clinical Samples

The data analysis and all findings in this study are based on 200 subjects/cases. There were 100 university students (cases) which comprised the non-clinical sample, and 100 patients (cases) at New Hampshire Hospital which comprised the clinical sample. A total of 200 Family Structure and Process questionnaires were completed by the subjects and comprised the data base for study findings.

Descriptive Findings on the Main Independent Variables of Bounding and Linking:

The frequency distribution of scores for the main independent variable of total bounding for the non-clinical population approximates a normal curve. The score distribution is symmetrical with a minimal degree of positive skewness with a value of (+.689). The median and mode approximately coincide with mean having a value of 40. The score ranges from a low of 26 to a high score of 59. This is in comparison to the lowest possible score of 14 and the highest possible score of 70.

Of the non-clinical sample, only five subjects had scores above 48. Thus only 5 percent or less of the non-

clinical sample had scores in the upper bounding range.

The frequency distribution of scores for the main independent variable of total bounding for the clinical sample also approximates a normal curve with a higher mean of 43. The score range runs from a low score of 26 to a high score of 70. In contrast to the non-clinical sample where fewer than 5 percent had scores in the upper bounding range, in the clinical sample 25 percent of subjects had scores in the upper bounding range. To clearly show sample differences in the independent variable of bounding, box-plots of both the clinical sample (represented by 1) and the non-clinical sample (represented by 0) are show in the appendix, Figure A3-1.

Sub-mechanisms of Bounding: As total bounding is a composite variable made up of the 4 submechanisms of: (1) mapping (2)routing (3) screening and (4) patrolling, it is useful to look at each submechanism comparing non-clinical and clinical samples. Mapping has a possible score range from a low of 2 to a high of 10. In the non-clinical sample fully 95 percent had scores of 6 or higher which is in the above average to high range. In contrast, in the clinical sample, 32 percent had scores below 6 which is in the low to below average range, and 68 percent had scores of 6 or higher. This is theoretically interesting, as mapping is a process

involving metacommunication, i.e., the family discussing its own operation. This involves a more sophisticated level of communication and interpenetration of perspective and has been associated in the clinical literature with positive functioning in less problematic family systems. Thus, the trend in the descriptive data of higher mapping scores in the non-clinical sample is supportive of the clinical literature. Also in the second phase of the previous study (Shigo, 1983), mapping showed a negative relationship to family conflict and family violence. See Figure A3-2 in appendix section for boxplots of mapping showing sample differences.

In the non-clinical sample, the submechanism of routing had a score range with low score of 2 to high score of 10. The mean score was 6.01, with 63 percent of the sample having scores at or above the mean. In contrast, the clinical sample had a slightly lower mean of 5.5 with 53 percent of the sample having scores at or above the mean. The trend shows slightly higher routing scores in the non-clinical sample, and possibly of greater importance, a clustering of lower routing scores in the clinical sample. As routing is seen as an essential family task or function (Kantor and Lehr, 1975), this trend supports Kantor and Lehr's theoretical contention. See Figure A3-3 showing boxplots of sample differences in routing. In the non-clinical sample, the

sub-mechanism of screening showed a score range from a low score of 3 to a high score of 12. The mean score was 5.9, with approximately 69 percent of the sample having scores at or below the mean. The trend shows average to lower screening scores in the non-clinical sample which the study hypothesizes is indicative of a more "open", flexible style of family functioning.

In contrast, the clinical sample had a score range with a low score of 3 to a high score of 15-- a higher score range, with a higher mean of 8.1. Approximately 50 percent of the sample had scores at or above the mean. This is almost the obverse of the non-clinical sample. This data trend is also similar to the previous study (Shigo, 1983), in that high screening scores characterized the hospital sample of 50 cases. It is also theoretically interesting, in that the study hypothesizes that high bounding is related to family dysfunction and family violence. See Figure A3-4 showing boxplots of sample differences in screening.

In the non-clinical sample, the submechanism of patrolling showed a score range from a low score of 2 to a high score of 10. The mean score was 4.89, with approximately 62 percent of the sample having scores at or below the mean.

The clinical sample showed a score range of low score of 2 and a high score of 10. In contrast to the non-clinical sample, the clinical sample had a higher

mean of 6.4 with 46 percent of scores above the mean. This is almost the opposite of the non-clinical sample. It is theoretically interesting in that it supports the study hypotheses, that higher patrolling, as a part of high bounding, should be associated with mental illness and increased family dysfunction, as this aspect of the clinical sample would indicate. See Figure A3-5, showing boxplots of patrolling, showing sample differences.

Relationships Between Sub-Mechanisms of Bounding:

We want to test for the degree to which bounding and linking constitute truly independent concepts or variables. This is further complicated by the fact that theoretically, bounding and linking are seen as inter- and intra-systemic variables respectively, and to a certain degree, the family as a system should be characterized by a certain amount of their co-variation.

Therefore, in testing to what extent bounding and linking constitute independent, yet interrelated concepts, we would expect to find correlation coefficients in the low to moderate range. This is what we find as the correlation coefficient between bounding and linking is .381.

As mapping, routing, screening, and patrolling are all sub-mechanisms of the bounding process, we would expect to find some degree of interrelationship between them. Decomposition of bounding into its sub-mechanisms

should reveal somewhat higher range correlations to justify the "sub-mechanism" concept, yet the correlations should not be so high as to cause problems in the multiple regression due to multicollinearity.

In Table 3-1, a zero order correlation matrix of all submechanisms of bounding is shown. We find low to moderate correlation coefficients-- which run from a low of .08 to a high of .51.

Low correlation coefficients, in particular be-

Table 3-1 Correlation Matrix All Bounding Submechanisms

. correlate TBOUND Tmap Trout Tscreen Tpatrol
(obs=192)

	TBOUND	Tmap	Trout	Tscreen	Tpatrol
TBOUND	1.0000				
Tmap	0.4255	1.0000			
Trout	0.5782	0.4548	1.0000		
Tscreen	0.6399	-0.1267	0.1054	1.0000	
Tpatrol	0.6904	0.1354	0.2174	0.5199	1.0000

tween screening and mapping (-.10) and screening and routing (.08), bring into question the inclusion of mapping and routing into the composite variable of bounding. Particularly, the extremely weak, negative co-variation between mapping and screening (-.10), brings into question their inclusion into the same composite variable. This also appears to present problems in the conceptualization of bounding and the integrity of bounding itself as a composite variable. Predictive strength of the construct of bounding will be further explored in the bi-variate and multi-variate sections of this study.

Descriptive Findings on the Independent Variable of Linking

The frequency distribution of scores for the independent variable of linking in the non-clinical population approximates a normal score distribution; however the distribution has a minimal degree of negative skew (-.300). The non-clinical sample showed a score range of a low score of 34 to a high score of 66. The mean was 51.69, with 58 percent of cases falling at and above the mean. As the composite variable of linking is partly a measure of family support, the tendency of a clustering of cases at average to above average linking is a trend supportive of the study hypotheses that the non-clinical sample would show more average to above average linking.

The clinical sample showed a score range of a low score of 21 to a high score of 68. In contrast to the non-clinical sample, the range of scores is lower and extended at the low end. The clinical sample has a lower mean of 46, in comparison to the non-clinical sample mean of 52. Fifty three percent of cases in the clinical sample fall at or below the mean. This higher percentage of low linking cases is consistent with the study hypothesis that the clinical sample would be lower in family support. See Figure A3-6 showing boxplots of sample differences in linking.

Submechanisms of Linking: As total linking is a composite variable made up of the 5 submechanisms of: (1) bridging (2) buffering (3) blocking (4) channeling and (5) recognizing, it is useful to look at each submechanism comparing the non-clinical and clinical samples. Bridging had a score range of a low of 7 to a high of 15 in the non-clinical sample. The distribution of scores had a mean of 12.46 with negative skew of -.846. Seventy three percent of sample scores fall at or above the mean. The clinical sample showed a score range of a low score of 3 to a high score of 15. In contrast to the non-clinical sample, the score range is lower and extended at the low end. The clinical sample has a lower mean of 9.87 in comparison to the non-clinical sample mean of 12.46. This higher percentage of lower bridging scores in the clinical sample is

supportive of bridging as a submechanism of the composite variable of linking. Lower bridging scores in the clinical sample is theoretically interesting looking at bridging as a separate variable. See Figure A3-7 for boxplots showing these sample differences in bridging.

Buffering showed a score range of a low of 2 to a high of 10 in the non-clinical sample. The distribution of scores had a mean of 5.98 with negative skew of -.15. 63 percent of sample scores fell above the mean. The clinical sample showed a score range of a low score of 2 to high score of 10, as did the non-clinical sample. The clinical sample had a higher mean of 6.7 with negative skew of -.42, in comparison to the non-clinical sample mean of 5.98. In the clinical sample, 56 percent of buffering scores fell above the mean. As buffering is an important process in families, which in the short term, has been suspected of reducing conflict (Kantor and Lehr, 1975), it is theoretically interesting that buffering shows a higher mean in the non-clinical sample. See Figure A3-8 showing sample differences in buffering.

Blocking showed a score range of a low score of 2 to a high score of 9 in the non-clinical sample. The distribution of scores had a mean of 5.36 with negative skew of -.025. In the non-clinical sample, approximately 50 percent of blocking scores fall both above and below the mean, with mean and median approximately equal. The

clinical sample showed a score range of low score of 2 to high score of 10. The clinical sample had an essentially identical mean of 5.38 with positive skew of .39, in comparison to the non-clinical sample mean of 5.36. In the clinical sample, 52 percent of blocking scores fell below the mean, making essentially little difference between the two samples. See Figure A3-9 showing boxplots of sample differences in blocking.

Channeling showed a score range of a low score of 2 to a high score of 10 in the non-clinical sample. The distribution of scores had a mean of 6.92 with negative skew of -.30. Sixty-nine percent of channeling scores were above the mean. This is theoretically interesting as Kantor and Lehr see channeling as a family mechanism which makes it possible for families to accomplish tasks. Therefore, we would expect to find higher channeling scores in the non-clinical sample.

The clinical sample showed a score range of low score of 2 to high score of 10, the same as the non-clinical sample. The clinical sample had a lower mean of 6.36 with negative skew of -.248, in comparison to the non-clinical sample. 52 percent of channeling scores fell below the mean in the clinical sample. See Figure A3-10 showing boxplots of sample differences in channeling.

Recognizing showed a score range of low score of 4 to high score of 15 in the non-clinical sample. The

score distribution had a mean of 8.82 with positive skew of .242. 52 percent of recognizing scores fell above the mean. In comparison, the clinical sample had a lower mean of 7.36, with positive skew of .225. Fifty-two percent of recognizing scores fell below the mean in the clinical sample. Again, it is theoretically interesting that the non-clinical sample would have a substantially higher mean, as recognizing is seen as part of an important communication process in families, in which the family meta-communicates or discusses its' own functioning. As such, Kantor and Lehr contend, that recognizing establishes the relevance of all linking phenomena within the family. See Figure A3-11 for boxplots of sample differences with recognizing.

Relationships Between Sub-Mechanisms of Linking

As bridging, buffering, blocking-out, recognizing, and channeling are all sub-mechanisms of the linking process, we would expect to find some degree of relationship between them, without too high of a correlation-- as this would bring into question their validity as separate concepts or constructs. Table 3-2, shows a correlation matrix of all linking sub-mechanisms. From the correlation matrix, we can see that the correlations range from -.04, between bridging and buffering, to .44 between bridging and recognizing. The fact the we see negative correlations, as in the case between blocking and bridging, questions their both

being included in linking; however, linking, as a composite variable, is defined by a set of "distance regulation processes" within the family. As such, this includes both positive and negative distancing processes. In studying linking, we are interested in the interplay of these processes.

Table 3-2 Correlation Matrix of All Linking Submechanisms

. correlate TLINK Tbridge Tbuff Tblock Tchannel Trecogn
(obs=195)

	TLINK	Tbridge	Tbuff	Tblock	Tchannel	Trecogn
TLINK	1.0000					
Tbridge	0.7821	1.0000				
Tbuff	0.3576	0.1734	1.0000			
Tblock	0.2194	-0.0407	-0.1820	1.0000		
Tchannel	0.3985	0.2035	0.0455	0.1402	1.0000	
Trecogn	0.7232	0.4242	0.0573	0.1080	0.1787	1.0000

. correlate TV TLINK Tbridge Tbuff Tblock Tchannel Trecogn
(obs=191)

	TV	TLINK	Tbridge	Tbuff	Tblock	Tchannel	Trecogn
TV	1.0000						
TLINK	-0.2295	1.0000					
Tbridge	-0.3588	0.7798	1.0000				
Tbuff	0.0070	0.3551	0.1551	1.0000			
Tblock	0.1583	0.2408	-0.0182	-0.1419	1.0000		
Tchannel	-0.0156	0.4073	0.2014	0.0261	0.1693	1.0000	
Trecogn	-0.1363	0.7228	0.4224	0.0603	0.1157	0.1973	1.0000

Bridging and buffering are good examples of this difference. Bridging, as the concept name implies, helps to decrease distance between family members. While buffering, a variable partly defined in terms of withdrawal, can be carried out as the intervention of one family member to decrease interpersonal or emotional intensity between two or more family members. Thus, in the short term, buffering may serve to dampen conflict but at the same time may place distance between family members. In the long term, buffering may serve to keep conflicts from being fully resolved do to its dampening effect, while not resolving the conflict entirely.

Thus, conceptually and operationally, bridging and buffering can be included in the composite variable of linking despite their divergence. This helps to make linking, as a composite variable, much more isomorphic with real life family processes.

However, if we look at the covariations of submechanisms of linking with family violence see Table 3-3, we see that bridging has a moderately negative correlation (.36), while buffering shows virtually no covariation (.007). When we look at all linking submechanisms, buffering and blocking both show negative covariations to the other submechanisms. This may bring into question their inclusion, as submechanisms, into the composite variable of linking. The predictive strength of linking as a composite variable may also be

compromised. This will be further explored in the bivariate and multi-variate findings sections.

Decomposition of linking into its submechanisms generally shows low to midrange correlation coefficients in the range of (.14 to .42). Although this is consistent with the concept of linking as a composite variable with separate, somewhat distinct submechanisms, the extremely low, negative co-variation of both buffering and blocking with other linking submechanisms may serve to decrease the integrity and predictive strength of linking as a composite variable.

As is shown in Table 3-3, buffering has a weak relationship to total linking. The conceptual nature of linking as a composite variable is that it includes both integration and differentiation processes within the family. The fact that the space and distance regulation provided by buffering is necessary for family members to be able to both support and provide for some distance between each other, reflects the core meaning of linking as a "distance regulation process".

Table 3-3 Correlation Matrix: All Submechanisms of Linking with Family Violence

. correlate TV TLINK Tbridge Tbuff Tblock Tchannel Trecogn
(obs=191)

	TV	TLINK	Tbridge	Tbuff	Tblock	Tchannel	Trecogn
TV	1.0000						
TLINK	-0.2295	1.0000					
Tbridge	-0.3588	0.7798	1.0000				
Tbuff	0.0070	0.3551	0.1551	1.0000			
Tblock	0.1583	0.2408	-0.0182	-0.1419	1.0000		
Tchannel	-0.0156	0.4073	0.2014	0.0261	0.1693	1.0000	
Trecogn	-0.1363	0.7228	0.4224	0.0603	0.1157	0.1973	1.0000

Summary of Sample Differences on Bounding and Linking

The fact that the clinical sample shows overall higher bounding scores is theoretically interesting, since this is similar to theoretical discussions in the clinical literature in which closed boundaries, and characteristics such as family enmeshment are associated with clinical populations. (Minuchin, 1974; Bowen, 1966) Also, one of the reasons for obtaining a clinical sample was to see the effects of bounding and linking at the extreme low and high ends of the score range. In the clinical sample, these extreme scores did occur.

Linking scores were found to be lower in the clinical sample and this is also theoretically interesting as this finding parallels the clinical literature and other clinical studies in which measures of family support are found to be lower in clinical populations. This also adds validity to linking as a measure of intra-familial support. In the clinical sample, there was also a greater spread of linking scores with more scores occurring in both the low and high ranges, compared to the non-clinical sample.

When sub-mechanisms of bounding are looked at separately, interesting differences are found. For example, in the clinical sample, both screening and patrolling scores are higher, while mapping and routing scores are lower, in comparison to the non-clinical sample. This difference in bounding submechanisms

raises questions about the integrity of bounding as a composite variable. That the submechanisms of screening and patrolling show similar higher scores in the clinical sample fits theoretically as both submechanisms are thought to be more closely aligned with boundary maintenance. However, mapping scores are extremely low in the clinical sample, bringing into question its inclusion in the composite variable of bounding. It may have something to do with boundary maintenance, as Kantor and Lehr contend; however, its relationship to bounding may be extremely weak, as compared to its function as an intra-systemic family support and metacommunication mechanism. If this were true, it would be aligned more closely to linking. It would appear to be important to further explore the relationship of mapping to linking. This will be addressed in the summary and conclusion's section.

When submechanisms of linking are considered, higher scores for all linking sub-mechanisms- with the exception of buffering- are found in the non-clinical sample. This fits theoretically with other study results, as it is supportive of other clinical studies in which family supportive mechanisms are stronger in non-clinical populations.

The submechanism of buffering, as an exception, with a higher mean in the clinical sample is also theoretically interesting. Buffering, as a process

in families, has been suspected of reducing conflict-particularly within a short time frame. However, the fact that buffering has a higher mean in the non-clinical sample brings into question its inclusion within the composite variable of linking. It appears that it would be theoretically productive to study buffering as a separate variable in its relationship to family violence and mental illness.

Family Violence Data

One of the major outcomes or dependent variables in the study is family violence. Total violence scores were obtained on the Conflict Tactic Scales (Straus, 1979) by summing separate violence scores for the 3 specific role relationship conflict tactic scales of: mother-respondent, father-respondent, and father-mother. The addition of these three scores constituted the total violence score (TV = MRV+FRV+FMV). Total violence scores were computed for both the non-clinical and clinical samples.

The non-clinical sample runs from a low score of 0 to a high score of 47. The distribution of scores has a mean of 4.3 with a standard deviation of 8.15. The distribution is positively skewed with a value of (2.78), reflecting a higher degree of cases falling below the mean. This is supported by a median value of (.5)

In comparison, the clinical sample runs from a low

score of 0 to a high score of 184. The distribution of scores has a much higher mean of (24.9) compared to the non-clinical sample mean of (4.3). The clinical distribution is less positively skewed with a value of (2.28) The score distribution has a median value of (12.) The standard deviation is 36.7.

The Relationship Between Bounding and Linking Scores

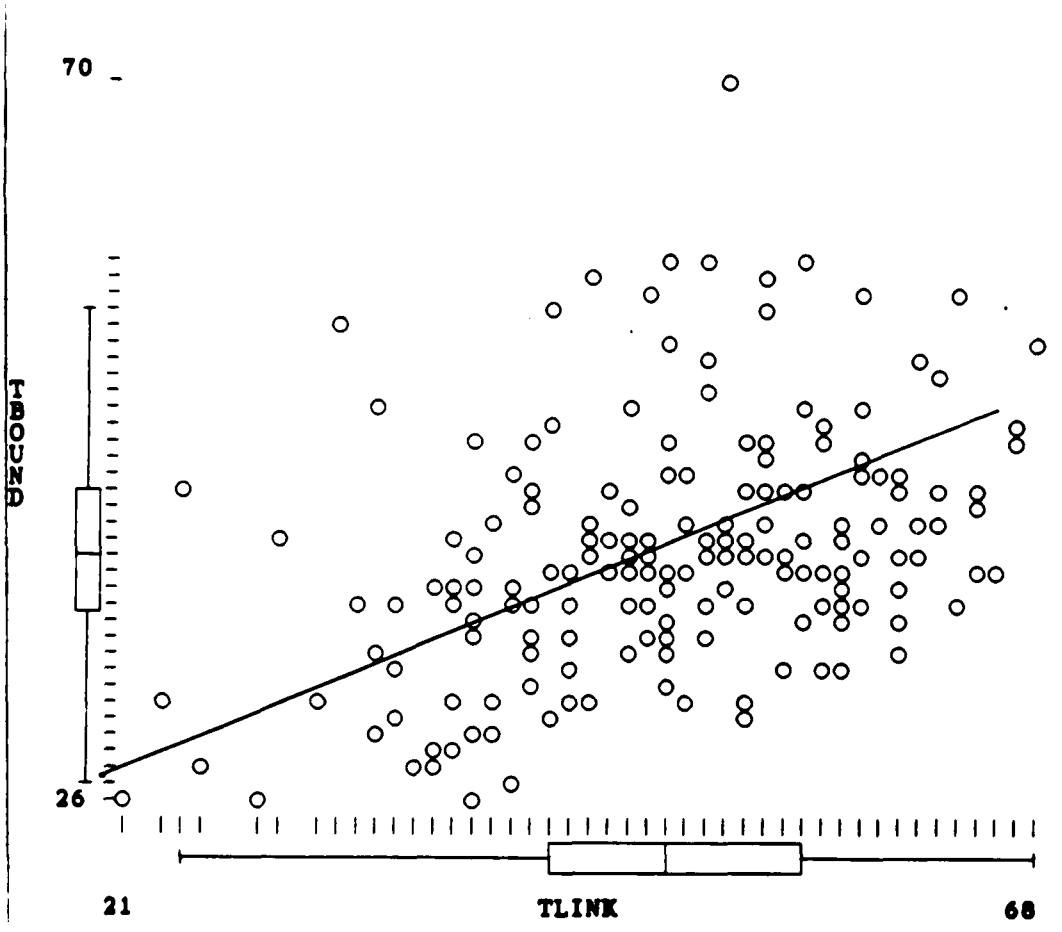
Although bounding is an inter-systemic or (between systems variable) and linking is an intra or (within systems variable), both are interdependent systemic variables, and it was felt that some degree of interrelationship or covariation should be present. This is predicted in the model as both variables regulate distance in and out of the family system.

An expected, a mid-range degree of covariation (positive) with an (r) value of .381(obs=191) was found between bounding and linking scores. This positive relationship, plotted in Figure 3-1, with the least squares regression line, was significant at the .001 level with a (t) value of 5.665.

The degree of relationship between these two variables, is also shown by the fact that few families were found in either of the non-clinical and clinical samples which could be characterized as either (High-Bounding-Low Linking) or (High Linking- Low Bounding). The next section will test relationships between these

variables, and family violence and mental illness.

Figure 3-1. Relationship Between Bounding and Linking



Bivariate Findings

Relationships Between Independent and Dependent Variables

This section contains findings on the relationships between; (1) The independent variable of bounding and the dependent variables of family violence and mental illness. (2) The relationship between the independent variable of linking and the dependent variables of family violence and mental illness. (3) The relationship between family types and family violence and mental illness. Both non-clinical and clinical samples are examined.

The Relationship between Bounding and Family Violence

No significant relationship was found between total bounding scores and family violence. The positive covariation approaches zero (r of .0025) (Prob> t, .937) (t of .034). The regression coefficient for bounding is .0096. See Table A3-1., for regression data. In the testing of a curvilinear model, ("U" shaped relationtionship) in which extreme low and extreme high bounding scores would be related to increased family violence, no significant relationship was found either when bounding is regressed on family violence. These findings were replicated in both samples. In the non-clinical sample, the correlation was .046 and in the clinical sample, bounding also shows no relationship to family violence (r of -.097).

It was decided to not eliminate outlier cases in the analysis of data, since, in the clinical sample, extreme or higher values were thought to reflect actual important statistical differences in clinical and non-clinical populations- (see method of analysis section). Logit analysis has been used in family violence studies, since family violence is often a phenomena which either takes place or does not take place in families. (Straus,1979) In these studies, the dependent variable of family violence was split into a (0) or (1) dichotomy without loss in the variability of the independent variables.

When logit analysis was used in this study, the relationship of bounding to family violence again shows a weak positive relationship, non-significant at the .05 level (Prob> t, .511) (t of .659). See Table A3-2. In the non-clinical sample, a weak negative relationship trend between bounding and family violence was found, which is again, not significant at the .05 level (Prob > t, .560) (t of -0.584). In the clinical sample, bounding shows an extremely weak positive relationship trend to family violence, not significant at the .05 level (Prob > t, .925) (t of .094). No significant curvilinear relationship is found in either of the samples; however probability levels are improved by the curvilinear model and slightly more variance is accounted for in the data.

It is important to remember that the first study hypothesis argues that both bounding and linking in combination must be present to have an important impact on maladaptive outcomes. Neither bivariate relationship, in itself, was hypothesized to show a significant relationship to family violence.

The Relationship Between Bounding and Mental Illness

When both non-clinical and clinical samples are combined the relationship between bounding and the dependent variable of mental illness shows significant positive co-variation at less than the .05 level, (Prob > t, .012) (t of 2.513), see Table A3-3. When bounding is regressed on mental illness (operationally defined by the Total Symptom Distress Score on the SCL-90 test instrument) the curvilinear model accounts for more variance in the data, and again shows a significant relationship (Prob> t, .014) (t of 2.5). See Table A3-4. for curvilinear regression.

In examining just the non-clinical sample, no significant covariation is found between the Total Symptom Distress Score and bounding. In examining the clinical sample more covariation is found between the Total Symptom Distress score and bounding; however, this is not at a significant level. A curvilinear model accounts for more variance in the data in both samples; however, this is not at a significant level when the

samples are analyzed separately.

The Relationship Between Linking and Family Violence

A negative relationship was found between linking and family violence (r of -.23) significant at less than the .05 level (Prob > t, .001), (t value of -3.24),(R-square of.04.) See Table A3-5 for regression data. In the testing of a curvilinear model, a relationship was found to be significant between linking and family violence at less than the .05 level (Prob > t, .038) (t of 2.090). Slightly more variance in the data is explained by the curvilinear model- R-square of .07, 2 degrees of freedom. See Table A3-6. In the non-clinical sample a weak negative relationship was found between linking and family violence, not significant at the .05 level. A curvilinear model explains more variance in the data, but not at a significant level.

In the clinical sample, a weak negative relationship was found between linking and family violence, also not significant at the .05 level. A curvilinear model does not explain more variance in the data.

With logit analysis, linking shows a negative relationship to family violence which is significant at less than the .05 level (Prob > t, .000) (t of -4.2), (chi2(1) = 20.56). See Table A3-7.

In the non-clinical sample, a negative relationship was found between linking and family violence which is significant at less than the .05 level (Prob> t, .02)

(t of -2.36).

In the clinical sample, a negative relationship was found between linking and family violence, significant at less than the .05 level (Prob> t, .02) (t of -2.47). In summary, the significant, negative relationship between linking and family violence holds across samples. As linking increases, family violence decreases.

The Relationship Between Linking and Mental Illness

A significant negative relationship (r of -.40) was found between linking and mental illness, (Prob> t,.000) (t value of -5.681).See Table A3-8. for regression data. A curvilinear model does not account for more variance in the data. See Table A3-9., for regression coefficients and R-square values.

In the non-clinical sample, a significant negative relationship (r of -.21) was also found between linking and mental illness, (Prob> t, .04) (t value of -2.078) A curvilinear relationship does not account for more variance in the data. See Table A3-8.

In the clinical sample, a significant negative relationship (r of -.36) was found was found between linking and mental illness, (Prob> t, .002) (t of .002). A curvilinear relationship accounts for more variance in the data; however, not at a significant level. See Table A3-8. for regression coefficients and R-square values.

In comparing both non-clinical and clinical samples, a negative relationship between linking and mental illness (operationally defined by the SCL-90 Symptom Distress Scales) was found in both. However, it is a stronger negative relationship in the clinical sample. The regression coefficient for linking is (-1.216), in the non-clinical sample, compared to (-2.736) within the clinical sample.

The study also contends that overall family system types should have important impacts on family violence and mental illness. Family system types may also have impacts on shaping and regulating bounding and linking processes and structures. The relationship of family system types to both family violence and mental illness will be examined in this section, followed by the multiple regression of family violence and mental illness on bounding, linking, and family types in the multivariate section.

The Relationship Between Family System Types, Family Violence, and Mental Illness

This section examines the relationship between open, random, and closed family system types with family violence and mental illness.

The Relationship Between Open Family Type and Family Violence

A significant negative relationship (r of -.32) was found between open family type and family violence, (Prob> t, .000) (t of -4.52). The regression coefficient

for open family type is -2.70. See Table A3-10. for regression data. This finding also applies to both clinical and non-clinical samples separately.

In the non-clinical sample, a significant negative relationship (r of -.25) was also found between open family type and family violence, (Prob> t, .011) (t of -2.590). The regression coefficient for open family type is -.688. See Table A3-10. for regression data.

In the clinical sample, a significant negative relationship (r of .20) was also found between open family type and family violence, (Prob> t, .048) (t of -1.999). The regression coefficient for open family type is -2.649. See Table A3-10. for regression data.

In summary, in both samples a significant negative relationship (P< .05) is found between open family type and family violence; however, the relationship is stronger in the clinical sample, correlation coefficient of -2.649 compared with -.688, non- clinical sample.

To deal with the problem of outlier family violence scores, particularly in the clinical sample, logit analysis was used. As the family violence scores have a high degree of positive skew and as such do not constitute a normal distribution, the assumtion of "normal distribution" for least squares regression is violated. Logit analysis deals with outlier values by converting

family violence scores into a 0 or 1 dicotomy, thus dealing more effectively with the above problems. With logit analysis, a significant negative relationship is once again found between family violence and open family type (Prob> t, .000) (t of -5.260), (chi2(1) 31.43). The regression coefficient for open family type is -.2708. See Table A3-11.

In the non-clinical sample, a significant negative relationship is found between family violence and open family type (Prob>t, .004) (t of -2.936), (chi2(1) 9.36). The regression coefficient is -2140. See Table A3-11.

In the clinical sample, with logit analysis a significant negative relationship was again found between open family type and family violence (Prob> t, .012) (t of -2.564) (chi2(1) 6.51). The regression coefficient is -.2158. See Table A3-11.

In summary, a significant negative relationship (P< .05) is found between open family type and family violence in both samples. This is a particularly robust finding which is replicated in both samples and with both least squares and logit regression analyses.

The Relationship Between Open Family Type and Mental Illness

A significant, moderately strong, negative relationship (r of -.55) was found between open family type and mental illness (Prob> t, .000) (t of -8.615). The

regression coefficient is -11.473. See Table A3-12. for regression data. Open Family Type explains 30 percent of the variance in mental illness scores.

In the non-clinical sample, a significant negative relationship (r of -.37) was again found between open family type and mental illness (Prob> t, .000) (t of -3.910). The regression coefficient is -5.326. See Table A3-12. for regression data.

In comparison, in the clinical sample a significant but stronger, negative relationship (r of -.55) was found between open family type and mental illness, (Prob> t, .000) (t of -5.091). The regression coefficient is -14.041. See Table A3-12 for regression data.

In both samples, a significant negative relationtionship was found between degree of open family type and mental illness. In the clinical sample a stronger relationship was found. These results are supportive of the study hypothesis that a negative relationship would be found between open family type and mental illness.

The relationship Between Closed Family Type and Family Violence

With regression analysis, a significant positive relationship (r of .22) was found between closed family type and family violence (Prob> t, .002) (t of 3.135). The regression coefficient for closed family type is 2.424. See Table A3-13 for regression data.

In the non-clinical sample, no relationship (r of

.08) was found between closed family type and family violence (prob> t, .41) (t of .814). The regression coefficient for closed family type is .4367. See Table A3-13 for regression data.

In the clinical sample, no relationship (r of .073) was found between closed family type and family violence (Prob> t, .478) (t of .713). The regression coefficient for closed family type is .9251. See Table A3-13. for regression data.

With logit analysis, a significant positive relationship was found between closed family type and family violence (Prob> t, .000) (t of 3.770), (chi2(1) 17.87. The regression coefficient for closed family type is .2878. For logit regression data see Table A3-14.

In the non-clinical sample, a weak positive relationship is found between closed family type and family violence, not significant at the .05 level. (Prob> t, .084) (t of 1.745) (chi2(1) 3.21). The regression coefficient for closed family type is .2418. For logit regression data see Table A3-14.

In the clinical sample, a weak positive, non-significant relationship was found between closed family type and family violence (Prob> t, .097) (t of 1.674) (chi2(1) 3.11). The regression coefficient is .1713. See Table A3-14. for logit regression data.

The Relationship Between Closed Family Type and Mental Illness

A significant positive relationship (r of .34) was found between closed family type and mental illness (Prob> t, .000) (t of 4.596). The regression coefficient is 9.356. See Table A3-15 for regression data.

In the non-clinical sample, a significant, positive relationship (r of .24) was found between closed family type and mental illness (Prob> t, .019) (t of 2.385). The regression coefficient is 6.6725. See Table A3-15. for regression data.

By comparison, in the clinical sample, an extremely weak, positive relationship was found between closed family type and mental illness. This is not significant at the .05 level (Prob>t,.249) (t of 1.16). The regression coefficient is 3.6509. See Table A3-15. for regression data.

To test for a significant difference in samples, in the relationship between closed family type and mental illness, "sample" was added to the multiple regression as a slope dummy variable, with the designation of SFamC. The dummy slope variable was obtained by multiplying sample x FamC = SFamC. Results show no significant difference between slopes in the two samples.

In comparing both samples, a stronger positive relationship was found between closed family type and mental illness in the non-clinical sample. A weaker,

but positive relationship trend is found in the clinical sample. Overall, these results support the study hypothesis that a positive relationship would be found between closed family type and mental illness.

The Relationship Between Random Family Type and Family Violence

A significant positive relationship (r of .22) was found between random family type and family violence (Prob> t, .049) (t of 1.983) The regression coefficient for random family type is 1.422. See Table A3-16. for regression data.

In the non-clinical sample, a significant positive relationship (r of .25) was found between random family type and family violence (Prob> t, .013) (t of 2.535). The regression coefficient for random family type is .7843. See Table A3-16. for regression data.

In the clinical sample, an extremely weak, non-significant positive relationship (r of .10) was found between random family type and family violence, (Prob>t, .343) (t of .953). The regression coefficient for random family type is 1.201. See Table A3-16. for regression data.

With logit analysis, a significant positive relationship was found between random family type and family violence (Prob> t, .01) (t of 2.589) (chi2 7.15). The logit regression coefficient is .14932. See Table A3-17. for logit regression data.

In the non-clinical sample, a significant positive relationship was again found between random family type and family violence (Prob> t, .019) (t of 2.393) (chi2(1) 6.21). The regression coefficient is .2026. See Table A3-17. for logit regression data.

In comparison, the clinical sample showed an extremely weak, positive relationship between random family type and family violence, not significant at the .05 level (Prob> t, .462) (t of .738) (chi(2) .56). The regression coefficient is .0667. See table A3-17. for logit regression data.

Thus, in the relationship between random family type and family violence all signs were in the predicted direction. Only the total sample and the non-clinical sample showed significant relationships.

The Relationship Between Random Family Type and Mental Illness

A significant, positive relationship (r of .35) was found between random family type and mental illness (Prob>t, .000) (t of 4.841). The regression coefficient for random family type is 8.4431. See Table A3-18. for regression data.

In the non-clinical sample, a significant, positive relationship (r of .28) was found between random family type and mental illness (Prob>t, .006), (t of 2.831). The regression coefficient is 4.656. See Table A3-18. for regression data.

In the clinical sample, a significant, positive relationship (r of .36) is again found between random family type and mental illness (Prob> t, .002), (t of 3.151). The regression coefficient is 8.8656. See Table A3-18.

In comparing both samples, a significant positive relationship between random family type and mental illness is found in each sample. In the clinical sample this relationship is stronger. These findings support the study hypothesis that a positive relationship would be found between random family type and mental illness.

Summary of Findings on the Relationship Between Family Types, Family Violence, and Mental Illness

A significant negative relationship was found between degree of open family type and family violence. As family systems become more open family violence decreases. This relationship is significant in both the clinical and non-clinical samples. A stronger relationship was found in the clinical sample. This supports the study hypothesis that a negative relationship would be found between open family type and family violence. A significant, moderately strong, negative relationship was also found between open family type and mental illness. As family systems increase in there open family type characteristics, mental illness (measured by the SCL90 Scale) was found to decrease. This relation-

ship also holds in both the clinical and non-clinical samples; however, it is a stronger relationship in the clinical sample. These findings support the study hypothesis that a negative relationship would be found between open family type and mental illness.

A significant positive relationship was found between closed family type and family violence; however, no significant positive relationship is found when the samples are analyzed separately. A positive, but non-significant, relationship trend between closed family type and family violence was found in both the non-clinical and clinical samples. The results were the same with logit regression. These findings are inconclusive, and do not support the study hypothesis that a positive relationship would be found between closed family type and family violence, as no significant relationship is found in separate clinical and non-clinical samples.

A significant, positive relationship was found between closed family type and mental illness. In the non-clinical sample a significant positive relationship was also found. In the clinical sample, a positive, non-significant relationship trend was found between closed family type and mental illness. The results were the same with logit regression. These findings are partly supportive of the study hypothesis that a positive relationship would be found between closed family type

and mental illness. A significant relationship was found in the clinical sample, but not in the non-clinical sample.

A significant, positive relationship was found between random family type and family violence. As family systems become more random in nature, family violence was found to increase. This relationship was also found to be significant in the non-clinical sample. In the clinical sample a non-significant, positive relationship trend was found. The same results were found with logit regression. These findings support the study hypothesis that a positive relationship would be found between random family type and family violence.

A significant, positive, moderately strong relationship was found between random family type and mental illness. This moderately strong relationship was found in both samples. In the clinical sample, the relationship is stronger. As family systems become more random in nature, mental illness was found to increase. This relationship holds across both non-clinical and clinical samples. These findings support the study hypothesis that a positive relationship would be found between random family type and mental illness.

The Use of Family Types as Categorical Variables

In reality, family systems can be a mixture of open, random, and closed characteristics or dimensions and rarely represent or contain all

characteristics of one "type" of family system. This is another way of recognizing that the breakdown of contiguous or interval level data into types, results in some loss of richness in the data. It is also an admission that "types" are ideal classifications and subject to the inherent limitations of such arbitrary manipulation of data. Recognizing these limitations, family types were constructed in this study by rating families as predominantly; open, random, or closed "type" on the basis of the higher score of each of the open, closed, and random dimensions measured on the questionnaire. For example, if a family obtained a score of 10 (the maximum rating) on the closed family dimension, then it was placed in the "closed family type" category. If another family scored obtained scores of (6) on the closed dimension, (3) on the random dimension, and (1) on the open dimension- it was also labeled as "closed family type" and placed in the "closed family type" category.

This classification of families into "types" made it possible to test the third specific hypotheses in this study: Random and closed family "types" tend to generate higher levels of family violence and mental illness in comparison to open family "types".

To test this hypothesis, analysis of variance was utilized. See Table 3-4. for (oneway) analysis of variance data. As can be seen from the analysis of

variance output, a significant difference was found between family violence and family types. Closed family type showed the highest degree of family violence, (family violence mean of 26.5). Random family type had the next highest degree (family violence mean of 15.18), and open family type had the lowest degree of family violence (family violence mean of 6.44). This is supportive of the study hypothesis. As the distribution of family violence scores has a moderate degree of positive skew and is not a normal distribution, the Krusal-Wallis non-parametric test for equality of populations was used as a check for the questionable findings of the analysis of variance test. Results of the kwallis test, shown at the bottom of Table 3-4 support the findings that there is a significant difference in family violence means between open, random and closed family types. The kwallis test has a chi-square of 26.2, $p<.01$.

The study also tests the hypotheses that random and closed family types will be associated with higher levels of mental illness in comparison to open family type. From analysis of variance output, a significant difference was found between family types and mental illness. See Table 3-5. Closed family type showed the higher degree of mental illness, (mental illness mean of 153). Random family type had the next highest degree (mental illness mean of 120), and open family type had

the lowest degree of mental illness (mental illness mean of 71). These findings are supportive of the study hypotheses. The Krusal-Wallis test was also used as a check on the results of analysis of variance which assumes equal variances. Results of the kwallis test found at the bottom of Table 3-6 support the analysis of variance findings of significant differences in mental illness means between open , random, and closed family types.

Table 3-4. Tests for Equality of Means: Family Violence and Family System Types

```
. oneway TV FAMTYPE, tabulate

           |        Summary of TV
  FAMTYPE  |      Mean   Std. Dev.       Freq.
-----------+------------------------------------
      Open |  6.4444444  16.537528          72
    Random |  15.170732  24.769956          82
    Closed |  26.547619  42.831036          42
-----------+------------------------------------
     Total |  14.403061  28.205578         196

                    Analysis of Variance
    Source              SS         df       MS            F     Prob > F
-------------------------------------------------------------------------
Between groups      10803.3659       2   5401.68293       7.22     0.0009
 Within groups      144329.792     193   747.822758
-------------------------------------------------------------------------
    Total           155133.158     195   795.554657

. kwallis FAMTYPE TV

Test: Equality of populations (Kruskal_Wallis Test)

  FAMTYPE       _Obs    _RankSum
     Open         72        5174
   Random         82        9033
   Closed         42        5099

 chi-square =     26.191         2 d.f.
probability =      .0001
```

Table 3-5. Tests for Equality of Means:
Mental Illness and Family System Types

```
. oneway TSDS FAMTYPE, tabulate

           |            Summary of TSDS
  FAMTYPE  |       Mean   Std. Dev.       Freq.
-----------+------------------------------------
      Open |         71   49.161628          68
    Random |   119.56338   67.162433          71
    Closed |   153.03333   67.553546          30
-----------+------------------------------------
     Total |    105.9645   67.821184         169

                       Analysis of Variance
    Source              SS         df       MS            F     Prob > F
------------------------------------------------------------------------
Between groups      162725.356       2   81362.6778      22.14     0.0000
 Within groups      610026.431     166   3674.85802
------------------------------------------------------------------------
    Total           772751.787     168   4599.71302
```

Multivariate Findings

This section contains findings on the relationships between (1) The combined effects of bounding and linking on family violence. (2) The combined effects of bounding and linking on mental illness. (3) The multiple regression of family violence on bounding, linking, family types and socio-economic status. (4) The multiple regression of mental illness on bounding, linking, family types and socio-economic status. Full and partial (significant only) predictive models are presented for both high family violence and mental illness. Both clinical models and non-clinical models are presented with (only significant) predictors of family violence and mental illness.

The full model of predictors of high family violence along with logit regression coefficients and (p) values is presented in Table 3-6. We can see that when all independent (X) variables are controlled in the full model, the variable of closed family system type has the only significant effect on family violence. When the family as a system becomes more closed, family violence increases, controlling for all other study variables in the logit regression. This full model has a chi-square (x2) of 37. Using a backward elimination procedure, the non-significant predictors with lowest

Predictor Models of Family Violence

Table 3.-6 Predictors of High Family Violence (TVd): Logit Regression Coefficients and (p) values

Predictor	Full Model	Reduced Model	Reduced Signif. Model
TBOUND	.30 (.15)	.04 (.23)	
TBOUNDsq	-.01 (.20)		
TLINK	-.27 (.22)	-.09 (.00)**	-.07 (.000)**
TLINKsq	.01 (.35)		
FamC	.26 (.008)**	.22 (.01)**	.27 (.001)**
FamR	.10 (.23)		
SES	-.00 (.49)		
x2	37	36	34

* asymptotic t-test p<.05
** p<.01

Table 3-7 Predictors of High Family Violence (TVd) Reduced Non-clinical and Clinical Models

Non-clinical		Clinical	
TLINK	-.07 (.02)*	TLINK	-.07 (.01)**
x2	6.05 p(.01)	x2	6.84 p(.008)

* p<.05
**p<.01

regression coefficients-- TBOUNDsq, TLINKsq (curvilinear terms), FamR and SES were then eliminated from the full model. This resulted in a simpler, partial model. In the partial model, we can see in Table 3-6, that bounding, linking, and closed family type show a chi-square of 36, one less than the full model. In this reduced model, bounding, linking, and closed family type emerge as the stronger predictors. In the significant only, reduced model both linking and closed family type have significant effects on family violence at less than the .01 level. In summary, the two variables of closed system type and linking emerge as the two strongest predictors of high family violence. As family systems become more closed family violence increases. As linking increases family violence decreases.

Partial Non-clinical and Clinical Models Predictors of Family Violence

Partial non-clinical and clinical models of (significant only) predictors of family violence are shown in Table 3-7. From this Table we can see that the variable of linking emerges as the only significant predictor of family violence in both the non-clinical and clinical models. Closed family type does not hold up across samples. In constructing predictive models, it is therefore not a significant predictor of family violence in either a non-clinical or clinical model.

In the non-clinical model, linking has a logit regression coefficient of -.07, and is significant at

less than the .05 level. The model has a chi-square of 6.05. Probability of the chi-square is .014 in the logit regression. Linking has a significant effect on family violence. As linking increases, family violence decreases.

In the clinical model, linking also has a significant effect on family violence. The logit regression coefficient of -.07 is significant at the .01 level. The clinical model chi-square is 6.84 with one degree of freedom. Probability of chi-square is .0089.

In summary, linking holds up as a significant predictor of family violence in both non-clinical and clinical models.

The Multiple Regression of Family Violence on Bounding and Linking

Since the first hypothesis in the study predicted a curvilinear relationship between the combination of bounding and linking and family violence, this hypothesis was tested by squaring the total bounding scores (TBOUNDsq) and total linking scores (TLINKsq); then adding this to the multiple regression equation.

Samples were combined to increase the range of bounding and linking scores. Within this combined sample a significant curvilinear relationship was found between linking and family violence (Prob t, .02) (t of 2.234). This means that both extremely low and extremely high linking scores were associated with higher family

violence. This curvilinear relationship was not found for bounding. For bounding, no curvilinear relationship was found due to the lack of higher family violence scores associated with the extremely low bounding end of the proposed "U" shaped relationship. One explanation for this finding may have to do with the boundary aspects of the variable. For example, if bounding is extremely low, diffuse family boundaries may mean that conflicts take place more outside of the family than within. With diffuse boundaries, the emotional investments of family members in each other may be minimal and this may decrease the chances that they will become emotional targets or physical targets of aggression with one another.

In the non-clinical sample, when bounding and linking are added to the multiple regression, no support was found for the hypothesized curvilinear relationship in the regression of family violence on both bounding and linking. This did not justify moving to a more complicated model in the non-clinical sample, as no significant improvement was noted in the percent of variance explained by the more complicated model. Also, t values of (TBOUNDsq, .393) and (TLINKsq, -1.137) are not significant at the .05 level.

Although the curvilinear hypotheses was only partly supported in terms of linking, the study contends that both bounding and linking must be looked at in

combination, to see significant effects on family violence and mental illness. In other words if linking is examined, bounding should be brought into the multiple regression equation, as a control.

The linear model was utilized in testing the alternative hypothesis that bounding would show a significant, positive relationship to family violence and linking would show a significant, negative relationship, only when both variables were brought into the multiple regression, in combination with each other.
Using this model, bounding and linking as the main independent variables accounted for approximately 5 percent of the family violence score variance.

Although not independently significant in bivariate relationships, in the multiple regression both bounding and linking in combination show a significant relationship to family violence. For example, in the non-clinical sample, linking only shows a significant negative relationship to family violence when we control for bounding. The regression coefficient for linking is -.2643 (Prob> t, .033) (t of -2.170).

In the clinical sample, no support was found for the hypothesized curvilinear relationship between bounding and linking and family violence. A weak, negative relationship (r of -.15) was found between linking and family violence, not significant at the .05 level (Prob> t, .31) (t of -1.002).

With logit regression, a significant relationship was found between bounding and linking and family violence. The regression coefficient for bounding is .0697 (Prob> t, .01) (t of 2.509). The regression coefficient for linking is -.1086 (Prob> t, .000) (t of -4.806). No support was found for any curvilinear relationship. In fact, when TBOUNDsq and TLINKsq terms are added to the full model logit regression, they depress both bounding and linking regression coefficients to a non-significant level. To test for a significant interaction effect between bounding and linking an interaction term (BLinter)={boundingxlinking} was added to the logit regression. A significant interaction effect was found between bounding and linking in relationship to family violence when this interaction term is added to the logit regression analysis. The interaction (BLinter) is significant at less than the .05 level (Prob> t, .03) (t of 2.148). The regression coefficient is .0080.

In the non-clinical sample, a significant negative relationship was found between linking and family violence (Prob> t, .008) (t of 2.709) No significant relationship was found between bounding and family violence (Prob> t, .595) (t of .533). No significant curvilinear relationship was found with either bounding or linking. See Table 3-7 for presentation of this partial (significant only),

non-clinical model.

In the clinical sample, a significant, negative relationship was found between linking and family violence (Prob t, .01) (t of -2.637). A weak positive, non-significant relationship was found between bounding and family violence. See Table 3-7, for presentation of this partial (significant only) clinical model. No support was found for a curvilinear relationship for either bounding or linking.

In the combined samples, a significant, curvilinear relationship was found between linking and family violence. This relationship did not hold up in separate clinical and non-clinical samples and in the development of partial predictive models.

One possible explanation for the finding that no consistent, curvilinear relationship was found between bounding and linking and family violence is that, with extremely low (diffuse) bounding and linking, we may be seeing the externalization of conflicts and violence outside of the family system. With extremely low bounding and linking, there may be such a diffuse level of family support and family boundaries, that attachments and many involvements occur outside the family, thus decreasing the probability that family members will become emotional targets or targets of physical aggression. With extremely low bounding, the extent to which the family can be called a system

is itself brought into question. This may partly explain the positive relationship trend between bounding and family violence, and the lack of higher family violence at the low bounding end.

This explanation of the findings is consistent with the contention of Straus that two family organizational characteristics likely to produce violence are: (1) the intensity of involvement of family members, (2) the right of influence (Straus, 1978).

However, a lack of family support and inter-relationship between family members may also contribute to increased strain and conflict between family members, possibly accounting for the significant negative relationship between linking and family violence in both samples, when we control for bounding.

Predictor Models of Mental Illness

The full model of predictors of mental illness along with unstandardized multiple regression coefficients and (p) values is presented in Table 3-8.

We can see that when all independent (X) variables are controlled in the full model multiple regression, random family system type and closed system type are the only two variables which have significant effects on mental illness. Random family type has the highest unstandaridized coefficient of 9.09, significant at less than the .01 level. As family systems become more random in their structure and process mental illness is more

Predictor Models of Mental Illness

Table 3.-8 Predictors of Mental Illness (TSDS): (Unstandardized Multiple Regression Coefficients and (p) Values)

Predictor	Full Model	Partial Model (significant only)
TBOUND	4.83 (.34)	2.64 (.000)**
TBOUNDsq	-.03 (.66)	
TLINK	-4.87 (.21)	-1.63 (.026)*
TLINKsq	.04 (.39)	
FamR	9.09 (.001)**	8.60 (.000)**
FamC	7.10 (.005)**	7.50 (.001)**
SES	-.14 (.41)	
r2 (adj)	.31	.34

* asymptotic t-test p<.05
** p<.01

Table 3.-9 Predictors of Mental Illness(TSDS): Reduced Clinical and Non-clinical Models

Predictors	Reduced Clinical Model	Reduced Non-clinical Model
TBOUND	2.55 (.01)*	
FamR	16.97 (.000)**	4.65 (.005)**
FamC	10.91 (.001)**	6.67 (.015)*
R2 (adj)	.32	.15

* asymptotic t-test p<.05
** p<.01

likely to increase. This is followed by closed family type with a coefficient of 7.10, (p) <.01. As family systems become more closed, mental illness increases. The full model has an adjusted r-square of 31. Therefore 31 percent of the variance in mental illness scores (TSDS) is explained by the full model.
A partial, (significant only) model was developed through a process of backward elimination. This partial model is shown in Table 3-8 along with unstandardized regression coefficients and (p) values. From the partial model we can see that bounding, linking, random family type and closed family type all emerge as significant predictors of mental illness. Dropping the non-significant study variables of TBOUNDsq, TLINKsq, and SES with low regression coefficients, results in the simpler, significant only model, which
has a r-square value of .34. This is a higher r-square than in the full model. Thus, 34 percent of the variance in mental illness scores is explained by the model. This is shown in Table 3-8.

Reduced non-clinical and clinical predictor models of mental illness are shown in Table 3-9. From Table 3-9, we can see that in the clinical model;--random family type, closed family type, and bounding all show significant effects on mental illness. Random family type emerges as the strongest predictor of mental

illness, followed by closed family type. Both of these variables have significant effects at less than the .01 level. The reduced clinical model accounts for 32 percent of the variance in mental illness scores.

In the reduced non-clinical model, random family type and closed family type are significant predictors of mental illness. In summary, as randomness increases in both family structure and process mental illness increases. As closed system characteristics increase so does the likelihood of mental illness. Fifteen percent of the variance in mental illness scores is explained by the non-clinical model.

The Multiple Regression of Mental Illness on Bounding and Linking

In testing the hypothesis that both bounding and linking must be present in the model to show significant effects on mental illness, a curvilinear relationship is tested by again squaring total bounding scores (TBOUNDsq) and squaring total linking scores, (TLINKsq), then adding these terms to the multiple regression equation.

In combined samples, when this was done in the multiple regression, no support was found for the curvilinear model for either bounding or linking. The (TBOUNDsq) term in the regression is not significant (Prob> t, .518) (t of .648). The (TLINKsq) term is also not significant (Prob>t .792) (t of .264). The model has

an adjusted R-square of .25/5 degrees of freedom. Thus, 25 percent of the variance in mental illness is explained by the curvilinear model. In the full model presented in Table 3-8, the curvilinear terms of TBOUNDsq and TLINKsq are not significant and have low regression coefficients.

To test for the combined effects of bounding and linking (interaction effects), an interaction term (BLinter) was added to the multiple regression. No significant effects were found when this bounding and linking interaction term was regressed on mental illness, (Prob> t, .549) (t of -.0503).

In testing a linear model, significant effects were found for both bounding and linking in their relationship to mental illness. Bounding shows a significant positive relationship to mental illness (Prob> t, .000) (t of 3.470). As bounding increases mental illness increases. Linking shows a negative, highly significant relationship to mental illness, (Prob> t, .000) (t of -3.862). A linking increases, mental illness decreases. The multiple regression shows an R-square value of .27 adjusted for 2 degrees of freedom. Thus bounding and linking account for 27 percent of the variance in mental illness scores.

Although the curvilinear hypotheses is not supported; the hypothesis, that if both bounding and linking were present in the model significant

effects would be found, was highly supported by the findings.

Bounding and linking were each found to be significant in separate bivariate relationships with mental illness; however, the findings were at the .05 level of significance, particularly with bounding.

In the non-clinical sample, no support was found for the curvilinear hypothesis. In a linear model, a significant, negative relationship was found between linking and mental illness (Prob >t, .05) (t of -1.990). The regression coefficient for linking is -1.2897. A weak positive relationship trend was found between bounding and mental illness, not significant at the .05 level (Prob>t, .38) (t of .880) The regression coefficient for bounding is .7248.

In the clinical sample, again no support was found for the curvilinear model. In utilizing a less complicated linear model, significant relationships were found for both bounding and linking on mental illness. A significant, moderately strong, positive relationship was found between bounding and mental illness (Prob> t,.001) (t of 3.551). The regression coefficient for bounding is 3.803). A significant, moderately strong negative relationship was found between linking and mental illness, (Prob>t, .000) (t of -4.582). As linking increases mental illness was found to decrease. The linear model shows an R-square of .25/adjusted for 2 degrees of

freedom. Thus, 25 percent of the mental illness score variance is explained by bounding and linking. The curvilinear model does not account for any significant increase in explained variance. This was also 25 percent adjusted for 4 degrees of freedom.

The Multiple Regression of Family Violence on Bounding, Linking, and Family Types.

In the study, "family types" or in measurement terms- overall dimensions of family system characteristics- are seen as general system types through which the specific structural and process variables of bounding and linking take place. As such, family types serve as moderating parameters, or moderator variables- overarching system structures through which the mechanisms and processes of bounding and linking operate.

Study results (see bivariate section) so far have shown a negative relationship between open type families and family violence. A negative relationship was also found between open type families and mental illness. This finding was supportive of the study hypothesis that as families increase in open type characteristics family violence would decrease.

Study results have also shown a moderately strong, positive relationship between random family type and family violence. Closed family type also showed a positive relationship trend to family violence, however, this is not significant at the .05 level. Both random

and closed family types showed significant positive relationships to mental illness across samples.

When all three family type variables are entered into the multiple regression of family violence on bounding and linking, multicollinearity shows up in the regression. This is likely to occur as family types have moderately strong correlations with each other, and theoretically--overarching system types should have strong relationships and effects on specific bounding and linking processes.

One way to judge the likelihood of multicollinearity problems is by examining the correlation matrix. When we look at the correlation matrix including all X variables in the multiple regression, we find open, random, and closed family type to show moderately high correlations with each other (.52 to .65). For example, closed family type has a correlation with open family type of -.56. Also, random family type has a correlation with open family type of -.63.

Also, multicollinearity's chief symptom is to increase standard errors (Hamiliton, 1990). If we add random and closed family type, when open family type is already in the regression equation, the standard error of open family type jumps from .8 to 8.27. The standard errors of random family type and closed family type are just as large, at 8.32 and 8.34 respectively.

Adding all three family type dimension variables to

the multiple regression was also found to decrease the significance level of bounding and linking, as well as, lowering their regression coefficients. The signs of the coefficients also change. For example, bounding goes from (.3886) to (-.0721).

As a further check for multicollinearity, in the non-clinical sample, when all 3 family type variables are added to the multiple regression, similar effects occur. Multicollinearity continues to be a problem. For example, in the non-clinical sample, with the addition of the family type variables the standard error for the constant of family violence increases from 6 to 33. Similar results are found in the clinical sample, where multicollinearity results in a large increase in standard errors.

In summary, when a three family type variables, (open, random, closed) are entered into the multiple regression, multicollinearity becomes a problem. However, most of the muticollinearity appears to come from the moderately high correlations between the family type variables themselves.

To test the theory that family types truly are overarching systemic structures through which processes and mechanisms of bounding and linking operate, we can still introduce one family type variable at a time into the multiple regression, and avoid the contamination of mullticollineary.

When open family type is added to the multiple regression of family violence with bounding and linking, this open family system dimension was found to have a significant, negative relationship with family violence, (Prob> t, .007) (t of -2.753). Open family type emerges as the strongest, most significant relationship in the multiple regression- decreasing the otherwise significant effect of linking on family violence.
For example, without open family type in the multiple regression, linking shows a significant negative relationship to family violence (Prob> t, .001) (t of -3.449). With open family type in the multiple regression, linking still shows a negative relationship to family violence; however, the significance level of the relationship drops to (.513) and the regression coefficient of linking changes from -.8177 to -.2232. When non-clinical and clinical samples are looked at separately, open family type still emerges as the strongest predictor variable. In terms of the model, when open family type is added, the adjusted R-square increases from .05 to .09. Thus adding open family type to the multiple regression improves the ability to predict family violence, accounting for 9 percent of the family violence score variance.

The result of open family type emerging as the strongest relationship in the multiple regression is supportive of the theory that family types, as

overarching systemic variables, should show significant, overriding, effects on the outcome variables of family violence and mental illness.

When we examine the multiple regression of mental illness on bounding, linking, and open family type, open family type again emerges as the strongest relationship. The correlation coefficient is -8.3351, (Prob> t, .000) (t of -4.375). In terms of the model, the when open family type is added to the multiple regression, the adjusted R-square increases from .27 to .34. Thus adding open family type improves the ability to predict mental illness, accounting for 34 percent of the mental illness score variance. Using logit regression techniques results in similar findings.

In both the non-clinical and clinical sample, open family type still emerges as the strongest predictor variable, thus the relationship holds across samples. It is a more highly significant relationship in the non-clinical sample with (Prob>t, .003) (t of -3.1).

When closed family type was added to the multiple regression of family violence with bounding and linking, closed family type was found to have a significant, positive effect on family violence (Prob> t, .025), (t of 2.263). In terms of the model, the adjusted R-square increased from .05 to .07; however, no substantial increase of variance in family violence was explained.

When non-clinical and clinical samples are examined closed family type was found to have no significant effect on family violence.

When we examine the multiple regression of mental illness on bounding, linking, and closed family type, no significant effect is found between closed family type and mental illness. In terms of the model, the adjusted R-square increases from .25 to .27; however no substantial increase of variance in mental illness scores is explained. Thus adding closed family type to the multiple regression only slightly improves the ability to predict mental illness. When non-clinical and clinical samples are examined, the findings are similar- closed family type has no significant effect on mental illness, controlling for bounding and linking.

When we examine the multiple regression of family violence on bounding, linking, and random family type; no significant effect is found between random family type and family violence (Prob> t, .793) (t of .262). In terms of the multiple regression, with random family type added, no increase occurs in the adjusted R-square of .05. Adding random family type to the multiple regression does not improve the ability to predict family violence. When non-clinical and clinical samples are examined, the findings are similar in both samples; random family type has no significant effect on family violence, controlling for bounding and linking.

When random family type was added to the multiple regression of mental illness with bounding and linking, random family type was found to have a significant, positive effect on mental illness (Prob> t, .006) (t of 2.758). With random family type added to the multiple regression, the adjusted R-square increases from .27 to .30. Thus adding random family type to the multiple regression does increase the ability to predict mental illness.

In the clinical sample, these findings are replicated. Random family type again shows a positive, significant effect on mental illness, when bounding and linking are controlled (Prob> t, .016) (t of 2.483). This model accounts for 30 percent of the variance in mental illness scores.

In the non-clinical sample, random family type again shows a positive, significant effect on mental illness (Prob> t, .047) (t of 2.016). The model accounts for 5 percent of the variance in mental illness scores as compared to 30 percent in the clinical sample.

In summary, with the clinical sample, stronger relationships are found between bounding, linking, random family type, closed family type, and mental illness. However, both samples show significant relationships. The development of both full and partial predictive models presented with the procedure of backward elimination for the most part confirm these

results.

The Multiple Regression of Family Violence on Bounding, Linking, and Socio-economic Status.

Socio-economic status has been shown to have significant effects on both family violence and mental illness. For example, lower socio-economic classes have been found to be associated with higher rates of mental illness (Hollingshead and Redlich). Due to findings of this association in other studies, socio-economic status was used as a control variable in this study and thus added to the multiple regression. To measure socio-economic status the Ducan Soci-economic Status Index was used. When SES, Ducan socio-economic status, was added to the multiple regression it was found to have a significant, negative effect on family violence, controlling for bounding and linking (Prob> t, .009) (t of -2.659). The regression coefficient is -.2019.

In the non-clinical sample, SES was found to have an extremely weak negative relationship with family violence, not significant at the .05 level (Prob> t, .71) (t of -0.377). The regression coefficient is -.014.

In the clinical sample, SES was again found to have an extremely weak, negative relationship to family violence (Prob> t, .657) (t of -0.445). The regression coefficient is -.0786) .

The Multiple Regression of Mental Illness on Bounding, Linking and Socio-economic Status

When SES, Ducan Socio-economic Status, was added to the multiple regression of mental illness, it was found to show a non-significant, weak, negative effect, controlling for bounding and linking (prob> t, .127) (t of -1.536) The regression coefficient is -.2658.

In the non-clinical sample, SES was found to show a very weak, negative effect, not significant at the .05 level (Prob> t, .894) (t of -0.134). In the clinical sample, different results are found. SES was found to show an extremely weak, positive relationship trend to mental illness, controlling for bounding and linking (Prob> t, .289) (t of 1.049). Again, the relationship is not significant at the .05 level.

In summary, SES had no significant effect on mental illness when added to the multiple regression with bounding and linking. However, the weak, negative relationship trend found is supportive of other studies in which higher rates of mental illness have been associated with lower socio-economic status. As socio-economic status has been found to be a moderately strong predictor variable in other studies on mental illness, it is important theoretically that, in this study, both bounding and linking show stronger effects on mental illness. This adds support to the contention of the study that bounding and linking are

important predictor variables in their effects on mental illness and should be included in further studies on the psychosocial conditions that precede mental illness.

CHAPTER IV

SUMMARY AND CONCLUSIONS

This study has focused on the dynamic, systemic nature of the family as a social system, the relationships of sub-systems within the family's walls, and the interrelationship of the family to larger social systems. Specifically, the study has been an attempt to explore family organizational variables--structure and process variables-- within a systemic perspective.

Rather than study family violence and mental illness within a psycho-pathological, individualistic framework, an attempt is made to explore more normal range processes and structures commonly occurring in the family, as a complex social system.

In examining the main concepts of bounding and linking, this research has sought to empirically test the relationship of these intra and inter- systemic variables to family violence and mental illness. Both interaction effects of bounding and linking and the use of bounding and linking as controls were tested in their relationship to family violence and mental illness.

The study theorizes that, when intra-familial or inter-familial variables are studied in isolation, with a lack control for related family processes, important relationships are missed which define the very real,

complex nature of the family, and its parameters as a dynamic, multi-level system. To the extent that this general theoretical notion is correct, bounding and linking mechanisms in combination should show a greater association to mental illness and family violence, than either of these two variables would show individually.

These hypotheses were investigated in both clinical and non-clinical samples of 100 families each, as well as in the combined sample of 200 families. Results are summarized as follows:

Bounding and Family Violence

Essentially no relationship was found between bounding and family violence. Although an extremely small degree of positive co-variation was found, the bi-variate relationship was not significant. This was the finding in both samples. When logit analysis was used, it resulted in the same findings. In the testing of a curvilinear model, in which both extremely low and extremely high bounding scores would be related to increased family violence, no significant relationship was found when bounding is regressed on family violence.

The four submechanisms of bounding (patrolling, screening, routing and mapping), showed a somewhat varied pattern of relationships to family violence. A moderately strong, positive relationship (r of .52) was found between screening and family violence. Patrolling

showed a smaller, positive relationship to family violence. Routing showed a weak negative relationship and mapping showed a moderately negative relationship (r of -.32) to family violence.

The first study hypothesis requires that both bounding and linking in combination must be present to show significant effects on family violence. Neither bivariate relationship, in itself, was expected to show a significantly strong co-variation.

One possible interpretation of the lack of a stronger, positive relationship of bounding to family violence is that, extremely low bounding does not allow for tensions to build within the family system, as the perimeter boundary is so diffuse that conflicts are externalized and acted on outside of the family. To support this theory, boundary maintenance functions or mechanisms should show the stronger, positive relationships to family violence. Theoretically, of all bounding submechanisms, screening and patrolling are more closely aligned with boundary maintenance. Kantor and Lehr define screening as the filtering of both incoming and ongoing traffic, permitting some people to pass and prohibiting others. This is seen as helping to establish boundary parameters. With patrolling, family boundaries are reinforced, as patrolling involves guarding or overseeing family boundaries once the parameters have been established.

When the data was examined, this is exactly what was found. Screening had the strongest positive correlation to family violence, and patrolling had a weaker but positive correlation. These relationship trends suggest that family processes and structures which define how rigid and closed the "boundary around the family system" is in relation to other social sub-systems would be an important area of future research in family violence.

The finding that mapping was the only bounding submechanism found to show a moderate, negative relationship to family violence, brings into question its inclusion as a submechanism of bounding. Mapping, in a direct sense, appears to have less to do with "boundary maintenance" than some of the other sub-mechanisms. Yet, Kantor and Lehr still include this process variable within the composite variable of bounding.

Defined as the family's ability to develop its own "map" or "reality picture" of the exterior culture, mapping appears to involve a high degree of interpenetration and meta-communication between family members. This "map" may delineate and indicate the ways that the external culture resembles and differs from the interior of the family. It also delineates people and ideas outside the family that are safe, valued, and important for members. Thus, mapping is a process which helps family members to prioritize values and beliefs, and to

develop an internal cultural map, or social construction of reality, from which family organization and decision making takes place. An example of this may be the families ability to define and be aware of violence norms in American society, how these norms might effect family relationships, and what kinds of precautionary actions to take to prevent family violence from occurring or to make its occurrence less likely.

Although some degree of bounding would be necessary for this process to occur, it would seem to be a secondary process compared to the communication and sharing of information between family members. That these primary processes would most likely be involved, appears to place mapping conceptually closer to linking. The moderate negative relationship of mapping to family violence would support this conceptual change.

The submechanisms of linking also showed a varied pattern in their relationships to family violence. Bridging, channeling and recognizing all showed negative relationships, while blocking and buffering showed weak, positive relationships. These findings support one of the criticisms of the Kantor and Lehr work--the possibility of variable contamination and conceptual unclarity (Finkelhor, 1977). As a variable which appears to do with the family's ability, as a system, to be aware of societal values and the implications of these values for its members, mapping des-

cribes family monitoring and meta-communicational, awareness processes. This appears to be an important aspect of the process of family support, the inter-penetration of perspective between family members, and the ability to communicate at higher levels. As such, mapping appears to be an important aspect of family functioning to further clarify and study--in its own right-- in its relationship to family violence and mental illness.

Bounding and Mental Illness

For both samples together, bounding is positively and significantly related to mental illness. As bounding increases, so does mental illness. When bounding is regressed on mental illness (operationally defined by the Total Symptom Distress Score on the SCL-90 test instrument) the curvilinear model accounts for twice as much variance in the data than the linear model and again shows a significant relationship. Although positive relationship trends are found, the relationship does not hold as significant, across samples. A curvilinear model accounts for more variance in the data in both samples; however, this is again, not at a significant level, when the samples are analyzed separately.

To test for a significant difference in samples, in the relationship between bounding and mental illness,

"sample" was added to the multiple regression as a slope dummy variable. Results show no significant difference between slopes in the two samples. In summary, a positive, but non-significant relationship trend is found across both samples, although the relationship is stronger in the clinical sample. Again, part of the poor predictive power of bounding may be in the lack of concept clarity and the integrity of the composite variable itself. Analysis of the correlation matrix of all submechanisms of bounding appeared to add support to this view, since those submechanisms were not consistently or highly correlated with each other.

Linking and Violence

A significant, negative relationship was found between linking and family violence. When linking increases, family violence decreases. Significant results were also found in the testing of a curvilinear model which found family violence increasing when linking was either extremely low or extremely high. However, these relationships did not remain significant for the two samples separately.

With logit regression, the results are replicated. With combined samples linking shows a highly significant, negative relationship to family violence. This significant relationship holds across both the non-clinical and clinical samples. The curvilinear relationship does not hold up across samples.

Kantor and Lehr have conceptually viewed linking as an intra-systemic distance regulation process, involving both inter-family member support and the establishment of clear boundaries between family members. It was felt that this condition would be most reflected when both linking and bounding were present at a midrange or medium degree, rather than being at low or high extremes. This is why the study hypothesizes the curvilinear relationship between bounding and linking and family violence. Although the hypothesized, curvilinear relationship was partly supported, the study found submechanisms of linking which most closely measure family support to be related to lower family violence.

Of the five submechanisms of linking; bridging, defined as the bringing of family members into closer, voluntary contact with one another, was found to have the strongest negative relationship (r of -.36) to family violence. Both recognizing and channeling were also found to show negative relationships to family violence. Blocking was found to show a weak, positive relationship trend. Buffering was found to show an extremely weak, positive relationship trend to family violence.

Findings indicate that family support is extremely important in decreasing family violence. This is evidenced by looking at sub-mechanisms of linking most

closely aligned with family support. Respectively, the submechanisms of bridging, recognizing, and channeling most closely measure and contribute to family support, but are distinct processes important to study in their own right.

Bridging was seen as most closely aligned with family support and the bringing of family members together in family sharing. Channeling also involves bringing family members together; however, it was seen as being employed to accomplish some goal, rather than support in itself.

Study results found a moderately strong, negative relationship between bridging and family violence. As bridging increased, family violence rates went down. When channeling, the lesser of the family support submechanisms was examined, a negative but somewhat weaker relationship was found with family violence rates. This was expected since " channeling involves family support to a lesser degree, and may involve bringing family members together only to later separate and "channel" members in different directions to get things done" (Kantor and Lehr, 1975). This was seen as accounting for the more goal directed nature of the channeling process.

The submechanism of recognizing showed a weak, significant relationship to family violence. One possible interpretation of the weak relationship is

that recognizing, in itself, is a feedback mechanism with family members providing comments about themselves, their interactions to each other and the effect of these interactions on overall family functioning. The fact that recognizing showed a weak relationship may have to do with its nature as a cognitive, informational variable. As such, recognizing implies no direct change action, and we would predict, on this cognitive basis, that it would show a weaker negative, but significant relationship to family violence.

Study results found buffering to have virtually no relationship to family violence (r of .007). This finding was seen as being both theoretically and statistically interesting. In the field of family studies and family violence, there are divergent conflicting theories about family buffering processes. Buffering was defined in this study as a mechanism of withdrawal and avoidance. It is defined as a maneuver in which different persons or persons and objects voluntarily separate. One the one hand, such buffering may serve to disengage potential family combatants and so lower violence. Yet, on the other hand buffering may also contribute to a buildup of family tensions and unresolved family issues, which later may be discharged through family violence. In this study, the no-relationship finding between buffering and family violence may be reflecting the cancelling out of these

two effects with each other. Both processes may in fact be operative, but within different timeframes. In the short term buffering may have a dampening effect on conflict; in the longer timeframe, it may result in a buildup of tensions and in some cases spilling over into the outcome of violence. In terms of the work of Kantor and Lehr, if buffering would have shown a stronger, positive relationship with family violence this would have supported their theoretical contention that buffering is the obverse of bridging. Bridging showed a significant, negative relationship to family violence. The fact that the relationship of buffering to family violence is very weak points more in the direction of concept ambiguity or the alternative issue that buffering may be identifying the same process, but within two different timeframes.

In the Kantor and Lehr work, the definition and attributes given to buffering and to a larger extent with linking; do not appear to be conceptually clear. For example, perhaps if buffering had greater clarity of concept and greater precision in operational definition, research results would be less ambiguous. Is buffering conceptually closer to withdrawal and avoidance of family members or family issues, or does it contribute to positive, productive, self-enhancing, distance regulation which may contribute to optimal family functioning? Kantor and Lehr go on to state that, "we

must emphasize the importance of the voluntary aspect of buffering , which is the shared realization that something or someone needs to be protected from harm at least temporarily." This definition appears to place buffering closer to being a protective function with aspects of withdrawal and distancing, yet the phrase "needs to be protected from harm", is unclear and misleading.

In summary, combining withdrawal and avoidance with healthy family distancing may be contributing to a lack of precise concept definition and measurement error in the way in which not only buffering is operationally defined, but in a larger sense, the manner in which the composite variable of linking is constructed. For more promising predictive ability, it would be better to break down the composite variable and to do more work on clear concept definition, with each submechanism. Despite, these inherent weaknesses in the integrity of the concept, a significant relationship between linking and family violence was found across samples. As linking increases, family violence decreases.

Linking and Mental Illness

A significant, moderately strong, negative relationship was found between linking and mental illness. This is a robust finding which holds across both samples, and is replicated by both multiple regression

and logit regression techniques. No support was found for any curvilinear relationship between just linking and mental illness. However, it is important to remember that the study hypothesizes, for a curvilinear relationship to be found, both linking and bounding must be in the model. Moving to a curvilinear model to explain the relationship between linking and mental illness does not account for more mental illness score variance and is poor in predictive ability compared to the robust, linear relationship between linking and mental illness. As linking increases, mental illness was found to decrease.

Linking is primarily a variable of family inter-relationship support. Compared to this, bounding, in a sense, primarily addresses systemic boundaries or how rigid or open system boundaries might be. The findings which show mental illness increasing with increased bounding and mental illness decreasing with increased linking point to the importance of both bounding and linking to mental illness in different ways. For example, we can see that the effect of the inter-systemic variable of bounding is quite different than the intra-systemic variable of linking. This is supportive of one of the contentions of this study, the importance of separating out, differentiating, and clearly defining, both intra and inter-systemic variables. Despite some degree of relationship between

these process and structure variables, one has a significant positive relationship to mental illness (bounding) while the other (linking) has a significant, negative relationship. For example, as bounding increases two characteristics of high bounding, system closure and restriction, are seen to have impacts on mental illness. This may partly be do to an increase of tensions within the family system to extreme levels. Or, increased tensions could be associated with thought confusion or fragmentation, which is being picked up on the SCL-90 scale. This appears to be an interesting direction for further research.

With low linking, a lack of family support and interrelationship involvement could also be associated with confusion and a lack of shared family meanings, resulting in a breakdown in the stability of self identity, and at the very least, doubts about oneself. These theoretical ideas could be further tested by the study of the relationship of overarching family types to family violence and mental illness. Findings related to such family types are summarized in the next section.

Family Types, Family Violence and Mental Illness

This study tested the relationship between three overarching family system types with family violence and mental illness. In the study the three family types are designated as "open", "random", and "closed". "Family

Types" were defined as stereo-typic systems which differ in both their structural arrangements and strategic styles. The three different types of systems are based on three different homeostatic models, each type viewed as a variant of the generalized concept of the family as a semi-permeable system. Closed family type is characterized by rigid, closed boundaries and unilateral decision making. This type of family has a hierarchical authority and control structure to the highest degree. Open type families in comparison have more open, flexible boundaries with more consensual decision making. Random type families are flexible to an extreme degree, often lacking any organized authority structure. Random type structure, in terms of control, is often an aggregate of individual styles.

Open Family Type and Family violence

A significant, negative relationship was found between open family type and family violence. As open family type increases, family violence decreases. This is a robust finding in that it is replicated in both non-clinical and clinical samples. These results are also replicated by both least squares regression and logit regression procedure. This finding supports the study hypothesis that open family type would be negatively related to family violence. The study contends that the intervening variable of systemic tension is one of the processes behind a systemic explanation for

increased family violence. The study findings on open family type add credibility to this theory. For example, we would expect systemic tension and the outcome of family violence to be lower in open systems as there are more access points out of the system's boundary and thus less of a chance for tensions to build. Greater access outside of the system allows for more opportunities for interpersonal and emotional support. Both in the clinical literature and in this study regarding the finding of a negative relationship between linking and family violence, family support was seen to be a factor in decreasing family violence. The combination of both of these findings within the same study adds support to the intervening variable of systemic tension as a plausible component of a systems flow process in explaining why family violence is less in open type families.

Open Family Type and Mental Illness

The study hypothesized that a negative relationship would also be found between open family type and mental illness. Findings support the hypothesis, in that a moderately strong, significant negative relationship was found between open family type and mental illness. This significant finding holds across both samples, but in the clinical sample, the relationship is stronger.

In summary, in both samples a significant, negative relationship was found between degree of open family

type and mental illness. As open family type increases, mental illness goes down. The fact that a stronger relationship was found in the clinical sample, points toward the importance of open family type in its effect on decreasing mental illness symptomatology. This finding supports its inclusion in a The Family Structures and Process Questionnaire, and the use of this family assessment instrument in clinical assessment.

Closed Family Type and Family Violence

The study hypothesized a positive relationship between closed family type and family violence. With regression analysis, a significant, positive relationship was found. This relationship did remain as significant in separate samples, although both samples showed a weak positive relationship between closed family type and family violence. To test for a significant difference in samples, "sample" was added to the multiple regression as a slope dummy variable. Results indicated no significant differences in slopes in the two samples.
In the non-clinical sample, a somewhat stronger, although non-significant relationship was found, in comparison to the clinical sample. These relationship trends are supportive of the theory that as family systems become more closed systemic tensions and pressures have more opportunity to build due to limited access outside of the system. The family system may then

undergo a "pressure cooker" effect with spinoff outcomes of family violence and mental illness. Although both full and partial predictive models are developed in this study for family violence and mental illness, an important direction of further research would be to more fully study what factors differentiate outcomes of family violence verses mental illness.

Closed Family Type and Mental Illness

The study hypothesized a positive relationship between closed family type and mental illness. The hypothesis was supported, as closed family type showed a significant, positive relationship with mental illness. This finding was replicated in the non-clinical sample in which, a positive, significant relationship was found. In the clinical sample, a weaker, positive relationship was found, but did not reach significance.

Random Family Type and Family Violence

The study hypothesized a positive relationship between random family type and family violence. The findings were supportive of the hypothesis in that random family type was found to show a positive, significant relationship to family violence. In the non-clinical sample this relationship was replicated. In the clinical sample, a weak positive relationship was found, not significant at the .05 level. To test for significant differences in samples, "sample" was once

again added to the multiple regression as a "dummy" slope variable.

Results showed no significant difference between random family type slopes in the two samples. Findings are similar with both least squares and logit regression.

Random Family Type and Mental Illness

A positive relationship was hypothesized between random family type and mental illness. Finding support the hypothesis. A moderately strong, positive relationship was found between random family type and mental illness. This was replicated in both the clinical and non-clinical samples separately, but was stronger in the clinical sample. These findings are indicative of the predictive power of random family type as a systems variable, in that they occur across samples at high significance levels. In both non-clinical and clinical samples, as random family type increases, mental illness (as measured by the SCL-90 scale), increases. In summary, family type findings, overall show a high degree of robustness and considerable scope. Overall, family system type show good predictive ability with both family violence and mental illness. Theoretically, these robust findings support the importance of overarching systems variables in their use in studies of the family. This study has also supported the notion that general systems theory

concepts, which are often criticized for lacking specificity and usefulness, can be operationalized and brought into explanatory models, not only successfully but with significant results in predictive ability. Lastly, the significant relationships shown between family systems types and mental illness support the inclusion of these concepts in clinical assessment tools such as the Family Structures and Process Questionnaire.

Bounding and Linking and Family Violence

The first specific aim of this research was to was to empirically test the relationship of family structural and process concepts of bounding and linking, on outcomes of family violence and mental illness.

The first specific hypothesis tested was that a curvilinear relationship would be found between bounding and linking and family violence. This hypothesis means that families in which bounding and linking mechanisms are either high (rigid) or low (diffuse) would tend to generate higher levels of family violence in comparison to medium (midrange) levels of these two, independent systemic variables. The hypothesis of a curvilinear model was only partly supported by the findings.

In combined samples, a significant, curvilinear relationship was found between linking and family violence, when bounding is controlled. When linking was both extremely low and high, family violence increased, controlling for bounding. This curvilinear relationship

was not found for bounding. One possible explanation for this latter finding is that with extremely low bounding, we may be seeing the externalization of conflicts and system tension outside of the family system. Theoretically, this may have to do with the lack of family boundaries and the questionable degree of "systemness" or system identity itself. With extremely low bounding, there may be such a diffuse level of family support and family boundaries, that emotional attachments and many involvements occur outside the family, thus decreasing the probability that family members will become emotional targets or targets of physical aggression. With low bounding, the distinction of whats inside and whats outside of the family becomes blurred. The extent to which the family can be called a system is itself brought into question. This may partly explain the positive relationship trend between bounding and family violence.

Although the hypothesized curvilinear relationship was only partly supported, in the multiple regression both bounding and linking did show significant effects in their relationship to family violence. With logit regression , a significant interaction effect was found between bounding and linking when regressed on family violence. That the combination of bounding and linking on family violence, within the linear model, did show significant effects

is important theoretically, as it supports the main theoretical contention of the study- that both bounding and linking should be included in predictive models to more accurately assess inter and intra-systemic effects on family violence and mental illness.

These findings also support general systems theory in its emphasis on multivariate inter-relationships and relational properties between many system elements- on wholeness processes- rather than a focused study on bivariate relationships in isolation. Part of this emphasis on "wholeness" processes involves the study of systems within their relational contexts. For example, whether or not high bounding and linking may be the least functional or optimal family system structure, may depend on the nature of larger cultural or societal structures. "Closed"" family systems may reflect and be meshed more with a particular cultural arrangement of system structure and therefore, may be less "stress" producing or less likely to show high rates of family violence. An interesting direction for further research on the multiple systems level would be to identify larger societal "types" on the same or similar, "open", "random" and "closed" typology; then compare the fit of family types in such outcome variables as family violence and\or mental illness. This would place study findings within more of a relational systemic context. It would also have the advantage of measurement of

larger systemic, cultural or societal characteristics. These societal factors can then be included in a multilevel, systemic explanatory model. In general systems theory it would be extremely important to identify, as precisely as posssible, not only both unique characteristics but commonly shared characteristics of system levels. For example, can family systems and larger societal systems both be studied with the "open", "random", and "closed" typology which has proved so useful in this family system study, or are there unique properties in societal systems which preclude this type of "cross system level analysis"?

Just on the family system level, this study has supported the importance of separating out and recognizing distinct differences between intra and inter-systemic concepts. The finding that both bounding and linking must be included in terms of significant effects on family violence and mental illness also supports the theory in the study, that both intra and inter- systemic variables must be clearly defined, studied separately, and studied in terms of their combined effects on family violence and other outcome variables.

Despite concept definition problems cited with the composite variable nature of bounding and linking, findings in the study have also supported the contention that bounding and linking are indeed separate but inter-related family processes and structures. Bounding has

been found to show a positive relationship trend to family violence and mental illness, and linking has shown a negative relationship-- while both variables have shown a relationship to each other.

The study of bounding and linking processes has also represented an attempt to measure and combine multi-level variables, as the social (bounding), has been combined with the psycho-social (linking). Thus, findings are supportive of the use of this productive multi-level analysis, while pointing out the importance of precise concept definition and construct validity.

Bounding and Linking and Mental Illness

No support was found for the study hypotheses of a curvilinear relationship between bounding and linking and mental illness. It was hypothesized that extremely low and high bounding and linking would result in an increase in mental illness characteristics as operationalized by the SCL-90 Symptom Distress Scale. Another way of describing this relationship is that midrange bounding and linking would produce lower mental illness.

Although the curvilinear hypothesis was not supported, the hypothesis that if bounding and linking were present in the model, greater significant effects would be found was highly supported by the findings.

The fact that a significant, negative relationship was found between linking and mental illness in separate

clinical and non-clinical samples, emphasizes the importance of this variable. As linking increases, mental illness decreases. Particularly in the clinical sample, the highly significant effect of linking on mental illness (Prob:<.001), points toward the predictive power of the concept and its usefulness in the family strategies and structures questionnaire, as a clinical assessment tool in both diagnosis and treatment of mental illness. For example, knowing that higher linking is associated with lower rates of mental illness, can be useful in establishing clinical goals with families. The clinician may advise the family to increase various aspects of linking in an attempt to decrease various aspects of family pathology. Included but not limited to these symptoms may be the depression of one family member or a high tension level, manifest in the whole family.

When linking was controlled, bounding also showed a highly significant relationship to mental illness. As bounding increased mental illness increased. This also suggests the usefulness of the bounding concept, as part of the family structures and processes questionnaire as an effective, clinical measurement tool for family diagnostic assessment and treatment purposes.

Why would overall higher symptom distress scores on the SCL-90 measurement instrument be related to bounding

at increased levels? Within the general systems theory framework, we would look toward more system wide processes that might account for the significant positive relationship between bounding and mental illness. The study theorizes that one such system wide process which might help explain the relationship between bounding and mental illness is that of "systemic tension". Systemic tension, a latent and unmeasured variable in the study, is felt to involve a general state of the system characterized by interactional stresses of and between family members. For example, the stress, frustration and conflicts of individual family members which might arise from unmet expectations, unrealized goals, or felt demands goes from the individual family member toward contributing to interactional tension in the system. The tension then becomes more than the sum of characteristics of family members, but an interactional, "whole" product of the system. As bounding increases and systems become more closed, it may be more likely for higher levels of system tension to develop as system boundaries are more closed with less access out of the system for tensions to dissipate. This can be thought of as a "pressure cooker" effect in family systems. One can speculate that if these built-up tensions are externalized family violence may be the more likely outcome. If internalized, characteristic symptoms measured by the SCL-90 index, such as

depression, anxiety, and thought confusion may result. For support of the theory that system wide processes such as systemic tension can have significant effects on family violence and mental illness, we would look toward other overarching, systemic variables such as family system types and expect to find highly significant effects on family violence and mental illness outcomes. This is in fact what we find.

Bounding, Linking, Family Types and Family Violence and Mental Illness

In the study, "family types" or in measurement terms--overall dimensions of family system characteristics-- are defined as general system types, through which the specific structural and process variables of bounding and linking take place. As such, family types serve as moderating parameters, or moderator variables-- overarching system structures through which the mechanisms of bounding and linking operate.

The third specific hypothesis tested in this study was that closed and random family system types would generate higher levels of family violence and mental illness than open system type. This hypothesis was strongly supported by the findings. Both family violence and mental illness means were almost twice as high with closed family type compared to open family type. Also,

random family type showed significantly higher family violence and mental illness means, when compared to open family type.

To support the theory of "family types" as over-arching, system-wide variables, we would expect to find significant effects on family violence and mental illness. In the multiple regression with bounding and linking, we would also expect family type to show the greater significant effect and stronger overall relationship. Almost without exception, and across samples, findings supported this theoretical notion. Moderately strong relationships were found between family system types and both mental illness and family violence. The strong, negative relationship between open family type, family violence and mental illness, has important clinical implications. These findings may be translatable into a more research informed, practical approaches to therapeutic work with families. For example, with the Family Structures and Processes Assessment tool, an assessment can be made to determine overall family system type. The family can then gain awareness of its own system patterns in work with the therapist, and suggested changes and adjustments can be made which may decrease unwanted outcomes, whether this be in the form of decreasing heightened family conflict and violence or lessening mental illness symptomatology.

The predictive power of the Family Structures and

Processes Questionnaire as a clinical assessment tool in the measurement of family systems was supported by both significant effects and moderately strong relationships between family system types and family violence and mental illness. Although these relationships were significant across samples, stronger relationships were found, almost without exception, in the clinical sample. Regarding the Family Structures and Process Questionnaire, including family system type in the measurement instrument allows for yet another way to measure family rigidity vs. flexibility patterns. This is seen in the maximized vertical authority structure of the closed type family system verses consensual decision making processes in open type families. Thus, including family type in the study and in the measurement tool, provides a way to more accurately determine the rigidity of system elements within the family, how much structural strain and deviance is permitted, and overall, what predominate patterns characterize the family as a system.

Family Violence and Mental Illness as Outcomes

The study initially hypothesized that the non-clinical and clinical samples would be markedly different on the outcome variables of mental illness and family violence. It was theorized that the non-clinical sample would be characterized by externalized stress or

systemic tension. Accordingly,, family violence was expected to be higher in the non-clinical sample. In the clinical sample, the opposite was assumed. It was anticipated that total family violence scores would be lower, explained by the theory that stress or systemic tension would be internalized and result in high symptom distress scores, while at the same time decreasing family violence scores or the potential for family violence. Thus, the mental illness mean for the clinical sample was theorized to be high, while the family violence mean was expected to be low or lower than in the non-clinical sample. This was not found in the study. The clinical sample had both a significantly higher family violence mean and mental illness mean compared to the non-clinical sample. In the clinical sample, both of these means were approximately twice as high. This supports the alternative theory that, impacts of extreme bounding and linking and family types such as conflict, disorganization, stress or systemic tension, as an intervening variable, are being channeled into both outcomes of family violence and mental illness. To further support this contention, we should find a positive correlation between family violence and mental illness within families. This is what was found as the correlation between family violence and mental illness is moderate and positive. It appears as if, whatever processes are

occurring, effects are being channeled into both family violence and mental illness. An important direction for further research would be to attempt to find what factors might differentiate one outcome from another, or make mental illness or family violence more likely to occur? Within the clinical sample, for the most part, stronger relationships are found between bounding and linking and mental illness, but significant relationships were also found between bounding and linking and family violence. More work needs to be done on identifying what factors would differentiate one outcome from another. This would be extremely important in the ability to more accurately predict these outcomes, which can effect the lives and well being of both children and adults in the family.

In summary, although the hypothesized curvilinear relationships between bounding and linking, family violence and mental illness were only partly supported here; significant linear relationships were found when bounding and linking were combined within the same model. For the most part, these relationships held across samples. The even more robust, significant findings between family system type and family violence and mental illness point to the usefulness of general systems theory as an explanatory framework, and the predictive power of systems concepts toward both predicting and explaining mental illness and

family violence. The development of full and partial predictive models found linking and closed family type to have significant effects on family violence. Bounding, linking, random family type and closed family type were found to have significant effects on mental illness and in the partial (significant only) model were therefore, seen as significant predations of mental illness. Partial clinical and non-clinical models were developed. In both models, linking was found to be a significant predictor of family violence. In the non-clinical model, bounding, random family type and closed family type were found to be significant predictors of mental illness. In the clinical model, closed family type and random family type were found to have significant effects on mental illness. Both were seen as significant predictors of mental illness. Random family type has a particularly strong effect on mental illness. Study findings are also supportive of the theoretical contention-- that more "normal range" family structure and process variables should not be overlooked in their impacts and relationships to both family violence and mental illness.

REFERENCES

Angel, Robert Cooley
1936 The Family Encounters the Depression. New York: Charles Scribner and Sons.

Bowen, Murray
1966 "The Use of Family Therapy in Clinical Practice" Comprehensive Psychiatry 7. (October) :335-374.

Bertalanffy, Ludwig Von
1968 General Systems Theory: Foundations, Development, Applications. New York:Braziller

Buckley, Walter
1967 Sociology and Modern Systems Theory. New Jersey: Prentice Hall

Cambell, D.T., and D.W. Fiske
1959 "Convergent and Discriminate Validation by the Multitrait-Multimethod Matrix

Cavan, Ruth Schone and Katherine Ranck
1938 The Family and the Depression. Chicago-Illinois: University of Chicago Press

Gelles, Richard J. and Murray A. Straus
1979 "Determination of Violence in the Family: toward a Theoretical Integration" In Wesley R. Burr et al. (eds.) Contemporary Theories About the Family. New York:Free Press

Hamilton, Lawrence C.
1990 Statistics with Stata. California: Brooks/Cole

Handel, Gerald
1967 The Psycho-Social Interior of the Family

Hill, R.
1949 Families Under Stress. New York:Harper and Row

Kantor, David and William Lehr
1975 Inside the Family: Toward a Theory of Family Process. Hagerstown, Va.: Harper and Row

Minuchin, Salvator
1974 Families and Family Therapy. Cambridge, Mass.: Harvard University Press

O'Brien, John E.
1971 "Violence in Divorce-Prone Families" Journal of Marriage and the Family 33 (November): 692-698

Olson, D.H., and C.S. Russel
1990 "A Test of the Olson Circumplex Model: Examining Its Curvilinear Assumption and the Presence of Extreme Types." Family Process 309

Olson, D.H., D.H. Sprenkle, and C.S. Russel
1979 "Circumplex Model of Marital and Family Systems. I: Cohesion and Adaptability Dimensions, Family Types and Clinical Applications." Family Process 18: 3-28

Parsons, T. and R. Bales and Edward A. Shils
1953 Working Papers in the Theory of Action. Glencoe Illnois: Free Press

Parsons, T.
1951 The Social System. New York Free Press

Straus, Murray A.
1977: Wife Beating: How Common and Why? Victimology: An International Journal 2: 443-458

Straus, Murray A.
1979 "Measuring Intrafamily Conflict and Violence: The Conflict Tactics Scales." Journal of Marriage and The Family. 41 (February): 75-88

Straus, Murray A. and Gerald T. Hotaling (Eds.) The
1979 Social Causes of Husband-Wife Violence. Minneapolis: University of Minnesota Press

Sztompka, Piotr
1974 System and Function: Toward a Theory of Society. New York Academic Press

Turner, Johnathan H.
1978 The Structure of Sociological Theory. Georgetown, Ontario: The Dorsey Press

Zeitlin, Irving M.
1968 Ideology and the Development of Sociological Theory. New Jersey: Prentice Hall

APPENDICES

Table A3-1 Regression of Family Violence on Bounding

```
. regress TV TBOUND
(obs=188)

   Source |       SS       df       MS              Number of obs =     188
----------+------------------------------           F(  1,   186) =    0.00
    Model |  .962762023     1  .962762023           Prob > F      =  0.9728
 Residual |  153393.138   186  824.694292           R-square      =  0.0000
----------+------------------------------           Adj R-square  = -0.0054
    Total |  153394.101   187  820.289311           Root MSE      =  28.717

 Variable |  Coefficient     Std. Error      t     Prob > |t|       Mean
----------+-------------------------------------------------------------
       TV |                                                       14.56915
----------+-------------------------------------------------------------
   TBOUND |     .0096153        .281418    0.034      0.973       41.29787
    _cons |     14.17206       11.80918    1.200      0.232              1
----------+-------------------------------------------------------------

. regress TV TBOUND if sample == 0
(obs=98)

   Source |       SS       df       MS              Number of obs =      98
----------+------------------------------           F(  1,    96) =    0.21
    Model |  14.0835844     1  14.0835844           Prob > F      =  0.6502
 Residual |  6533.46744    96  68.0569525           R-square      =  0.0022
----------+------------------------------           Adj R-square  = -0.0082
    Total |  6547.55102    97   67.500526           Root MSE      =  8.2497

 Variable |  Coefficient     Std. Error      t     Prob > |t|       Mean
----------+-------------------------------------------------------------
       TV |                                                       4.326531
----------+-------------------------------------------------------------
   TBOUND |     .0666437        .1465004    0.455      0.650       39.9898
    _cons |     1.661462        5.917494    0.281      0.779              1
----------+-------------------------------------------------------------

. regress TV TBOUND if sample == 1
(obs=90)

   Source |       SS       df       MS              Number of obs =      90
----------+------------------------------           F(  1,    88) =    0.84
    Model |  1181.7953      1   1181.7953           Prob > F      =  0.3626
 Residual |  124188.26     88  1411.23023           R-square      =  0.0094
----------+------------------------------           Adj R-square  = -0.0018
    Total |  125370.056    89  1408.65231           Root MSE      =  37.566

 Variable |  Coefficient     Std. Error      t     Prob > |t|       Mean
----------+-------------------------------------------------------------
       TV |                                                       25.72222
----------+-------------------------------------------------------------
   TBOUND |    -.4140919        .4525062   -0.915      0.363       42.72222
    _cons |     43.41315       19.73346    2.200      0.030              1
----------+-------------------------------------------------------------
```

Table A3-2. Logit Regression of Family Violence on Bounding

```
. logit TVd TBOUND

Iteration 0:  Log Likelihood =-122.89218
Iteration 1:  Log Likelihood =-122.67278
Iteration 2:  Log Likelihood =-122.67269

Logit Estimates                                   Number of obs =     192
                                                  chi2(1)       =    0.44
Log Likelihood =-122.67269                        Prob > chi2   =  0.5076

------------------------------------------------------------------------------
 Variable |  Coefficient    Std. Error      t     Prob > |t|       Mean
----------+-------------------------------------------------------------------
      TVd |                                                        .6614583
----------+-------------------------------------------------------------------
   TBOUND |     .0137516      .0208642     0.659     0.511       41.40104
    _cons |     .1021736      .8720613     0.117     0.907              1
------------------------------------------------------------------------------

. logit TVd TBOUND if sample == 0

Iteration 0:  Log Likelihood =-67.928424
Iteration 1:  Log Likelihood =-67.756187
Iteration 2:  Log Likelihood =-67.756181

Logit Estimates                                   Number of obs =      98
                                                  chi2(1)       =    0.34
Log Likelihood =-67.756181                        Prob > chi2   =  0.5573

------------------------------------------------------------------------------
 Variable |  Coefficient    Std. Error      t     Prob > |t|       Mean
----------+-------------------------------------------------------------------
      TVd |                                                              .5
----------+-------------------------------------------------------------------
   TBOUND |    -.0209427       .035847    -0.584     0.560       39.9898
    _cons |     .8373996      1.447251     0.579     0.564              1
------------------------------------------------------------------------------

. logit TVd TBOUND if sample == 1

Iteration 0:  Log Likelihood =-42.885001
Iteration 1:  Log Likelihood =-42.880554
Iteration 2:  Log Likelihood =-42.880553

Logit Estimates                                   Number of obs =      94
                                                  chi2(1)       =    0.01
Log Likelihood =-42.880553                        Prob > chi2   =  0.9249

------------------------------------------------------------------------------
 Variable |  Coefficient    Std. Error      t     Prob > |t|       Mean
----------+-------------------------------------------------------------------
      TVd |                                                        .8297872
----------+-------------------------------------------------------------------
   TBOUND |       .00301      .0319407     0.094     0.925       42.87234
    _cons |     1.455296         1.392     1.045     0.299              1
------------------------------------------------------------------------------
```

Table A3-3. Regression of Mental Illness on Bounding

```
. regress TSDS TBOUND
(obs=164)

   Source |       SS       df       MS              Number of obs =     164
----------+------------------------------           F(  1,   162) =    6.41
    Model |  28759.2245     1  28759.2245           Prob > F      =  0.0123
 Residual |  727069.428   162  4488.08289           R-square      =  0.0380
----------+------------------------------           Adj R-square  =  0.0321
    Total |  755828.652   163   4636.9856           Root MSE      =  66.993

 Variable |  Coefficient     Std. Error      t     Prob > |t|       Mean
----------+-------------------------------------------------------------
     TSDS |                                                      106.2744
----------+-------------------------------------------------------------
   TBOUND |      1.855734       .7330904    2.531     0.012      41.18902
    _cons |      29.83852       30.64509    0.974     0.332             1
----------+-------------------------------------------------------------

. regress TSDS TBOUND if sample == 0
(obs=96)

   Source |       SS       df       MS              Number of obs =      96
----------+------------------------------           F(  1,    94) =    0.02
    Model |  38.1429957     1  38.1429957           Prob > F      =  0.8870
 Residual |  176605.513    94  1878.78206           R-square      =  0.0002
----------+------------------------------           Adj R-square  = -0.0104
    Total |  176643.656    95  1859.40691           Root MSE      =  43.345

 Variable |  Coefficient     Std. Error      t     Prob > |t|       Mean
----------+-------------------------------------------------------------
     TSDS |                                                      78.65625
----------+-------------------------------------------------------------
   TBOUND |      .1105394       .7757965    0.142     0.887      40.0625
    _cons |      74.22777       31.39361    2.364     0.020             1
----------+-------------------------------------------------------------

. regress TSDS TBOUND if sample == 1
(obs=68)

   Source |       SS       df       MS              Number of obs =      68
----------+------------------------------           F(  1,    66) =    2.17
    Model |  12801.8815     1  12801.8815           Prob > F      =  0.1457
 Residual |  389781.354    66  5905.77809           R-square      =  0.0318
----------+------------------------------           Adj R-square  =  0.0171
    Total |  402583.235    67    6008.705           Root MSE      =  76.849

 Variable |  Coefficient     Std. Error      t     Prob > |t|       Mean
----------+-------------------------------------------------------------
     TSDS |                                                      145.2647
----------+-------------------------------------------------------------
   TBOUND |      1.610508       1.093867    1.472     0.146      42.77941
    _cons |      76.36812       47.71395    1.601     0.114             1
----------+-------------------------------------------------------------
```

Table A3-4. Curvilinear Regression: Mental Illness on Bounding

```
. Table A3-4 Curvilinear Regression: Mental Illness on Bounding
Unrecognized command
R(199);

. regress TSDS TBOUND TBOUNDsq
(obs=164)

   Source|       SS         df       MS              Number of obs =     164
---------+------------------------------              F(  2,   161) =    6.41
   Model|  55755.6037        2  27877.8019           Prob > F      =  0.0021
Residual|  700073.049      161  4348.27981           R-square      =  0.0738
---------+------------------------------              Adj R-square  =  0.0623
   Total|  755828.652      163  4636.9856            Root MSE      =  65.941

Variable|  Coefficient   Std. Error      t     Prob > |t|      Mean
---------+--------------------------------------------------------------------
    TSDS|                                                     106.2744
---------+--------------------------------------------------------------------
  TBOUND|   -11.14494    5.267271    -2.116       0.036      41.18902
TBOUNDsq|    .1484515    .0595786     2.492       0.014      1747.457
   _cons|    305.9108    114.8298     2.664       0.009             1
---------+--------------------------------------------------------------------
```

Table A3-5. Regression of Family Violence on Linking

```
. regress TV TLINK
(obs=191)

   Source |       SS       df       MS              Number of obs =     191
----------+------------------------------           F(  1,   189) =   10.51
    Model |   8116.7788     1   8116.7788           Prob > F      =  0.0014
 Residual |  145968.321   189  772.319157           R-square      =  0.0527
----------+------------------------------           Adj R-square  =  0.0477
    Total |  154085.099   190  810.974208           Root MSE      =  27.791

 Variable |  Coefficient   Std. Error      t     Prob > |t|      Mean
----------+-------------------------------------------------------------
       TV |                                                     14.3822
----------+-------------------------------------------------------------
    TLINK |    -.6981666     .2153603    -3.242     0.001      49.1623
    _cons |     48.70568     10.77687     4.519     0.000            1
----------+-------------------------------------------------------------

. regress TV TLINK if sample == 0
(obs=100)

   Source |       SS       df       MS              Number of obs =     100
----------+------------------------------           F(  1,    98) =    3.02
    Model |   196.27309     1   196.27309           Prob > F      =  0.0854
 Residual |  6371.43691    98  65.0146623           R-square      =  0.0299
----------+------------------------------           Adj R-square  =  0.0200
    Total |     6567.71    99  66.3405051           Root MSE      =  8.0632

 Variable |  Coefficient   Std. Error      t     Prob > |t|      Mean
----------+-------------------------------------------------------------
       TV |                                                      4.27
----------+-------------------------------------------------------------
    TLINK |    -.1898872     .1092876    -1.737     0.085      51.69
    _cons |     14.08527     5.706331     2.468     0.015            1
----------+-------------------------------------------------------------

. regress TV TLINK if sample == 1
(obs=91)

   Source |       SS       df       MS              Number of obs =      91
----------+------------------------------           F(  1,    89) =    2.00
    Model |  2769.15523     1  2769.15523           Prob > F      =  0.1609
 Residual |  123285.592    89  1385.23137           R-square      =  0.0220
----------+------------------------------           Adj R-square  =  0.0110
    Total |  126054.747    90   1400.6083           Root MSE      =  37.219

 Variable |  Coefficient   Std. Error      t     Prob > |t|      Mean
----------+-------------------------------------------------------------
       TV |                                                     25.49451
----------+-------------------------------------------------------------
    TLINK |    -.5297479     .3746768    -1.414     0.161      46.38462
    _cons |     50.06666      17.8118     2.811     0.006            1
----------+-------------------------------------------------------------
```

Table A3-6. Curvilinear Regression: Family Violence on Linking

```
. regress TV TLINK TLINKsq
(obs=191)

   Source |       SS       df       MS              Number of obs =     191
----------+------------------------------           F(  2,   188) =    7.53
    Model |  11431.435      2   5715.7175           Prob > F      =  0.0007
 Residual |  142653.664   188  758.796088           R-square      =  0.0742
----------+------------------------------           Adj R-square  =  0.0643
    Total |  154085.099   190  810.974208           Root MSE      =  27.546

 Variable | Coefficient   Std. Error      t     Prob > |t|      Mean
----------+-------------------------------------------------------------
       TV |                                                    14.3822
----------+-------------------------------------------------------------
    TLINK |  -4.044173    1.615091    -2.504      0.013       49.1623
  TLINKsq |   .0353308    .0169043     2.090      0.038       2504.115
    _cons |   124.7307     37.9108     3.290      0.001              1
----------+-------------------------------------------------------------

. regress TV TLINK
(obs=191)

   Source |       SS       df       MS              Number of obs =     191
----------+------------------------------           F(  1,   189) =   10.51
    Model |  8116.7788      1   8116.7788           Prob > F      =  0.0014
 Residual |  145968.321   189  772.319157           R-square      =  0.0527
----------+------------------------------           Adj R-square  =  0.0477
    Total |  154085.099   190  810.974208           Root MSE      =  27.791

 Variable | Coefficient   Std. Error      t     Prob > |t|      Mean
----------+-------------------------------------------------------------
       TV |                                                    14.3822
----------+-------------------------------------------------------------
    TLINK |  -.6981666    .2153603    -3.242      0.001       49.1623
    _cons |   48.70568    10.77687     4.519      0.000              1
----------+-------------------------------------------------------------
```

Table A3-7. Logit Regression of Family Violence on Linking

```
Iteration 0:  Log Likelihood =-125.46063
Iteration 1:  Log Likelihood =-115.42977
Iteration 2:  Log Likelihood =-115.18086
Iteration 3:  Log Likelihood =-115.18012

Logit Estimates                                   Number of obs =     195
                                                  chi2(1)       =   20.56
Log Likelihood =-115.18012                        Prob > chi2   =  0.0000

 Variable|  Coefficient    Std. Error      t     Prob > |t|       Mean
---------+--------------------------------------------------------------
      TVd|                                                      .6564103
---------+--------------------------------------------------------------
    TLINK|    -.0812197      .0194467    -4.177     0.000      49.14872
    _cons|     4.728094      1.008778     4.687     0.000             1
---------+--------------------------------------------------------------

. logit TVd TLINK if sample == 0

Iteration 0:  Log Likelihood =-69.314718
Iteration 1:  Log Likelihood =-66.298626
Iteration 2:  Log Likelihood =-66.290533
Iteration 3:  Log Likelihood =-66.290533

Logit Estimates                                   Number of obs =     100
                                                  chi2(1)       =    6.05
Log Likelihood =-66.290533                        Prob > chi2   =  0.0139

 Variable|  Coefficient    Std. Error      t     Prob > |t|       Mean
---------+--------------------------------------------------------------
      TVd|                                                           .5
---------+--------------------------------------------------------------
    TLINK|    -.0694835      .0294246    -2.361     0.020         51.69
    _cons|     3.594591      1.538344     2.337     0.021             1
---------+--------------------------------------------------------------

. logit TVd TLINK if sample == 1

Iteration 0:  Log Likelihood = -44.63039
Iteration 1:  Log Likelihood = -41.37092
Iteration 2:  Log Likelihood =-41.213241
Iteration 3:  Log Likelihood =-41.212534

Logit Estimates                                   Number of obs =      95
                                                  chi2(1)       =    6.84
Log Likelihood =-41.212534                        Prob > chi2   =  0.0089

 Variable|  Coefficient    Std. Error      t     Prob > |t|       Mean
---------+--------------------------------------------------------------
      TVd|                                                      .8210526
---------+--------------------------------------------------------------
    TLINK|    -.0720789      .0292177    -2.467     0.015      46.47368
    _cons|     5.041835      1.512986     3.332     0.001             1
---------+--------------------------------------------------------------
```

Table A3-8. Regression of Mental Illness on Linking

```
. regress TSDS TLINK
(obs=168)

   Source |       SS       df       MS              Number of obs =     168
----------+------------------------------           F(  1,   166) =   32.27
    Model |  125653.008     1  125653.008           Prob > F      =  0.0000
 Residual |  646363.51    166  3893.75609           R-square      =  0.1628
----------+------------------------------           Adj R-square  =  0.1577
    Total |  772016.518   167   4622.8534           Root MSE      =   62.40

 Variable |  Coefficient     Std. Error      t     Prob > |t|       Mean
----------+-------------------------------------------------------------
     TSDS |                                                      105.8036
----------+-------------------------------------------------------------
    TLINK |    -3.015098       .5307614    -5.681     0.000      49.34524
    _cons |     254.5843       26.62934     9.560     0.000             1
----------+-------------------------------------------------------------

. regress TSDS TLINK if sample == 0
(obs=98)

   Source |       SS       df       MS              Number of obs =      98
----------+------------------------------           F(  1,    96) =    4.32
    Model |  7851.31752     1  7851.31752           Prob > F      =  0.0404
 Residual |  174558.642    96  1818.31918           R-square      =  0.0430
----------+------------------------------           Adj R-square  =  0.0331
    Total |  182409.959    97  1880.51504           Root MSE      =  42.642

 Variable |  Coefficient     Std. Error      t     Prob > |t|       Mean
----------+-------------------------------------------------------------
     TSDS |                                                      77.97959
----------+-------------------------------------------------------------
    TLINK |    -1.216023       .5852019    -2.078     0.040      51.72449
    _cons |     140.8778       30.57422     4.608     0.000             1
----------+-------------------------------------------------------------

. regress TSDS TLINK if sample == 1
(obs=70)

   Source |       SS       df       MS              Number of obs =      70
----------+------------------------------           F(  1,    68) =   10.33
    Model |  53757.8511     1  53757.8511           Prob > F      =  0.0020
 Residual |  353763.02     68  5202.39736           R-square      =  0.1319
----------+------------------------------           Adj R-square  =  0.1191
    Total |  407520.871    69  5906.09959           Root MSE      =  72.128

 Variable |  Coefficient     Std. Error      t     Prob > |t|       Mean
----------+-------------------------------------------------------------
     TSDS |                                                      144.7571
----------+-------------------------------------------------------------
    TLINK |    -2.736081       .8511571    -3.215     0.002      46.01429
    _cons |     270.6559       40.10296     6.749     0.000             1
----------+-------------------------------------------------------------
```

Table A3-9. Curvilinear Regression: Mental Illness on Linking

```
. regress TSDS TLINK TLINKsq
(obs=168)

   Source |       SS       df       MS              Number of obs =     168
----------+------------------------------           F(  2,   165) =   16.04
    Model |  125659.468     2  62829.7342           Prob > F      =  0.0000
 Residual |  646357.049   165  3917.31545           R-square      =  0.1628
----------+------------------------------           Adj R-square  =  0.1526
    Total |  772016.518   167   4622.8534           Root MSE      =  62.588

 Variable | Coefficient     Std. Error      t     Prob > |t|       Mean
----------+-------------------------------------------------------------
     TSDS |                                                     105.8036
----------+-------------------------------------------------------------
    TLINK |   -2.848237       4.143052    -0.687     0.493      49.34524
  TLINKsq |   -.0017505       .0431045    -0.041     0.968      2517.226
    _cons |     250.757       97.95314     2.560     0.011             1
----------+-------------------------------------------------------------
```

Table A3-10. Regression of Family Violence on Open Family Type

```
. regress TV FamO
(obs=196)

   Source |       SS       df       MS              Number of obs =     196
----------+------------------------------           F(  1,   194) =   20.72
    Model |  14969.0934     1  14969.0934            Prob > F      =  0.0000
 Residual |  140164.065   194  722.495179            R-square      =  0.0965
----------+------------------------------           Adj R-square  =  0.0918
    Total |  155133.158   195  795.554657            Root MSE      =  26.879

 Variable |  Coefficient   Std. Error      t     Prob > |t|      Mean
----------+-------------------------------------------------------------
       TV |                                                     14.40306
----------+-------------------------------------------------------------
     FamO |    -2.702587     .5937443    -4.552    0.000       3.668367
    _cons |     24.31714      2.90348     8.375    0.000              1
----------+-------------------------------------------------------------

. regress TV FamO if sample == 0
(obs=100)

   Source |       SS       df       MS              Number of obs =     100
----------+------------------------------           F(  1,    98) =    6.71
    Model |  420.896389     1  420.896389            Prob > F      =  0.0110
 Residual |  6146.81361    98  62.7225879            R-square      =  0.0641
----------+------------------------------           Adj R-square  =  0.0545
    Total |     6567.71    99  66.3405051            Root MSE      =  7.9198

 Variable |  Coefficient   Std. Error      t     Prob > |t|      Mean
----------+-------------------------------------------------------------
       TV |                                                      4.27
----------+-------------------------------------------------------------
     FamO |    -.6880765     .2656202    -2.590    0.011            5.1
    _cons |     7.77919      1.569184     4.957    0.000              1
----------+-------------------------------------------------------------

. regress TV FamO if sample == 1
(obs=96)

   Source |       SS       df       MS              Number of obs =      96
----------+------------------------------           F(  1,    94) =    4.00
    Model |  5205.42528     1  5205.42528            Prob > F      =  0.0484
 Residual |  122396.408    94  1302.08945            R-square      =  0.0408
----------+------------------------------           Adj R-square  =  0.0306
    Total |  127601.833    95  1343.17719            Root MSE      =  36.084

 Variable |  Coefficient   Std. Error      t     Prob > |t|      Mean
----------+-------------------------------------------------------------
       TV |                                                     24.95833
----------+-------------------------------------------------------------
     FamO |    -2.648678     1.324712    -1.999    0.048       2.177083
    _cons |     30.72473     4.677706     6.568    0.000              1
----------+-------------------------------------------------------------
```

Table A3-11. Logit Regression of Family Violence on Open Family Type

```
. logit TVd FamO

Iteration 0:  Log Likelihood =-128.20709
Iteration 1:  Log Likelihood =-112.69365
Iteration 2:  Log Likelihood =-112.48988
Iteration 3:  Log Likelihood =-112.48962

Logit Estimates                                   Number of obs =     200
                                                  chi2(1)       =   31.43
Log Likelihood =-112.48962                        Prob > chi2   =  0.0000

------------------------------------------------------------------------------
 Variable|  Coefficient     Std. Error       t     Prob > |t|       Mean
---------+--------------------------------------------------------------------
      TVd|                                                              .66
---------+--------------------------------------------------------------------
     FamO|     -.2707612       .0514741    -5.260      0.000          3.655
    _cons|       1.75514       .2759851     6.360      0.000              1
------------------------------------------------------------------------------

. logit TVd FamO if sample == 0

Iteration 0:  Log Likelihood =-69.314718
Iteration 1:  Log Likelihood =-64.645842
Iteration 2:  Log Likelihood =-64.633229
Iteration 3:  Log Likelihood =-64.633228

Logit Estimates                                   Number of obs =     100
                                                  chi2(1)       =    9.36
Log Likelihood =-64.633228                        Prob > chi2   =  0.0022

------------------------------------------------------------------------------
 Variable|  Coefficient     Std. Error       t     Prob > |t|       Mean
---------+--------------------------------------------------------------------
      TVd|                                                              .5
---------+--------------------------------------------------------------------
     FamO|     -.2139819       .0728832    -2.936      0.004          5.1
    _cons|      1.094404       .4294814     2.548      0.012            1
------------------------------------------------------------------------------

. regress TVd FamO if sample == 1
(obs=100)

------------------------------------------------------------------------------
   Source|       SS         df       MS              Number of obs =     100
---------+--------------------------------           F(  1,    98) =    7.82
    Model|  1.09100346       1  1.09100346           Prob > F      =  0.0062
 Residual|  13.6689965      98  .139479557           R-square      =  0.0739
---------+--------------------------------           Adj R-square  =  0.0645
    Total|       14.76      99  .149090909           Root MSE      =  .37347

------------------------------------------------------------------------------
 Variable|  Coefficient     Std. Error       t     Prob > |t|       Mean
---------+--------------------------------------------------------------------
      TVd|                                                              .82
---------+--------------------------------------------------------------------
     FamO|     -.0373376       .0133502    -2.797      0.006          2.21
    _cons|       .902516        .047595    18.962      0.000              1
------------------------------------------------------------------------------
```

Table A3-12 Regression of Mental Illness on Open Family Type

```
. regress TSDS FamO
(obs=169)

   Source |       SS       df       MS              Number of obs =     169
----------+------------------------------           F(  1,   167) =   74.21
    Model |  237744.535     1  237744.535           Prob > F      =  0.0000
 Residual |  535007.252   167  3203.63624           R-square      =  0.3077
----------+------------------------------           Adj R-square  =  0.3035
    Total |  772751.787   168  4599.71302           Root MSE      =  56.601

 Variable |  Coefficient   Std. Error      t     Prob > |t|       Mean
----------+-------------------------------------------------------------
     TSDS |                                                     105.9645
----------+-------------------------------------------------------------
     FamO |   -11.47325    1.331842    -8.615     0.000       3.893491
    _cons |    150.6355    6.770967    22.247     0.000              1
----------+-------------------------------------------------------------

. regress TSDS FamO if sample == 0
(obs=98)

   Source |       SS       df       MS              Number of obs =      98
----------+------------------------------           F(  1,    96) =   15.29
    Model |  25059.5972     1  25059.5972           Prob > F      =  0.0002
 Residual |  157350.362    96  1639.06627           R-square      =  0.1374
----------+------------------------------           Adj R-square  =  0.1284
    Total |  182409.959    97  1880.51504           Root MSE      =  40.485

 Variable |  Coefficient   Std. Error      t     Prob > |t|       Mean
----------+-------------------------------------------------------------
     TSDS |                                                     77.97959
----------+-------------------------------------------------------------
     FamO |   -5.326463    1.362229    -3.910     0.000       5.132653
    _cons |    105.3185    8.100069    13.002     0.000              1
----------+-------------------------------------------------------------

. regress TSDS FamO if sample == 1
(obs=71)

   Source |       SS       df       MS              Number of obs =      71
----------+------------------------------           F(  1,    69) =   25.92
    Model |  111310.797     1  111310.797           Prob > F      =  0.0000
 Residual |  296346.358    69  4294.87475           R-square      =  0.2731
----------+------------------------------           Adj R-square  =  0.2625
    Total |  407657.155    70  5823.67364           Root MSE      =  65.535

 Variable |  Coefficient   Std. Error      t     Prob > |t|       Mean
----------+-------------------------------------------------------------
     TSDS |                                                     144.5915
----------+-------------------------------------------------------------
     FamO |   -14.04076    2.758019    -5.091     0.000       2.183099
    _cons |    175.2439    9.835851    17.817     0.000              1
----------+-------------------------------------------------------------
```

Table A3-13. Regression of Family Violence on Closed Family Type

```
. regress TV FamC
(obs=196)

   Source|       SS         df       MS              Number of obs =     196
---------+------------------------------              F(  1,   194) =    9.83
    Model|  7479.26389       1  7479.26389            Prob > F      =  0.0020
 Residual|  147653.894      194  761.102548           R-square      =  0.0482
---------+------------------------------              Adj R-square  =  0.0433
    Total|  155133.158      195  795.554657           Root MSE      =  27.588

 Variable|  Coefficient     Std. Error      t     Prob > |t|      Mean
---------+-------------------------------------------------------------
      TV|                                                        14.40306
---------+-------------------------------------------------------------
    FamC|      2.424296       .7733532     3.135     0.002      2.454082
   _cons|       8.45364        2.73589     3.090     0.002             1
---------+-------------------------------------------------------------

. regress TV FamC if sample == 0
(obs=100)

   Source|       SS         df       MS              Number of obs =     100
---------+------------------------------              F(  1,    98) =    0.66
    Model|  44.1097233       1  44.1097233            Prob > F      =  0.4176
 Residual|  6523.60028      98  66.5673498           R-square      =  0.0067
---------+------------------------------              Adj R-square  = -0.0034
    Total|     6567.71      99  66.3405051           Root MSE      =  8.1589

 Variable|  Coefficient     Std. Error      t     Prob > |t|      Mean
---------+-------------------------------------------------------------
      TV|                                                         4.27
---------+-------------------------------------------------------------
    FamC|      .4366867       .5364552     0.814     0.418         1.37
   _cons|      3.671739       1.098096     3.344     0.001            1
---------+-------------------------------------------------------------

. regress TV FamC if sample == 1
(obs=96)

   Source|       SS         df       MS              Number of obs =      96
---------+------------------------------              F(  1,    94) =    0.51
    Model|  685.825846       1  685.825846            Prob > F      =  0.4778
 Residual|  126916.007      94  1350.17029           R-square      =  0.0054
---------+------------------------------              Adj R-square  = -0.0052
    Total|  127601.833      95  1343.17719           Root MSE      =  36.745

 Variable|  Coefficient     Std. Error      t     Prob > |t|      Mean
---------+-------------------------------------------------------------
      TV|                                                        24.95833
---------+-------------------------------------------------------------
    FamC|      .9251248       1.298039     0.713     0.478      3.583333
   _cons|       21.6433       5.974857     3.622     0.000             1
---------+-------------------------------------------------------------
```

Table A3-14. Logit Regression of Family Violence on Closed Family Type

```
Iteration 0:  Log Likelihood =-128.20709
Iteration 1:  Log Likelihood =-119.64603
Iteration 2:  Log Likelihood =-119.27442
Iteration 3:  Log Likelihood =-119.27129
Iteration 4:  Log Likelihood =-119.27129

Logit Estimates                                   Number of obs =     200
                                                  chi2(1)       =   17.87
Log Likelihood =-119.27129                        Prob > chi2   =  0.0000

 Variable|  Coefficient    Std. Error      t     Prob > |t|       Mean
---------+--------------------------------------------------------------
      TVd|                                                          .66
---------+--------------------------------------------------------------
     FamC|      .2877817       .076344    3.770     0.000          2.49
    _cons|      .0449404      .2081847    0.216     0.829             1
---------+--------------------------------------------------------------

. logit TVd FamC if sample == 0

Iteration 0:  Log Likelihood =-69.314718
Iteration 1:  Log Likelihood =-67.712998
Iteration 2:  Log Likelihood =-67.710986
Iteration 3:  Log Likelihood =-67.710986

Logit Estimates                                   Number of obs =     100
                                                  chi2(1)       =    3.21
Log Likelihood =-67.710986                        Prob > chi2   =  0.0733

 Variable|  Coefficient    Std. Error      t     Prob > |t|       Mean
---------+--------------------------------------------------------------
      TVd|                                                           .5
---------+--------------------------------------------------------------
     FamC|      .2418483      .1386131    1.745     0.084          1.37
    _cons|     -.3271407      .2734413   -1.196     0.234             1
---------+--------------------------------------------------------------

. logit TVd FamC if sample == 1

Iteration 0:  Log Likelihood =-47.139349
Iteration 1:  Log Likelihood =-45.625248
Iteration 2:  Log Likelihood =-45.583014
Iteration 3:  Log Likelihood =-45.582929

Logit Estimates                                   Number of obs =     100
                                                  chi2(1)       =    3.11
Log Likelihood =-45.582929                        Prob > chi2   =  0.0777

 Variable|  Coefficient    Std. Error      t     Prob > |t|       Mean
---------+--------------------------------------------------------------
      TVd|                                                          .82
---------+--------------------------------------------------------------
     FamC|      .1713146      .1023397    1.674     0.097          3.61
    _cons|      .9737977      .3858453    2.524     0.013             1
---------+--------------------------------------------------------------
```

Table A3-15. Regression of Mental Illness on Closed Family Type

```
. regress TSDS FamC
(obs=169)

   Source |       SS       df       MS              Number of obs =     169
----------+------------------------------           F(  1,   167) =   21.12
    Model |  86768.3162     1  86768.3162           Prob > F      =  0.0000
 Residual |  685983.471   167  4107.68545           R-square      =  0.1123
----------+------------------------------           Adj R-square  =  0.1070
    Total |  772751.787   168  4599.71302           Root MSE      =  64.091

 Variable |  Coefficient     Std. Error      t     Prob > |t|       Mean
----------+-------------------------------------------------------------
     TSDS |                                                      105.9645
----------+-------------------------------------------------------------
     FamC |     9.375842       2.039991     4.596     0.000      2.242604
    _cons |      84.9382       6.725731    12.629     0.000             1
----------+-------------------------------------------------------------

. regress TSDS FamC if sample == 0
(obs=98)

   Source |       SS       df       MS              Number of obs =      98
----------+------------------------------           F(  1,    96) =    5.69
    Model |  10207.4455     1  10207.4455           Prob > F      =  0.0190
 Residual |  172202.514    96  1793.77618           R-square      =  0.0560
----------+------------------------------           Adj R-square  =  0.0461
    Total |  182409.959    97  1880.51504           Root MSE      =  42.353

 Variable |  Coefficient     Std. Error      t     Prob > |t|       Mean
----------+-------------------------------------------------------------
     TSDS |                                                      77.97959
----------+-------------------------------------------------------------
     FamC |     6.672512       2.797145     2.385     0.019      1.387755
    _cons |      68.71978       5.776836    11.896     0.000             1
----------+-------------------------------------------------------------

. regress TSDS FamC if sample == 1
(obs=71)

   Source |       SS       df       MS              Number of obs =      71
----------+------------------------------           F(  1,    69) =    1.35
    Model |  7828.42793     1  7828.42793           Prob > F      =  0.2491
 Residual |  399828.727    69  5794.61923           R-square      =  0.0192
----------+------------------------------           Adj R-square  =  0.0050
    Total |  407657.155    70  5823.67364           Root MSE      =  76.122

 Variable |  Coefficient     Std. Error      t     Prob > |t|       Mean
----------+-------------------------------------------------------------
     TSDS |                                                      144.5915
----------+-------------------------------------------------------------
     FamC |     3.650887       3.141041     1.162     0.249      3.422535
    _cons |      132.0963       14.04222     9.407     0.000             1
----------+-------------------------------------------------------------
```

Table A3-16. Regression of Family Violence on Random Family Type

```
Iteration 0:  Log Likelihood =-128.20709
Iteration 1:  Log Likelihood =-124.65949
Iteration 2:  Log Likelihood =-124.63417
Iteration 3:  Log Likelihood =-124.63416

Logit Estimates                                   Number of obs =    200
                                                  chi2(1)       =   7.15
Log Likelihood =-124.63416                        Prob > chi2   = 0.0075

------------------------------------------------------------------------------
 Variable|  Coefficient    Std. Error      t     Prob > |t|       Mean
---------+--------------------------------------------------------------------
      TVd|                                                            .66
---------+--------------------------------------------------------------------
     FamR|      .1493161       .0576628     2.589     0.010          3.795
    _cons|      .1255896       .2481699     0.506     0.613              1
------------------------------------------------------------------------------

. logit TVd FamR if sample == 0

Iteration 0:  Log Likelihood =-69.314718
Iteration 1:  Log Likelihood = -66.21947
Iteration 2:  Log Likelihood =-66.210937
Iteration 3:  Log Likelihood =-66.210936

Logit Estimates                                   Number of obs =    100
                                                  chi2(1)       =   6.21
Log Likelihood =-66.210936                        Prob > chi2   = 0.0127

------------------------------------------------------------------------------
 Variable|  Coefficient    Std. Error      t     Prob > |t|       Mean
---------+--------------------------------------------------------------------
      TVd|                                                             .5
---------+--------------------------------------------------------------------
     FamR|      .2026024       .0846709     2.393     0.019          3.51
    _cons|     -.7049992       .3558984    -1.981     0.050              1
------------------------------------------------------------------------------

. logit TVd FamR if sample == 1

Iteration 0:  Log Likelihood =-47.139349
Iteration 1:  Log Likelihood =-46.861863
Iteration 2:  Log Likelihood =-46.860669
Iteration 3:  Log Likelihood =-46.860669

Logit Estimates                                   Number of obs =    100
                                                  chi2(1)       =   0.56
Log Likelihood =-46.860669                        Prob > chi2   = 0.4553

------------------------------------------------------------------------------
 Variable|  Coefficient    Std. Error      t     Prob > |t|       Mean
---------+--------------------------------------------------------------------
      TVd|                                                             .82
---------+--------------------------------------------------------------------
     FamR|      .0666674       .0902984     0.738     0.462          4.08
    _cons|      1.256771       .4246088     2.960     0.004              1
------------------------------------------------------------------------------
```

Table A3-17 Logit Regression of Family Violence on Random Family Type

```
. regress TV FamR
(obs=196)

   Source |       SS       df       MS              Number of obs =     196
----------+------------------------------           F(  1,   194) =    3.93
    Model |  3081.13706     1  3081.13706           Prob > F      =  0.0488
 Residual |  152052.021   194  783.773305           R-square      =  0.0199
----------+------------------------------           Adj R-square  =  0.0148
    Total |  155133.158   195  795.554657           Root MSE      =  27.996

 Variable |  Coefficient   Std. Error      t     Prob > |t|      Mean
----------+-------------------------------------------------------------
       TV |                                                     14.40306
----------+-------------------------------------------------------------
     FamR |     1.422166     .7172821     1.983     0.049      3.816327
    _cons |     8.975612     3.390001     2.648     0.009             1
----------+-------------------------------------------------------------

. regress TV FamR if sample == 0
(obs=100)

   Source |       SS       df       MS              Number of obs =     100
----------+------------------------------           F(  1,    98) =    6.42
    Model |  404.057829     1  404.057829           Prob > F      =  0.0128
 Residual |  6163.65217    98  62.8944099           R-square      =  0.0615
----------+------------------------------           Adj R-square  =  0.0519
    Total |     6567.71    99  66.3405051           Root MSE      =  7.9306

 Variable |  Coefficient   Std. Error      t     Prob > |t|      Mean
----------+-------------------------------------------------------------
       TV |                                                        4.27
----------+-------------------------------------------------------------
     FamR |     .7842281     .3094045     2.535     0.013         3.51
    _cons |     1.517359     1.344753     1.128     0.262            1
----------+-------------------------------------------------------------

. regress TV FamR if sample == 1
(obs=96)

   Source |       SS       df       MS              Number of obs =      96
----------+------------------------------           F(  1,    94) =    0.91
    Model |  1222.07586     1  1222.07586           Prob > F      =  0.3428
 Residual |  126379.757    94  1344.46551           R-square      =  0.0096
----------+------------------------------           Adj R-square  = -0.0010
    Total |  127601.833    95  1343.17719           Root MSE      =  36.667

 Variable |  Coefficient   Std. Error      t     Prob > |t|      Mean
----------+-------------------------------------------------------------
       TV |                                                     24.95833
----------+-------------------------------------------------------------
     FamR |     1.201008     1.259713     0.953     0.343      4.135417
    _cons |     19.99166     6.414289     3.117     0.002             1
----------+-------------------------------------------------------------
```

Table A3-18. Regression of Mental Illness on Random Family Type

```
. regress TSDS FamR
(obs=169)

   Source|       SS         df       MS              Number of obs =     169
---------+------------------------------              F(  1,   167) =   23.44
    Model|  95095.1288       1  95095.1288           Prob > F      =  0.0000
 Residual|  677656.658      167   4057.8243           R-square      =  0.1231
---------+------------------------------              Adj R-square  =  0.1178
    Total|  772751.787      168  4599.71302           Root MSE      =  63.701

 Variable|  Coefficient     Std. Error      t     Prob > |t|       Mean
---------+--------------------------------------------------------------
     TSDS|                                                       105.9645
---------+--------------------------------------------------------------
     FamR|     8.443086       1.744089     4.841     0.000       3.846154
    _cons|     73.49109       8.307138     8.847     0.000              1
---------+--------------------------------------------------------------

. regress TSDS FamR if sample == 0
(obs=98)

   Source|       SS         df       MS              Number of obs =      98
---------+------------------------------              F(  1,    96) =    8.02
    Model|  14055.9479       1  14055.9479           Prob > F      =  0.0057
 Residual|  168354.011       96  1753.68762           R-square      =  0.0771
---------+------------------------------              Adj R-square  =  0.0674
    Total|  182409.959       97  1880.51504           Root MSE      =  41.877

 Variable|  Coefficient     Std. Error      t     Prob > |t|       Mean
---------+--------------------------------------------------------------
     TSDS|                                                       77.97959
---------+--------------------------------------------------------------
     FamR|     4.655923       1.644568     2.831     0.006       3.469388
    _cons|     61.82639       7.102757     8.705     0.000              1
---------+--------------------------------------------------------------

. regress TSDS FamR if sample == 1
(obs=71)

   Source|       SS         df       MS              Number of obs =      71
---------+------------------------------              F(  1,    69) =    9.93
    Model|  51284.1513       1  51284.1513           Prob > F      =  0.0024
 Residual|  356373.004       69  5164.82614           R-square      =  0.1258
---------+------------------------------              Adj R-square  =  0.1131
    Total|  407657.155       70  5823.67364           Root MSE      =  71.867

 Variable|  Coefficient     Std. Error      t     Prob > |t|       Mean
---------+--------------------------------------------------------------
     TSDS|                                                       144.5915
---------+--------------------------------------------------------------
     FamR|     8.865605       2.813485     3.151     0.002       4.366197
    _cons|     105.8826       14.95481     7.080     0.000              1
---------+--------------------------------------------------------------
```

Figue A3-1. Boxplots of Bounding Showing Sample Differences
(non-clinical = 0, clinical = 1)

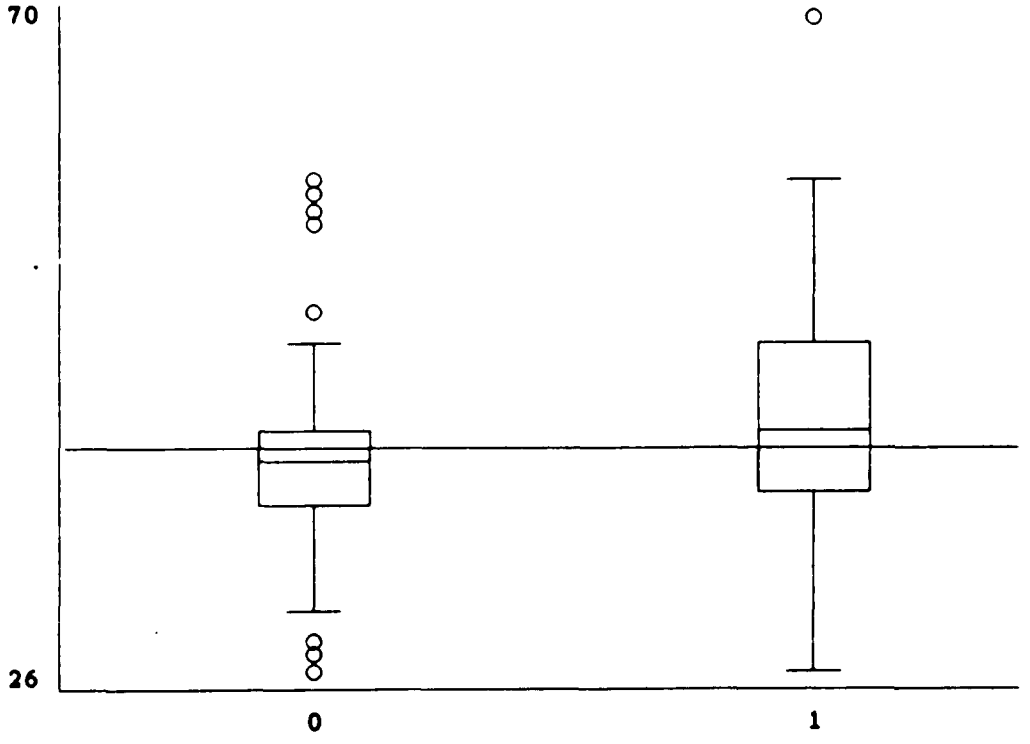


Figure A3-2. Boxplots of Mapping Showing Sample Differences
(non-clinical= 0, clinical= 1)

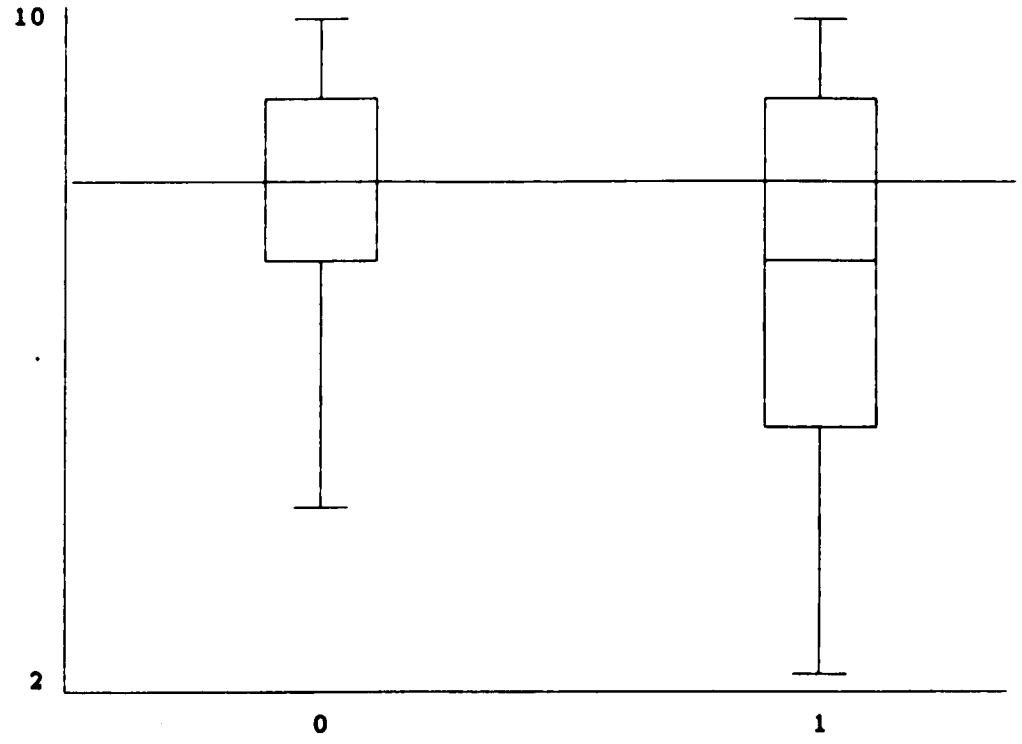


Figure A3-3. Boxplots of Routing Showing Sample Differences
(non-clinical= 0, clinical= 1)

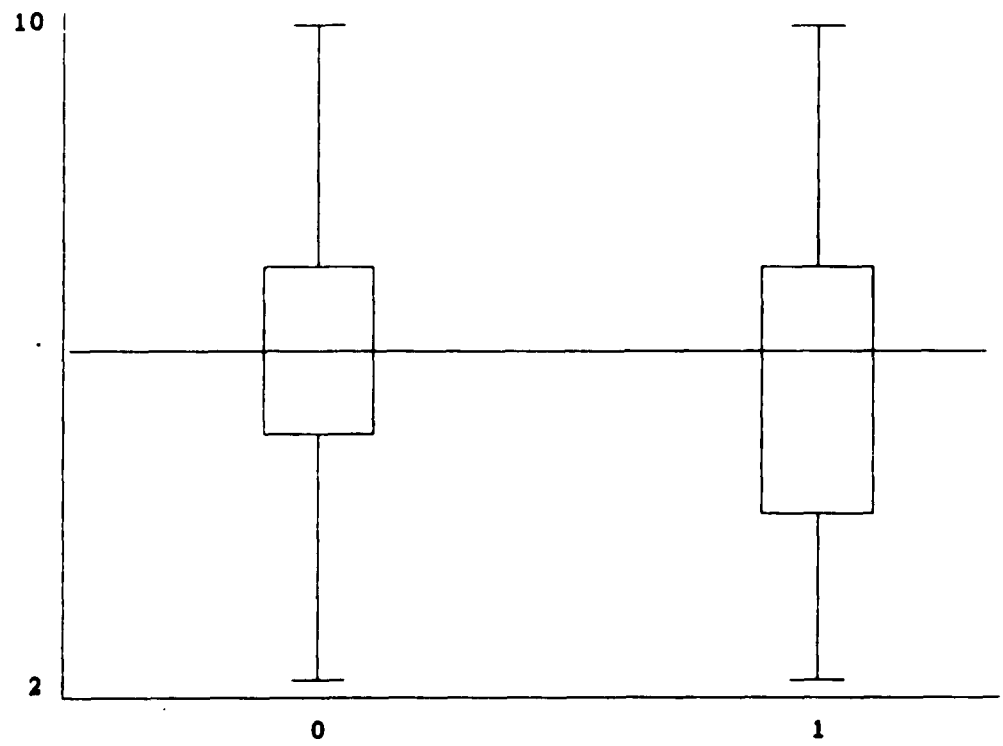


Figure A3-4. Boxplots of Screening Showing Sample Differences
(non-clinical= 0, clinical= 1)

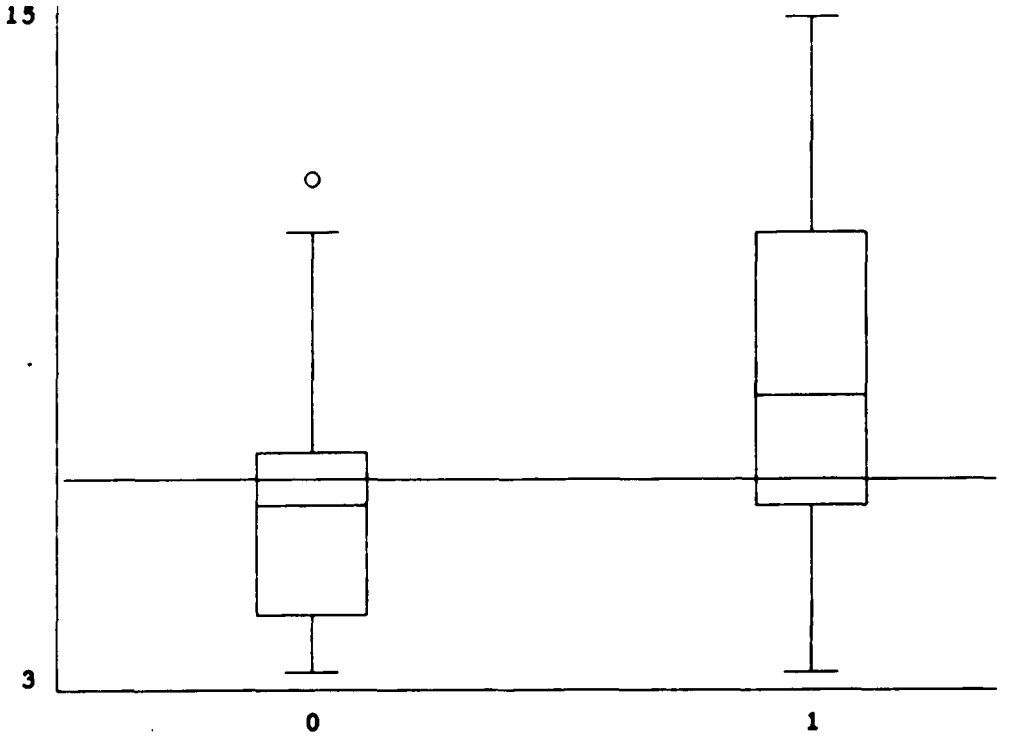


Figure A3-5. Boxplots of Patrolling Showing Sample Differences
(non-clinical= 0, clinical= 1)

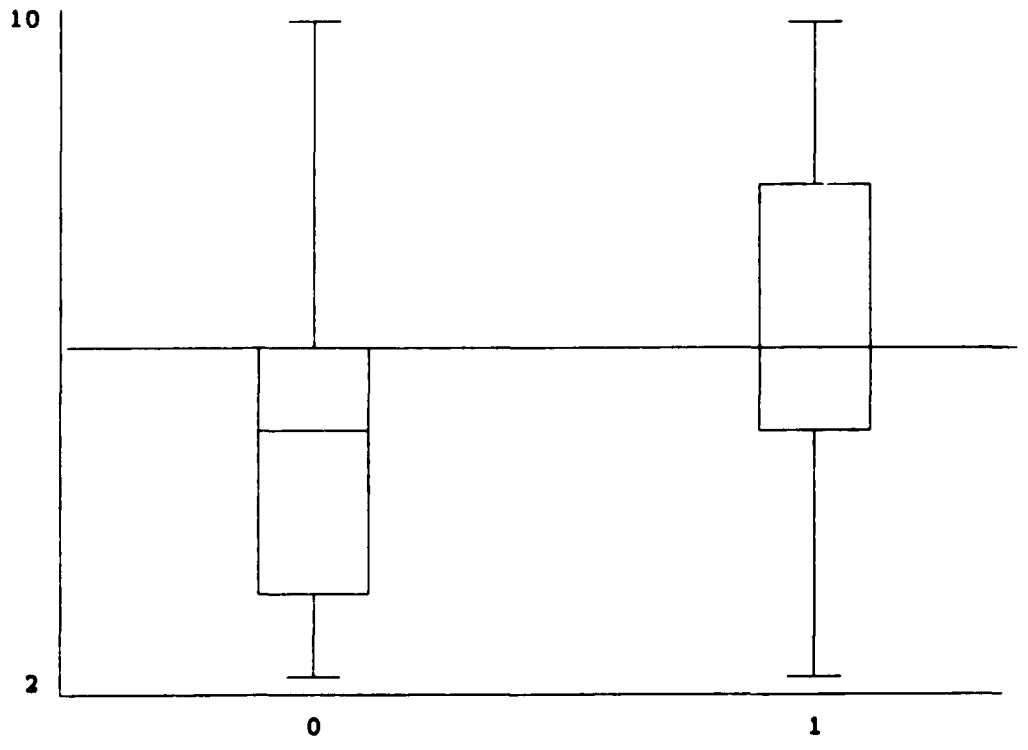


Figure A3-6. Boxplots of Linking Showing Sample Differences
(non-clinical= 0, clinical= 1)

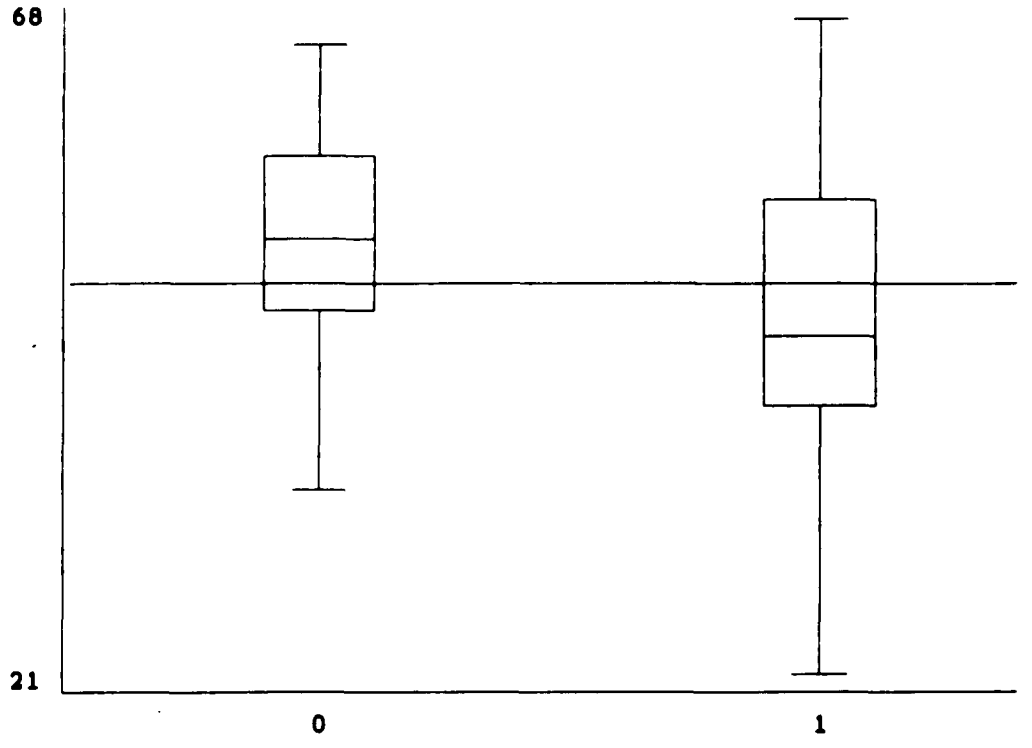


Figure A3-7. Boxplots of Bridging Showing Sample Differences
(non-clinical= 0, clinical= 1)

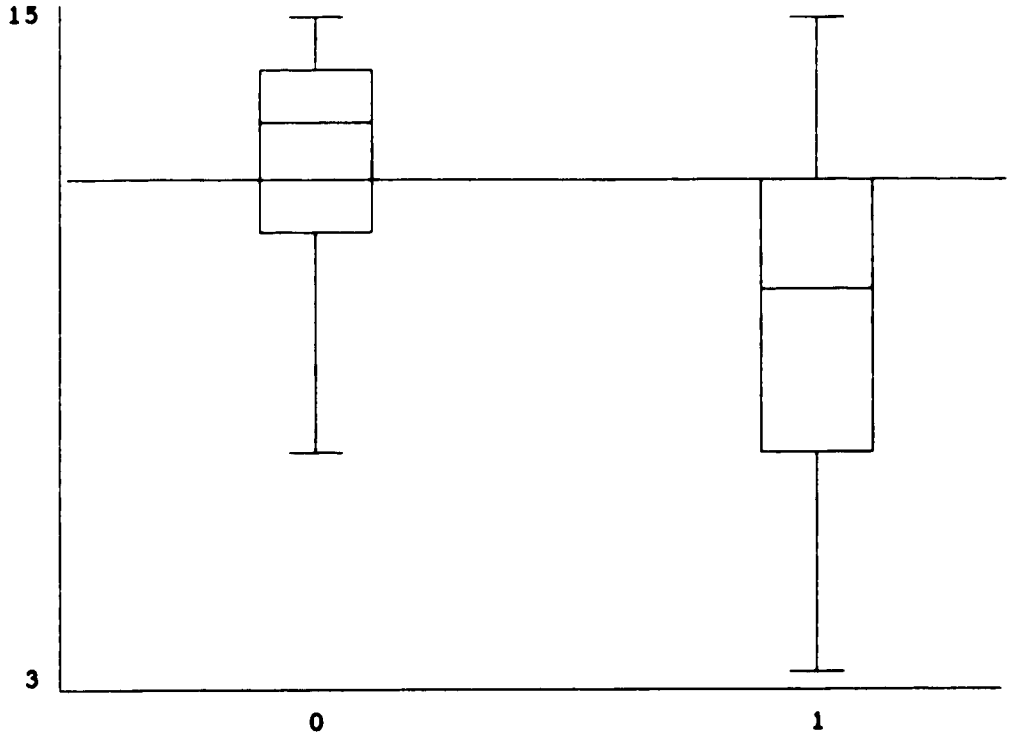


Figure A3-8. Boxplots of Buffering Showing Sample Differences
(non-clinical= 0, clinical= 1)

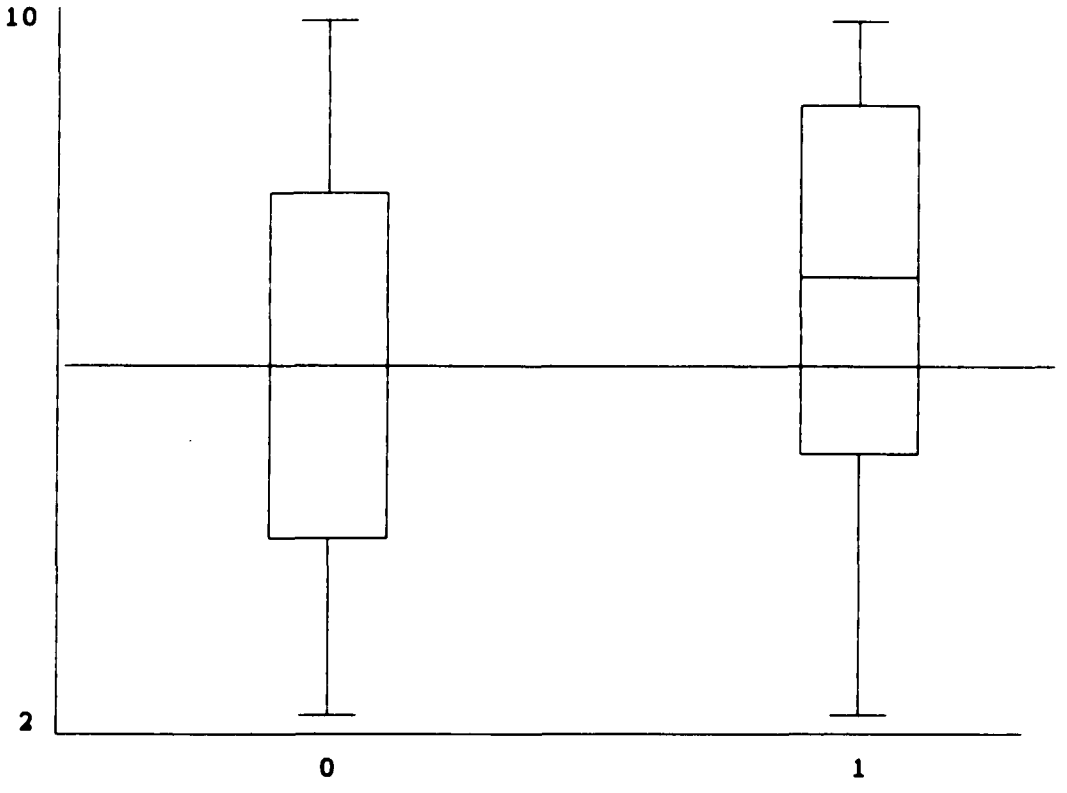


Figure A3-9. Boxplots of Blocking Showing Sample Differences
(non-clinical= 0, clinical= 1)

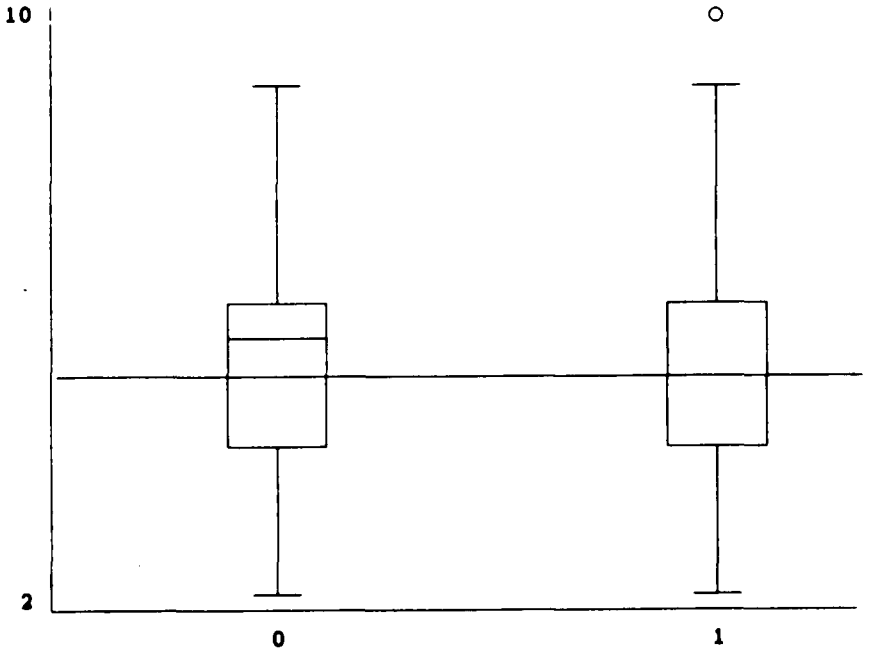


Figure A3-10. Boxplots of Channeling Showing Sample Differences
(non-clinical= 0, clinical= 1)

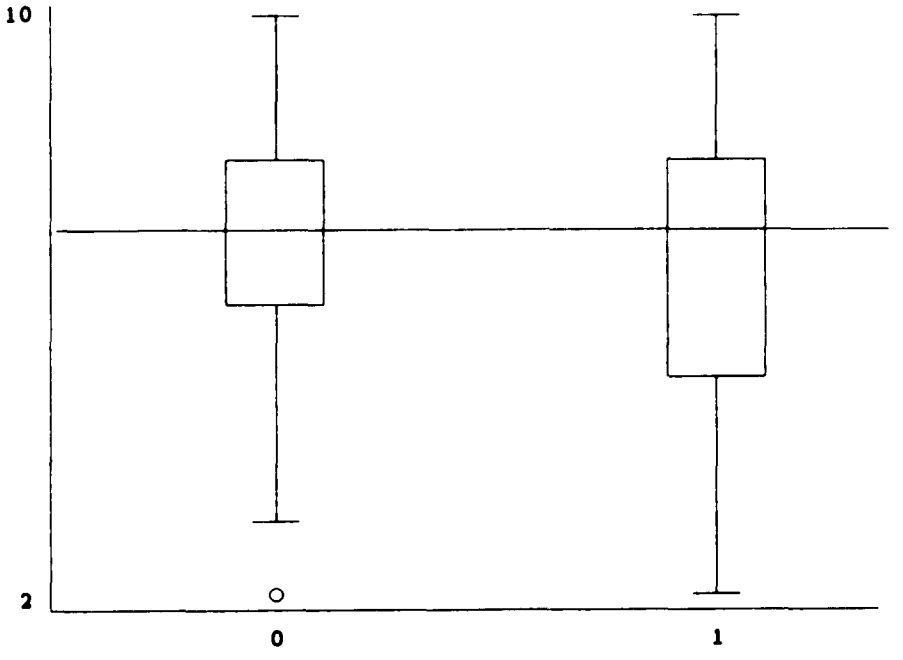
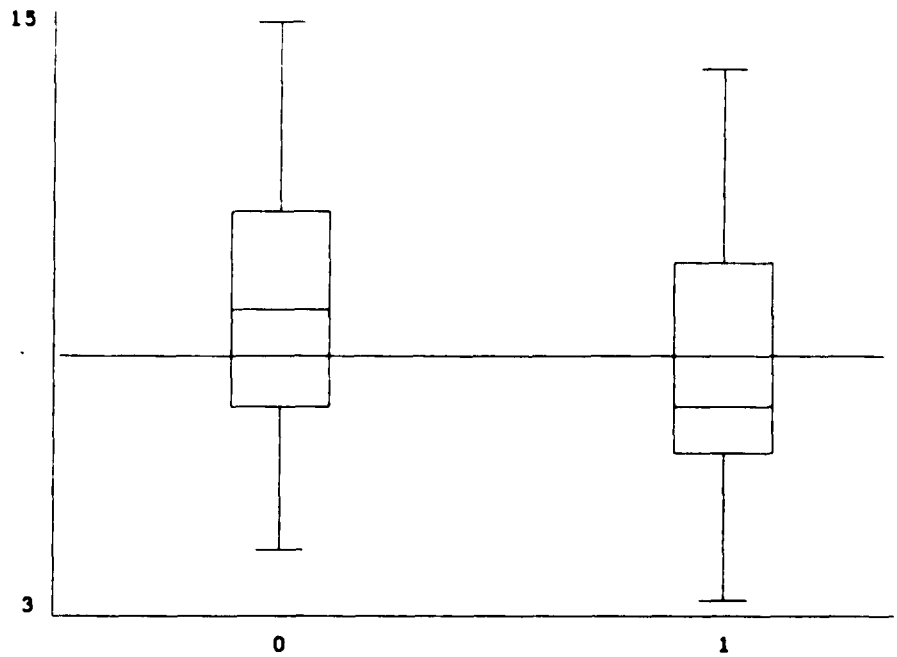


Figure A3-11. Boxplots of Recognizing Showing Sample Differences
(non-clinical= 0, clinical= 1)



INFORMED CONSENT AGREEMENT

DESCRIPTION OF STUDY

You are being asked to participate in a project that will provide knowledge of how families function, and how the family helps its' members to deal with stress and conflict which all families face.

Your participation in this study is voluntary and all information obtained will remain totally confidential. This research study will also explore how the family functions and deals with tension, and how conflicts and anxieties are created, maintained, increased and decreased within the family and between family members.

Through your help and participation, a study of this type may be helpful in the prevention or decrease of both mental illness and family violence.

****

CONSENT AGREEMENT

As a subject in this study, I will be asked to participate on a voluntary basis in the following procedures:

1) Answer a questionnaire on aspects of family functioning,

2) Agree to be measured on the Conflicts Tactics Scale (a measure of family conflict).

THESE PROCEDURES SHOULD NOT RESULT IN ANY SHORT OR LONG TERM DISCOMFORTS AND/OR RISKS.

* *

I, _____ hereby agree to participate in this project. I am giving my consent with the understanding that:

1) Any questions that I have about the project will be answered to my complete satisfaction.

2) No agreements have been made by me in connection with my involvement in this project, other than those stated in the above designated procedures.

3) All information gained from me as a result of my participation in this project will remain confidential, such confidentiality conforming to state laws and codes of professional ethics.

4. Any answers which I provide will not limit any service normally received at New Hampshire Hospital.

5) I may withdraw entirely from any part of this agreement and the project at any time without consequence or penalty to me.

DATE: _____ RESEARCH SUBJECT: _____

DATE: _____ PRINCIPAL INVESTIGATOR:
or RESEARCH ASSISTANT

PLEASE CIRCLE ONLY ONE ANSWER FOR EACH QUESTION

1.) My family makes it difficult to meet new people.

1	2	3	4	5
strongly disagree	moderately disagree	undecided	moderately agree	strongly agree

2.) Which one of the following statements most accurately describes your family:

a.) When your family has conflicts, most any family member tries to settle the dispute.
b.) When your family has conflicts, it is difficult to tell who will try to settle the dispute
c.) When your family has conflicts only those in authority will try to settle the dispute.

3.) My family almost always talks about the same things.

1	2	3	4	5
strongly disagree	moderately disagree	undecided	moderately agree	strongly agree

4.) How regularly does your family "get together" ? (The term get together specifically means the sharing of meaningful, close conversation)

1	2	3	4	5
never	rarely	sometimes	frequently	very often

5.) Has your family helped you to establish what is safe and highly valued in (American) life? (How certain is your family about which people and items outside the family are safe or worthwhile for family members, and those that are not?)

1	2	3	4	5
never	rarely	sometimes	frequently	very often

6.) Does your family keep to a schedule, and do members know where each other are?

1	2	3	4	5
never	rarely	sometimes	frequently	very often

7.) Which one of the following statements most accurately describes your family:

a.) In a crisis, most family members come to help.
b.) In a crisis family members help out, but it is hard to tell which family members will help out.
c.) In a family crisis, family members typically in authority are the ones to help out.

8.) Does your family make it difficult for you to be alone?

1 2 3 4 5
/ very often / frequently / sometimes / rarely / never /

9.) In difficult times we ask our neighbors for help.

1 2 3 4 5
/ strongly agree / moderately agree / undecided / moderately disagree / strongly disagree

10.)Overall, my family has few rules and regulations.

1 2 3 4 5
/ strongly agree / moderately agree / undecided / moderately disagree / strongly disagree/

11.)We rarely discuss what my family is like and how it operates:

1 2 3 4 5
/ strongly agree / moderately agree / undecided / moderately disagree / strongly disagree/

12.)Which statement is most like your family:

a.) Most everyone pitches in to discuss what is working well and poorly in my family.
b.) It is difficult to get family members to sit down and discuss what is working well and poorly in my family.
c.) In my family those in authority are the only family members who discuss what is working well and poorly.

13.)My family has helped me to understand what is important in life:

1 2 3 4 5
/ never / rarely / sometimes / frequently / very often /

14.)Which one of the following statements most accurately describes your family:

a.) My family discusses together what is important and what is not important in life.
b.) My family has many different viewpoints and often disagrees about values and beliefs.
c.) In my family traditional values and beliefs are most important.

15.)Which statement is most like your family:

a.) Those in authority, along with other family members pitch in when it comes to trying to solve family problems.
b.) In my family, it is hard to tell who might set in to try to solve a family problem.
c.) In my family, those in authority deal with family problems.

16.)Just about everyone in my family goes their own way.

1 2 3 4 5
/ very often / frequently / sometimes / rarely / never /

17.)Even when my family is together, I feel isolated.

1 2 3 4 5
/ very often / frequently / sometimes / rarely / never /

18.)Which statement is most like your family?

a.) My family has frequent visitors.
b.) My family encourages visitors to drop in without advance notice.
c.) My family carefully decides who can and cannot visit in advance. Drop-in visits are discouraged.

19.)My family spends alot of time together.

1 2 3 4 5
/ never / rarely / sometimes / frequently / very often /

20.)Members of my family meet with each other to discuss family problems.

1 2 3 4 5
/ never / rarely / sometimes / frequently / very often /

21.)Which statement is most like your family?
a.) Everyone is allowed to discuss and make suggestions about family rules.
b.) Everyone seems to have their own rules and regulations.
c.) Those in authority make up and enforce rules and regulations.

22.)Our family most always tries to deal with problems in the same way.

1 2 3 4 5
/ strongly disagree / moderately disagree / undecided / moderately agree/ strongly agree

23.)When we are confronted with problems, members of my family most always try to help each other rather than depending on outsiders.

1 2 3 4 5
/strongly disagree/ moderately disagree / undecided / moderately agree / strongly agree /

24.)Which is most like your family:

a.) In my family, family activities are decided by all family members.
b.) In my family, activities are decided upon separately by family members.
c.) In my family, only those in charge decide on family activities.

25.)Its hard to keep track of where people are, and what they are doing in my family.

1 2 3 4 5
/ strongly agree / moderately agree / undecided / moderately disagree / strongly disagree/

26.)Which is most like your family:

a.) When something is not going well, most anyone can gather the family together to attempt to solve the problem.
b.) When a problem occures, there is usually little chance of getting the family together to attempt to solve it.
c.) Those in authority take the responsibility of bringing family members together when a problem occures.

27.)Someone in my family often pushes other family members to take more initiative for getting things done.

1 2 3 4 5
/ strongly disagree / moderately disagree / undecided / moderately agree / strongly agree/

28.)The rules of my family are openly discussed.

1 2 3 4 5
/ never / rarely / sometimes / frequently / very often /

29.) Which is most like your family:

a.) In my family, usually everyone makes suggestions about what should and should not take place within our home.
b.) In my family, there is rarely any discussion about what should and should not take place within our home.
c.) In my family, those in authority always decide what should and should not be allowed in our home.

30.) Does your family check up on your friends to determine what their values are?

1 2 3 4 5
/ never / rarely / sometimes / frequently / very often /

31.) There are rules in my family about who can use the front and back door:

1 2 3 4 5
/ strongly disagree / moderately disagree / undecided / moderately agree / strongly agree/

32.) One member of my family most always takes the responsibility of knowing where other family members are.

1 2 3 4 5
/ strongly disagree / moderately disagree / undecided / moderately agree / strongly agree/

33.) Our family makes judgements about who can come into our home and enforces these judgements.

1 2 3 4 5
/ strongly disagree / moderately disagree / undecided / moderately agree / strongly agree/

34.) Does your family support its members?

1 2 3 4 5
/ never / rarely / sometimes / frequently / very often /

35.) Do members of your family reach out to help each other?

1 2 3 4 5
/ never / rarely / sometimes / frequently / very often

36.) Do members of your family respect each others privacy?

1 2 3 4 5
/ never / rarely / sometimes / frequently / very often /

37.) Almost always one member of my family steps in to settle a dispute or conflict, even if this includes pushing family members apart.

1 2 3 4 5
/ never / rarely / sometimes / frequently / very often /

38 .) Traditions, values, and beliefs are discussed in my family.

1 2 3 4 5
/ never / rarely / sometimes / frequently / very often /

39.) At least one person in my family organizes and channels other family members to get things done.

1 2 3 4 5
/never / rarely / sometimes / frequently / very often /

40.) In a crises, members of our family help each other rather than depending on outsiders.

1 2 3 4 5
/ never / rarely / sometimes / frequently / very often /

S.E.S. INDEX

A. OCCUPATION What is your occupation? _____

a.) Please give the type of work you do_____

b.) If you are married and not employed for pay, check here _____,
and also enter what your occupation was_____.

c.) If you are not now employed, please give the type of work you did last_____.

B. INCOME Which of the following groups comes closest to your annual income before taxes?

1.) No income in the last 12 months.
2.) Less than $ 2,000.
3.) $ 2,000 to 3,900
4.) $ 4,000 to 6,999.
5.) $ 7,000 to 9,999.
6.) $ 10,000 to 12,999.
7.) $ 13,000 to 15,999.
8.) $ 16,000 to 18,999.
9.) $ 19,000 to 21,999.
10.) $ 22,000 to 24,999.
11.) $ 25,000 or above

C. EDUCATION What is the highest level of education you have completed?

1.) Some grade school
2.) Completed grade school
3.) Some high school
4.) Completed high school
5.) Some college
6.) Completed college
7.) Some graduate school
8.) Graduate Degree (MD, MA, Ph.D. ,ect.)

1.) What is your age_____
2.) Married_____ Single _____. If married no. of yrs. married _____.

3.) How many children did your parents have including you _____.

4.) How many children do you have _____.

5.) Is your family living together (are you now living with your parents?) yes_____ no_____

6.) What is your religion? _____.

Do you attend church regularly? -Yes_____ No _____

7.) Do you live in a rural _____ or Urban (city) _____ area.

CONFLICT WITH PARENTS

Here is a list of things that you and your mother might have done when you had a conflict. Now taking into account all disagreements (not just the most serious one), we would like you to indicate below how often you had done the things listed at any time during your last year in high school, then how often your mother had done them. Answer by circling one of these numbers for each person.

0 = Never
1 = Once that year
2 = Twice
3 = 3 to 5 times
4 = 6 to 10 times
5 = 11 to 20 times
6 = more than 20 times

	Mother							Me							EVER HAPPENED (yes=1 no=2)	
															YES	NO
a. Discussed the issue calmly	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
b. Got information to back up (your/his) side of things	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
c. Brought in or tried to bring in someone to help settle things	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
d. Insulted or swore at the other one	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
e. Sulked and/or refused to talk about it	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
f. Stomped out of the room or house (or yard)	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
g. Cried	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
h. Did or said something to spite the other one	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
i. Threatened to hit or throw something at the other one	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
j. Threw or smashed or hit or kicked something	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
k. Threw something at the other one	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
l. Pushed, grabbed, or shoved the other one	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
m. Slapped the other one	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
n. Kicked, bit, or hit with a fist	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
o. Hit or tried to hit with something	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
p. Choked him/her/you	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
q. Beat up the other one	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
r. Threatened with a knife or gun	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
s. Used a knife or gun	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
t. Other (PROBE):_____	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2

CONFLICT BETWEEN PARENTS

Here is the same list of things, but now we are focusing on things that your parents might have done when they had a conflict. Now taking into account all disagreements (not just the most serious one), we would like you to indicate below how often your mother and father had done the things listed during your last year in high school:

0 = Never
1 = Once that year
2 = Twice
3 = 3 to 5 times
4 = 6 to 10 times
5 = 11 to 20 times
6 = more than 20 times

	Father							Mother							EVER HAPPENED (yes=1, no=2)	
															YES	NO
a. Discussed the issue calmly	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
b. Got information to back up (your/his) side of things	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
c. Brought in or tried to bring in someone to help settle things	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
d. Insulted or swore at the other one	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
e. Sulked and/or refused to talk about it	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
f. Stomped out of the room or house (or yard)	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
g. Cried	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
h. Did or said something to spite the other one	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
i. Threatened to hit or throw something at the other one	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
j. Threw or smashed or hit or kicked something	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
k. Threw something at the other one	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
l. Pushed, grabbed, or shoved the other one	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
m. Slapped the other one	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
n. Kicked, bit, or hit with a fist	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
o. Hit or tried to hit with something	0	1	2	3	4	5	6	0	1	2	3	4	5	5	1	2
p. Choked him/her/you	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
q. Beat up the other one	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
r. Threatened with a knife or gun	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
s. Used a knife or gun	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
t. Other (PROBE):_____	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2

CONFLICT WITH PARENTS

Here is a list of things that you and your father might have done when you had a conflict. Now taking into account all disagreements (not just the most serious one), we would like you to indicate below how often you had done the things listed at any time during your last year in high school, then how often your father had done them. Answer by circling one of these numbers for each person.

0 = Never
1 = Once that year
2 = Twice
3 = 3 to 5 times
4 = 6 to 10 times
5 = 11 to 20 times
6 = more than 20 times

	Father							Mo							EVER HAPPENED (yes=1, no=2)	
															YES	NO
a. Discussed the issue calmly	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
b. Got information to back up (your/his) side of things	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
c. Brought in or tried to bring in someone to help settle things	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
d. Insulted or swore at the other one	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
e. Sulked and/or refused to talk about it	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
f. Stomped out of the room or house (or yard)	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
g. Cried	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
h. Did or said something to spite the other one	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
i. Threatened to hit or throw something at the other one	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
j. Threw or smashed or hit or kicked something	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
k. Threw something at the other one	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
l. Pushed, grabbed, or shoved the other one	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
m. Slapped the other one	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
n. Kicked, bit, or hit with a fist	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
o. Hit or tried to hit with something	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
p. Choked him/her/you	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
q. Beat up the other one	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
r. Threatened with a knife or gun	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
s. Used a knife or gun	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2
t. Other (PROBE):_____	0	1	2	3	4	5	6	0	1	2	3	4	5	6	1	2

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