A STRUCTURAL APPROACH TO FOUR THEORIES
OF GROUP DEVELOPMENT

DISSERTATION

Presented to the Graduate Council of the
University of North Texas in Partial
Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

By

Dennis J. King, B.S., M.L.A., M.Ed.

Denton, Texas

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The goal of this study was to attempt to develop a classification scheme that systematically related individual behavior, interpersonal behavior, and group interactions for the purpose of using the resulting classification scheme to evaluate theories of group development proposed by Bion, Bennis and Shepard, Bales, and Tuckman and Jensen. It was assumed that theorists' presuppositions about the structure of groups might influence their theories.

Using a qualitative process of analysis, a structural classification scheme (SCS) was developed based upon transformative and generative rules, utilizing the General System Theory subsystem process of self-regulated boundary operations. The SCS protocol was employed to categorize and compare the theories of group development proposed by Bion, Bennis and Shepard, Bales, and Tuckman and Jensen.

The resulting categorization of theories indicated that relationships existed among and between a group's structural properties, the complexity and type of communication connections among and between group members, and the size of the group. In addition, a common structural relationship was demonstrated to exist among and between individual, dyadic, and triadic group forms. A similar structural relationship was also speculated to exist between groups of any size.
It was concluded that a structural approach to groups may offer insight to group leaders and members in recognizing and creating alternative frameworks that best fit a group's structure to its task. This approach may have broad implications in that it suggests that group goals might best be considered before the structure of the group is determined. In addition, a structural approach was also speculated to be an emotionally neutral alternative method of discussing individual and group behavior.
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According to Corey and Corey (1987), Furhiman and Burlingame (1994), and Yalom (1985), based upon observation and induction, group development may be viewed as a rational, orderly, and understandable process. Different meanings have been attributed to the development and operation of groups based upon the frame of reference adopted by the theorist. For instance, Bion (1959), Freud (1922/1959), and MacKenzie and Livesley (1984) regarded groups as unified entities, while Bales (1950), Bennis and Shepard (1956), and, Tuckman and Jensen (1977) conceptualized groups as collections of individual elements in a relationship or social system.

When viewed as a unified entity or thing, the ‘group-as-a-whole’ takes on the intrapsychic features of a person (Bion, 1959, Freud, 1922/1959) who must use regression mechanisms to cope with the personal demands related to the group’s tasks. The group leader or observer catalogs and interprets group interactions in order to determine what regressive behavior is taking place in the group. The group moves toward a final solution when individuals ultimately take responsibility for group tasks. Bion (1959) described the development of the group-as-a-whole as being a linear and goal oriented process that oscillated or cycled through several states of regressive behavior.
Tuckman and Jensen (1977) viewed groups as a related collection of individual elements, or social systems, with identifiable stages or phases of development, and with an ultimate goal of resolving the group's initial reason for meeting. The social system model of development accounts for: (1) forming the group, including issues of member dependency related to the group leader; (2) dealing with overt and covert member to member and member to group leader conflict; (3) developing group norms and protocols; (4) working on the task of the group, characteristically focusing either on interpersonal skills or an external group responsibility; and (5) coming to a completion of the group task and terminating the group relationship.

Differing views of group operations pose a problem for the group leader interested in advancing the group toward accomplishing its goal. MacKenzie and Livesley (1984) pointed out, "A comprehensive theory of group psychotherapy must include both the social system and the individual . . . Currently this is not available. Instead, the group literature is characterized by a major dichotomy [groups being seen both as 'things' and as collections of 'things']" (p. 247).

Other proposals, utilizing General System Theory (GST) as an open system model to describe group operations, have been put forward by Bertalanffy (1968,1981), Durkin (1981), and Donnigan and Malmati (1997). According to Matthews (1992), an open system approach had the potential to address the process of group development in individual, interpersonal, and organizational terms. GST is based upon the assumption that all living systems, including individuals and groups, self-regulate their boundaries in order to survive and change (Bertalanffy, 1968). According to Miller and Miller (1983),
the GST relationship model holds much promise to concurrently address issues of individual development, interpersonal relationships, and higher level group organization.

Statement of the Problem

There appears to be no content-independent structural methodology that has been applied to multiple theories of group development in this review of literature describing individual behavior, interpersonal behavior, and group interactions (MacKenzie, 1984, 1994; Cottone, 1991; Fuhriman & Burlingame, 1994).

Review of Related Literature

This section reviewed theoretical approaches advanced to account for the development of groups. The review was organized into two areas: theories of group formation, development and operation, and the impact of systems thinking on group conceptualization.

Theories of Group Formation, Development and Operation

According to MacKenzie (1994), major proposals about group structure written prior to 1965 emphasized that groups either operated as if they were social systems or as if they were holistic entities. These approaches were based more on theoretical concepts and clinical observation than on experimental research. Results of these early proposals were cited in conceptual studies of group development during the 1970s and 1980s, and little work was found to have been done to experimentally examine the proposed phases of group development. Gersick (1988) stated, "classic research continues to be widely
cited, and the traditional models continue to be widely presented ... as the facts of group development” (p. 11). Recent explanations of group development continue to assume that common and sequential forces operate in all groups, and ultimately influence their course of development (MacKenzie, 1994; Yalom, 1985).

**Group Formation and Development**

The concept of group formation and development has varied from researcher to researcher. Cooley (1909/1968) stated that a group “is characterized by intimate face-to-face communication and cooperation. They [groups] are primary in several senses, but chiefly in that they are fundamental in forming the social nature and ideas of the individual” (cited in MacKenzie, 1994, p. 224). Central among important group settings are the nuclear family, working situations, religious or spiritual affiliations, intimate social situations, and therapeutic situations.

The impact of group formation on individual group members was both significant and pervasive. Hagen and Burch (1985) observed, “Often, the small group, whether social or therapeutic, acts as a substitute for the absent or geographically distant primary group of the past” (p. 211). MacKenzie (1994) observed “Participants in social groups as well as psychotherapy groups are willing to describe how they change over time, perhaps without recognizing that the idea of a ‘group’ involves a conceptual shift to a higher order of structure” (p. 224). According to Luft (1984), “Structure in groups is invisible; it must be inferred” (p.16). Katz and Kahn (1978) found, “the structure is to be found in an
interrelated set of events that return upon themselves and renew a cycle of activities. It is events rather than things that are structured” (p. 7).

The concepts of timing and personal commitment were also cited as key factors in any discussion of group formation and development. MacKenzie (1994) pointed out, “The idea of [group] development implies change over time, while arrested development suggests a discontinuity between actual and expected temporal change” (p. 223). Gersick (1988) suggested that “[the] groups’ progress was triggered more by member’s awareness of time and deadlines than by completion of an absolute amount of work in a specific developmental stage” (p. 9). Hansen, Warner, and Smith (1980) observed, “Besides complying with the norms established by the group and the counselor, the individual member must be personally committed to the counseling process in order for any real behavior change to take place” (p. 521).

In this review of literature, the concept of stages of development provided a background against which specific group development could be evaluated. Corey and Corey (1987) stated that there often was considerable overlap between stages of development,” and once a group moved to advanced stages it is not uncommon for it to stay at a plateau for a time or to temporarily regress to an earlier stage” (p. 73). The individual’s perception of a developing group also presents a paradox. Luft (1984) observed, “It is curious that members of a group are often at a loss to appraise the group’s progress” (p. 32). Even if they are willing to assess their own progress, group members are not in an objective position to do so (MacKenzie, 1994). From this point of view, the
task of accurately and objectively assessing and differentiating group operations into definable stages or phases is best left to the observers and leaders of groups.

Descriptions of Group Operations

According to MacKenzie and Livesley (1984), group literature is characterized by the dichotomy between conceptualizing groups as if they were operating as social systems or as individual entities. Each view produced assumptions which fit selected areas of group process, structure, and development. For example, Bion (1959), Whitiker and Lieberman (1965), and Scheidlinger (1968) attempted to apply assumptions derived from psychoanalytic theory to groups as if they were an individual entities. From this perspective, the principle focus was the effect of the group's context upon individual group member perceptions. In a review of that approach, MacKenzie and Livesley (1984) commented that the group context apparently influenced each of its members as individuals, and produced in them a fear of engulfment and loss of individual autonomy, resulting in defensive maneuvers by the individuals in the group to counterbalance the threat. A major deficiency in this approach was that it failed to conceptualize the group as existing beyond the level of the individual, and it failed to account for the variety of reactions in individual group members seemingly caused by a common group event.

Bales (1950) observed that groups were social systems, typically working to accomplish tasks such as staff meetings, committees, and conferences. However, according to MacKenzie and Livesley (1984), many of Bales' ideas were also relevant to therapeutic groups. Bales' conceptualized "non-overt problem-solving patterns" which
he transposed directly onto groups. According to Bales (1950), these patterns could be identified by meticulously scoring group member behaviors. The categories of group member pointed out reflected positive and negative emotional states, control behaviors, and activities aimed at achieving the goals of the group. Orientation was the first step in group development, including the collection of information. Evaluation of the information allowed the group to achieve its final step, control of the situation. Conceptually, each step in group development was a functional prerequisite for the next. Bales' observational approach to groups as social systems is embedded in theories of group development proposed by Tuckman (1965), Beck (1981), Etting (1992), MacKenzie (1994), Berg and Landreth (in press), Donigian and Malnati (1997), and countless others. Although the social system framework identifies group behavior at the interpersonal and group level, it does not identify intra personal processes that may also be occurring. MacKenzie and Livesley (1984) concluded, "A comprehensive theory of group psychotherapy must include both the social system and the individual. This implies the need for a theory of the collectivity" (p. 247).

**Theories of Group Development and Operation**

Four important theories of group development and operation were identified in this review to demonstrate the similarities and dissimilarities in assumptions, approaches, and methodologies of the researchers:

1. Bales (1950) developed a process that identifies twelve categories of behavior for analyzing groups as social systems. The Interaction Process Analysis (IPA) assesses
instrumental task functions and expressive socioemotional functions as: (1) showing solidarity, (2) showing tension release, (3) agreeing, (4) giving suggestions, (5) giving opinions, (6) giving orientation, (7) asking for orientation, (8) asking for opinions, (9) asking for suggestions, (10) disagreeing, (11) showing tension, and (12) showing antagonism. Bales’ IPA has been used, “to determine the number of positive and negative reactions and the frequency of attempted questions and answers, as well as other facets of group communication” (Dinkmeyer and Muro, 1979). According to MacKenzie and Livesley (1984):

Categories 6 and 7 reflect an orienting, information gathering activity.

Categories 5 and 8 indicate evaluation process. Categories 4 and 9 imply control behaviors. One to 3 are positive emotional categories, while 10 to 13 are negative emotional categories. In the task group, categories 4 to 9 are related to meeting external task demands. (p. 248)

Bales proposed a recurring cyclical pattern of development for small groups, based upon the task of the group, that alternated between instrumental and socioemotional activities. As the group worked on a task, tensions would build and interfere with the task until they were discharged through socioemotional activity. Following this discharge, the group returned to its task, and the cycle repeated itself (MacKenzie, 1994). Bales worked with groups that had a clear task focus. He proposed that a group progressed toward a goal in an orderly fashion, orienting itself to its task through information gathering. The group made progress as members agreed or disagreed on the initial assessments of the information, and typically ended in a struggle for control of the final evaluation process.
Bales conceptualized the task of the therapeutic group as being internal to the group and its members. Bales assumed that in most therapeutic groups, the primary task was related to socioemotional activity, i.e., developing better individual interpersonal skills.

2. Bennis and Shepard (1956) utilized the T-group to conceptualize group development. The primary goal in T-groups was to facilitate individuals' understanding of the dynamics of groups through participation. A secondary goal for participants was to learn how individuals, including themselves, interacted in group. Bennis and Shepard (1956) identified two major phases in group development. The first phase dealt with authority issues, and the second phase dealt with intimacy and interdependence between group members. Authority issues included: (1) attempting to gain the leader's approval and sponsorship, and being included as a group member; (2) the division of the group into subgroups which competed with each other in determining the leader's role; and (3) the resolution of the conflict based upon alignment with attaining group goals. Intimacy and interdependency issues appeared as the group achieved cohesion. However, unresolved tensions again began to build when the group was not able to communicate genuinely as a consensus or conformity based unit. The conflict between being true to the group versus true to self allowed subgroups again to form. Bennis and Shepard (1956) referred to these two subgroups as "overpersonals" who wanted relationships to be personal, and "counterpersonals" who expressed discomfort at that level of intimacy. Typically, a third subgroup emerged to mediate and reconcile the two main subgroups, resulting in the members beginning to communicate with feelings, attitudes, and
differences. Bennis and Shepard (1956) cautioned that not all groups go through all of the subphases. Conflict in early stages could prevent further development.

3. Bion (1959) observed that any group was either working on a task, or acting as if it could not work on a task due to the emotional tone of the group-as-a-whole. Group emotionality was expressed as dependency, fight or flight, and pairing. Dependency and fight or flight were defined in ways similar to Bennis and Shepard (1956). Subgroups (referred to as pairing) formed and dissolved in the group as two or more members developed allegiances for periods of time. According to Bion, members projected disavowed dependent, hostile, or shameful parts of themselves, called basic assumptions, into the collective space of the group, where they could be individually assessed by group members. The basic assumptions interfered with the work of the group, and the cycle of development oscillated between the work of the group and its basic assumptions. The tension between work and basic assumptions was seen by Bion as never ending.

According to Shaffer and Galinsky (1989), Bion utilized Lewin's (1952) field theory to describe the group as a patterned whole. Bion's work has been associated with the term "group-as-a-whole", describing the power of the group in influencing the emotional responses of its members, particularly under conditions of adversity. Bion conceptualized the group as an amplifier of individual emotions (MacKenzie, 1994).

4. Tuckman (1965), in a review of more than 50 developmental theories and research studies, developed an integrated meta-model of group behavior which identified four stages of group development: forming, storming, norming, and performing. Tuckman and Jensen (1977) later added a fifth stage to account for adjourning. Tuckman
(Napier and Gershenfeld, 1985) viewed each stage from two perspectives, dealing with interpersonal relationships and dealing with group problems or tasks.

Tuckman defined forming as group behavior concerned with issues of membership, inclusion, and dependency. Storming was defined as conflict oriented group behaviors, much as Bennis and Shepard (1956) and Bion (1959) had defined conflict and fight or flight. Norming was defined as determining rules, structure, and roles. Performing dealt with making progress toward the group task. Adjourning referred to terminating the group and consolidating its learning when its mission had been accomplished. MacKenzie (1994) concluded that, “Tuckman’s paper can be seen as an important summary of a rather scattered field of inquiry... a summary of an existing belief system more than an empirically supported scientific tradition” (p. 234). Maples (1988) extended the Tuckman model to 20 substages and validated the sequential model over a five year study of eight groups of graduate level counseling students.

**Impact of Systems Thinking on Group Conceptualization**

According to MacKenzie (1994), the representation of group development as either a social process or group-as-a-whole process may have reached limits. He stated:

There is substantial empirical evidence for the development of an initial group climate characterized by increasing cohesion and self-disclosure, followed by the emergence of intragroup tension and conflict... Beyond that point, the nature of the group becomes more complex and measures that capture specific interpersonal dimensions or individual cognitive
styles appear to be more relevant than global group level approaches. Few authors have taken a broad structural view of the group. . . . A systems approach provides a model for the study of the phenomena at various levels of group organization. (p. 252-253)

According to von Bertalanffy (1968, 1981), a systems-based approach, based upon the mechanics of self-regulating internal and external boundary structures and circular causality, might offer alternative methods of conceptualizing group operations. MacKenzie (1994) proposed that a systems-based conceptualization of group development might unify competing views of group development, including: (1) the view that group developmental process is a repetitive or cyclic process (Bales, 1950; Bennis & Shepard, 1956; Bion, 1961, Shutz, 1961) that assumes the group continually revisits certain basic process issues as it develops, and (2) that groups progress over time in an orderly sequence, dealing with organizational tasks and ultimately coming to terms with goal attainment and group termination (Martin & Hill, 1957; Tuckman, 1977; Berg & Landreth, in press).

General System Theory

A transition to a system description of group development challenges traditional approaches which have grown out of a psychological world view based on linear causality (Matthews, 1992; Cottone, 1991). System advocates espouse a relational view of human behavior based on circular causality (Bateson, 1972; Hoffman, 1981; Cottone, 1991). That approach is based upon General System Theory (GST) proposed by Ludwig
von Bertalanffy, a biologist at SUNY at Stony Brook, New York. GST developed out of the assumption that all living systems seem to exhibit fundamental patterns of behavior.

In summarizing GST, Matthews (1992) stated:

Living, or open systems have boundaries that they are capable of opening or closing. By opening its boundaries, a system can exchange both energy and information with other systems. By closing its boundaries a system can protect itself from input from other systems that is noxious or incongruent with its inner state. (p. 162)

By selectively importing energy and information from the environment, i.e., other systems, a system may restructure its inner state, allowing it to grow and change.

From a GST perspective, developing group behavior is described by Matthews (1992) as oscillation between the counterbalancing forces of togetherness and individuality in a system of non-linear causality. According to GST, the oscillation between being an individual and being part of the group is the basic dialectic of all living systems. One key process by which people regulate this dialectic is the opening and closing of their boundaries to the influence of others. When members open their boundaries to each other, they are “systeming”; and when they make contact with each other across closed boundaries, they are “summing”. Matthews (1992) stated, “Thus, people in society ‘dance’ to this rhythm as they attempt to be both individuals and members of the groups in their lives” (p. 162). Rugel (1991) described this behavior as, “the conflict over responsibility to self versus responsibility to the group” (p. 76). A key
issue related to Rugel's observation is determining whether a group requires differentiation or integration at any given moment to continue to move toward its goals.

**Applying System Thinking to Groups**

Recently, group therapists have been encouraged to use systems thinking as a basis for describing group interactions, Donnigan and Maluati (1997) stated:

Group therapists who think systematically realize that it is the group as a whole that needs to be addressed. They perceive the group as being more than a gathering of eight or nine individuals. They focus on the interactive patterns of the subsystems that make up the group, on how each of the subsystems interacts with the group as a whole, and on how the group as a whole interacts with each of the subsystems. (p. 3)

In describing the need for structural models of group operation, Gersick (1988) noted that existing models of group development do not account for the timing and progress of group development. She stated, "Traditional models [of group development] shed little light on the triggers or mechanisms of change or on the role of a group's environment in its development. . . . existing models have treated groups as closed systems [that assume fixed rules for operation]. . . . The resultant models are deeply grounded in the paradigm of group development as an inevitable progression; a group cannot get to stage four without going through stages one, two, and three." (p. 9-11).

In a short article titled, "An Application of General System Theory (GST) to Group Therapy", Matthews (1992) employed the tenets of GST to outline the Tuckman
and Jensen (1977) five stage model of group development in order to demonstrate that an open system model might be utilized to conceptualize group interaction at individual, interpersonal, and group levels of behavior.

Matthews (1992), Donnigan and Malnati (1997), and Gersick (1988) all seemed to agree that structural models of group operation would allow a view of group operations accommodating individual development, interpersonal behavior, the sequence of group operations, and the group’s external environment as criteria for group development or change. Durkin (1983) clarified the matter even further when she stated:

“GST has the capacity to bring unifying trends among the current ‘group therapies’ while allowing for their valid differences. If adopted, it could greatly improve communication with other social sciences and make collaborative research possible. It might even serve the function of an integrative group therapy theory. (p. 94)

Purpose of the Study

Based upon this review of literature, it appears that no content-independent structural method for describing group operations has been rigorously applied to multiple theories of group development (MacKenzie, 1984, 1994; Cottone, 1991; Fuhriman & Burlingame, 1994). The purpose of this study was: (1) to attempt to develop a structural classification scheme based upon GST (see figure 1) that related individual behavior, interpersonal behavior, and group interactions in a group context, (2) to apply that classification scheme to theories of group development proposed by Bales (1950), Bennis
and Shepard (1956), Bion (1959), and Tuckman and Jensen (1977) and (3) to report results. Multiple iterations of this process were required to achieve a classification scheme applicable to the four cited theories.

Figure 1. Model of qualitative research process utilized to develop a structural classification scheme to categorize theories of group development.
CHAPTER II

METHODOLOGY

This chapter developed a structural classification scheme for categorizing the development of groups. Chapter Three applied the structural classification scheme to theories of group development proposed by Bales (1950), Bennis and Shepard (1956), Bion (1959), and Tuckman and Jensen (1977), and answered research questions.

Research Questions

The following research questions were posed to guide the process of developing a method of analysis that classified and categorized theories of group development:

1. Is there a content-independent structural classification process that simultaneously codifies, accounts for, and categorizes the processes of individual behavior, interpersonal behavior, and group interactions?

2. Could a content-independent structural classification process be utilized to classify, categorize, and relate multiple theories of group development proposed by Bales (1950), Bennis and Shepard (1956), Bion (1959), and Tuckman and Jensen (1977)?

Method

According to Neimeyer and Resnikoff (1982), qualitative research methods are more inductive and phenomenological than quantitative methods, and they place primary
emphasis upon “understanding the unique frameworks within which persons make sense of their feelings, thoughts, and behaviors. . . . qualitative strategies attend to the broader horizons of the experience, often taking into account multiple perspectives in an investigation of any single phenomenon” (p. 84). By developing a standardized format for observing phenomena, qualitative research “reduces the range of problems to consider” (p. 77). In this study, the standardized format for observing phenomena was the structural classification scheme for categorizing the development of groups. The structural classification scheme was used as a complementary or alternative view of information presented in theories of group development proposed by Bales (1950), Bennis and Shepard (1956), Bion (1959), and Tuckman and Jensen (1977).

The converging of views based upon the original theorist’s observations and a structural classification scheme is similar to the qualitative process of triangulation. Triangulation is the combination of various methodologies in the study of the same phenomenon. According to Neimeyer and Resnikoff (1982) “Any attempt to understand social or behavioral phenomena is aided by the use of multiple perspectives or vantage points. . . . even when they yield discrepant results [that] may further inform or enrich our understanding” (p. 83). As a result of the inductive and phenomenological nature of qualitative methods, Denzin (1970) concluded that “meaningful research hypotheses . . . emerge from the data itself . . . [from] a continuous movement between emerging conceptualizations of reality and empirical observations” (p. 77).
Procedure

Five steps were required to produce a structural classification scheme for categorizing theories of group development:

1) Analyze the information collected in Chapter One in order to reveal any underlying structures utilized by theorists to explain the development of groups.

2) Discuss commonly cited structures describing group development and behavior.

3) Discuss deep and surface structural implications of common structural properties.

4) Discuss research supporting General System Theory as a structural model for classifying groups.

5) Define the Structural Classification Scheme for categorizing group development.

Definition of Terms

Invisible group refers to an observer's abstract explanation of what is happening in a situation composed of individuals who apparently in some way seem to be interacting. The idea of an "invisible" group structure has been useful in explaining the apparent interactions and transactions between and among the members of a visible group (Agazarian & Peters, 1981).

Closed system refers to a system whose actions approach a stable state that is determined by fixed initial conditions that are unaffected by external conditions (von
Bertalanffy, 1968, 1981). For instance, a heat thermostat in a heating system calls for heat until a fixed temperature is reached. At that point, the system's fixed initial conditions are met and the system remains at rest until the room temperature falls below the fixed temperature and the thermostat again calls for heat.

**Open system** refers to a system that attains a steady state of activity that is related to constantly changing internal and external conditions, and not solely determined by initial conditions (von Bertalanffy, 1968, 1981). For instance, it has been proposed that each human body has a set point for ideal weight based upon heredity (internal conditions) and activity rate (external conditions) that reach a steady state that may be altered by increasing or decreasing daily exercise.

**Self-regulated boundary operation (SRBO)** refers to the autonomous open system property that provides for the opening and closing of a system's external boundary to other systems. In the open or permeable state of boundary operations, energy and information pass into and out of an open system. In the closed or impermeable state of boundary operations, energy and information are inhibited from passing in or out of the system (Miller & Miller, 1983). In humans, SRBOs provide the ability to ingest, digest, and expel nutrients from the environment that are of nutritional, informational, and emotional value to the system.

**Equilibrium point** refers to a stable state of a system related to its initial conditions or limits. Whenever a closed system is perturbed away from its initial stable state, an endless comparison between its current conditions and its initial conditions produces feedback that drives the system back toward its initial and fixed conditions. The
closed system property of always attempting to return to initial conditions is known as homeostasis. The initial system condition being pursued through homeostasis is known as the equilibrium point (von Bertalanffy, 1968, 1981). In a heating system the equilibrium point is the fixed room temperature set and monitored by the thermostat.

Equifinality refers to a steady state reached in an autonomous open system as a result of a dynamically fluctuating equilibrium point produced as the system imports or exports energy or information. Energy and information are exchanged by the system with its environment through the continuous autonomous process of opening and closing of its external boundary. Each cycle of opening and closing the external boundary produces a new set of internal system conditions, and a new equilibrium point. The difference between past internal system conditions and new conditions produces feedback that drives the system toward a steady state based upon the new system conditions. The steady state of the open system, produced by a dynamic and fluctuating equilibrium point that is related to system conditions that are independent of its initial conditions, is defined as equifinality (von Bertalanffy, 1968, 1981). For example, as in the definition of open systems, each human body has a set point for ideal weight based upon heredity (internal conditions) and activity rate (external conditions) that reach a steady state that may be altered by increasing or decreasing daily exercise. Unlike a closed system operating under fixed internal conditions, an open system may autonomously accommodate changes based upon external conditions.

Structure refers to the relationship presumed to exist among and between elements in the observer's frame of reference or view of a situation.
Deep structure refers to the common processes or rules assumed to be operating in a relationship between elements that define its organization or structure and affect the replication or survival of the structure. Deep structure is the highly stable basis for building more complex structures (Chomsky, 1981; Gersick, 1991). For example, traditionally the social institution of marriage forms a stable dyadic structure upon which more complex family structures (triad, foursome, etc.) may be established.

Surface structure refers to an abstract view or structure related by the observer to what is happening in a situation. The "invisible" group is a surface structure representing the apparent interactions and transactions between and among the members of a visible group. A variety of surface structural explanations of an event common to all observers may be based upon and related to a common underlying deep structure, e.g., a family system and its embedded marriage dyad (Agazarian & Peters, 1981; Chomsky, 1981; Gersick, 1991).

Analysis of Information

Chapter One of this document reviewed theories of group development created inductively by observing events and describing a structure to contain or explain them. An event in this study of group development is "an occurrence, a phenomenon, a slice of reality, anything that happens that has a beginning and an end and can be specified in terms of change" (Penguin, p. 253). Theorists cited in Chapter One of this study demonstrated their understanding of developing groups by creating hypotheses or theoretical positions that explained the observable events associated with those groups.
In an attempt to classify multiple explanations of group development, Agazarian and Peters (1981) observed that inductive explanations of group behavior might be categorized as being involved with either (1) those "visible" group events that could be literally described by an observer as a set people with some reason for associating with each other, or (2) with the "invisible" group event explanation that existed only as the observer's abstract representation of the visible group. That is, in order to explain visible group events, an invisible organizing group structure was created by the observer/participant, and in many ways the structure became the explanation. (figure 2)

Figure 2. Representation of an observer's organizing structure utilized to associate observed independent (I) events.

In the theories of group development reviewed in Chapter One of this study, the invisible organizing structures created by theorists were influenced by the content that was to be contained. With the exception of Tuckman (1965), group structures examined in this study of structures did not appear to have been created to express any relationship with
other's abstract representations of group behavior. Each invisible group structure represented the view or preference or assumptions and biases of that theorist/observer. Therefore, an inspection of the invisible structures created by each theorist logically allowed a direct comparison of basic theoretical assumptions about the group event. The structure of the theoretical view, not the content of the theory, became the focus of the comparison in this study.

**Common Structures Describing Group Behavior**

Three general abstract views or invisible structures of groups seemed to be present in the Chapter One review of literature: (1) groups behaved as if they were social systems comprised of the total set of interactions between and among members, (2) groups behaved as if they were pairs of interacting individuals included in the group, and (3) groups behaved as if they were the sum of member individual behaviors. This section describes each of the three abstract group structures, and the potential relationship(s) between and among them.

**Groups Represented as Social Systems**

When the group event was described as a relationship between and among a set of communicating individuals the group was conceptualized as a social system (Tuckman & Jensen, 1977). This level of abstraction allowed for the creation of a group anytime three or more individuals shared interactions with each other in a stable structure. At any instant, any combination of two of the members of the triad might be communicating directly while a third member was observing and potentially providing active or passive
feedback about the interaction. The resulting reciprocal interaction between and among the members of the triad or larger set of individuals was defined as the group event. The set of possible mutually exclusive interactions between members included the capability of each member to send messages, receive messages, and observe members who were sending and receiving messages. All members of the social system were seen as senders, receivers, and observers (figure 3).

![Diagram](image)

**Figure 3.** Representation of a frame of reference depicting a group as a social system composed of members holding the views of sender, receiver, and observer.

Although the social system model of a group theoretically accommodated groups of unlimited size, the inspection of interactions from this view of invisible structure always remained triad-based, focused on basic interactions between any three components of the social system. The social system view of a group had the advantage of being capable of more complex explanations of group events, i.e., being able to view
group member actions as being in parallel and mutually interactive, rather than being in a serial or linear cause and effect relationship as in a dyad. Also, the member roles of sender, receiver, and observer might be rotated among the members to build a greater variety of transactions and interactions.

**Groups as Interacting Pairs**

A simpler level of explaining abstracted events existed when groups were represented as pairs of interacting individuals who were either sending or receiving messages to each other. In this view, sending and receiving messages was seen as a mutually exclusive operation in each member of the pair. When this assumption was made, the smallest group was said to be composed of one pair of group members who were interacting with each other. When either member of the pair interacted with surrounding group members, those members could be incorporated into the original group of two, and the dyad was transformed into a triad or larger social system. From this view, however, the basic inspection of interactions remained pair-based, even as the group grew beyond the original two individuals. The logical growth or transformation of this (or any) level of invisible structure to groups larger than two required a linking or common element (Chomsky, 1981). In this case, the dyad became embedded in every larger group structure. (figure 4)
Groups as the Sum of Member's Behaviors

The simplest level of explaining group events existed when groups were represented as if they were simply the sum of individual group member behaviors. At any instant, one member was represented as being in direct contact with (1) only one other member, or (2) with a component comprised of group members (dyad, triad, etc.). From this viewpoint, the component of other group members was conceptualized as a unified collection of individuals acting "as if" they were a group (Bion, 1959). From this perspective, group events were based upon (1) the reaction of each individual member to the group as a whole, and (2) the impact that each individual member had upon the group as a whole. The locus or lowest common denominator for group interactions became each individual's impacting (sending) or reacting (receiving) behavior, as it related to the group as a whole. In this view, sending and receiving were assumed to be mutually exclusive individual operations. This approach targeted individual behavior, and the
behavior of the group as a whole, as being the basis for all other group capabilities. Each of the three common group explanations just discussed seemed to center on the same structural assumption: that elemental individual processes may be transformed into greater levels of complexity by combining them into larger units. (figure 5)

![Figure 5](image)

Figure 5. Representation of a frame of reference depicting a group to be the sum of its individual members' communicating behaviors also forming the basis for interacting pairs and social systems.

**Implications of Common Structural Properties**

Gersick (1991), Senge et al (1994), Chomsky (1981), and Fromkin and Rodman (1978) stated that when theorists generally agree that common properties apparently exist in all abstract or surface views of an event, then it is appropriate to assume that there are deep structures underlying the surface structures of the observed events. A deep structure represents the fundamental or common processes or rules operating at all levels of
structure that affect (1) the replication or survival of the structure, and (2) the organization and growth of the structure (Chomsky, 1981). Gersick (1991) stated:

Deep structures are highly stable for two general reasons. First, like a decision tree, the trail of choices made by a system [structure] rules many options out, at the same time as it rules mutually contingent options in. This tenacity accords with organizational research on the tenacity of initial choices; early steps in decision trees are the most fateful. Second, the activity patterns of a system's deep structure reinforce the system as a whole. (p. 16)

According to Chomsky (1981) the deep structure processes related to visible group events would be common to all surface structures; and, the deep structure processes would be related from structure to structure through a common set of transforming and generative (TG) rules (Chomsky, 1981).

**Generating Structural Views of Groups**

According to Fromkin and Rodman (1978), and Southworth and Daswani (1974), a decision tree may be generated to represent the relationship between and among elements of deep and surface structure resulting from common processes transformed to higher levels of complexity. (figure 6)
In the Chapter One review of theories of group development, although each theorist apparently utilized a unique view of representative structure to describe the behavior of groups, ultimately it appeared that individual, interpersonal, and group interactions may be related as components in a set of relationships defined as a system. According to Miller and Miller (1983), a system is a set of relationships between interdependent parts that (1) have common properties and (2) are interacting with each other. Applying this definition of a system to Chapter One descriptions of groups, a group became the set of relationships between interacting individuals that share some common communications properties. In this case, the individual’s ability to send and receive messages was common to all forms of group representation. Even the term group
"member" suggests that groups are relationships, simultaneously personal (as a member of the body is distinct) and part of a larger whole (the arm or leg is part of a larger body system) (figure 7).

Figure 7. Representation of a frame of reference depicting a group as a system of related subsystems based upon the individual's ability to send and receive messages.

**General System Theory as a Structural Model of Groups**

In 1971, the American Group Psychotherapy Association (AGPA) chartered a taskforce of its members to search for a ubiquitous model to describe the development and ongoing operation of groups. Over time, a systems approach to groups became the most attractive model considered. The initial reason cited by the taskforce (Durkin, 1981) for pursuing a systems approach to groups, i.e., referring to something as an abstract
relationship of interdependent and interacting elements, was its rise to prominence in the scientific community, especially in theories of quantum mechanics and relativity.

The most important reason cited by the taskforce (Durkin, 1981, 1983) for considering a systems approach to group development and operations was that it was content-independent. Unlike other explanations of group behavior that did not separate the apparent structure of events from the observer's interpretations of those events, a systems approach more appropriately provided only the abstract structural components and processes required in a particular situation to describe the relationship between events. The taskforce required that any appropriate explanation of groups must also provide for the rich diversity of behavior observed in groups, and not be a limited view of group behavior. As a content-independent structure, a systems approach met that requirement, and demonstrated potential to bridge the gap between behavioral and social science views of group behavior.

According to Durkin (1981, 1983) both cybernetics and General System Theory (GST) were researched as system-based models of group development and operation. GST was chosen as the AGPA group model for several reasons: (1) GST structurally addressed how living systems influenced other systems, and cybernetics did not; (2) GST defined change in terms of circular causality and reciprocal influence between and among living systems, while cybernetics only defined change in terms of unidirectional linear transformations and feedback theory; and (3) GST's non-linear and organismic approach was more appropriate for the complex and less predictable behavior observed in groups, as opposed to the "machine model" of cybernetics (Durkin, 1981).
Detailed Description of General System Theory

General System Theory (GST) was proposed by Ludwig von Bertalanffy as a global explanation of how living systems operated. Von Bertalanffy (1981) focused upon how systems seemed to be organized or structured, and how system elements were interdependently related. As a result, systems thinkers do not observe events in isolation. Rather, events are seen in terms of their interdependence, and in terms of the subsequent patterned responses that these events evoke in related subsystems (Donigian & Malnati, 1997). Additionally, systems in general are said to be isomorphic. They share certain structural features and basic functions, such as the function that creates a boundary or distinction between what is included in the system and what is excluded from the system (von Bertalanffy, 1968; Agazarian & Peters, 1981; Durkin, 1983).

Von Bertalanffy (1968, 1981) also delineated the differences between the operations of open and closed systems. He proposed that a simple or closed system operated (1) in a way to cause or control something, (2) in order to approach a well defined state of affairs. For instance, a heat thermostat calls for heat from a furnace when the area where it is defined or bounded (in this case, the walls of the room) falls below a pre-set temperature. In the same manner, the thermostat will not call for more heat once the pre-set temperature is reached. The continual comparison between the current temperature and the pre-set temperature is called feedback in the closed system. The balanced state of affairs that is approached but never perfectly achieved as the thermostat regulates the heat is called the equilibrium point. Any significant fluctuation in temperature causes the closed system to attempt to re-establish its initial conditions. The
closed system property of always seeking to restore initial conditions or set-point is known as homeostasis.

Von Bertalanffy (1981) proposed that living systems not only operated as closed or homeostatic systems, but also operated as open systems capable of self-regulation through a process he named fliessgleichgewicht, i.e., a flowing or dynamic equilibrium (Pines, 1983, p. 86). Simply stated, von Bertalanffy proposed that open system boundaries were permeable or semipermeable, unlike the fixed boundaries in a closed system. The property of permeable or semipermeable boundaries allowed an open system to import and export energy and information by autonomously opening and closing its boundary, resulting in a property that von Bertalanffy (1981) named equifinality, i.e., a dynamically fluctuating set-point for the system. He stated that:

The state of equilibrium eventually reached in closed systems is determined by the initial conditions or set point. In contrast, if a time independent steady state is reached in an open system, this state is independent of the initial conditions and depends only on system conditions (such as rates of transport and reactions, etc.). This property is called equifinality and accounts for many regulations in living systems.

(p. 112)

Von Bertalanffy (1981) concluded that in the familiar closed systems of physics, the final state was determined by the initial conditions, in open systems, as far as they attain a steady state; this state could be reached from different initial conditions in different ways.
For example, equifinality may be seen in the idea that each normal adult human being is proposed to have a “set-point” for ideal weight based upon metabolic rate (Bailey, 1978). This set-point may, within other limits, be influenced by adding or decreasing exercise to daily behavior, resulting in a higher or lower set-point of carried weight. The set-point is said to dynamically fluctuate related to exercise. Even the descriptive language of something being “fixed” or “set” in humans carries the caveat of equifinality, an organism’s capability within limits of initiating changes in itself. By defining equifinality in this way, von Bertalanffy accounted for the dynamic and often unpredictable behavior of living systems.

While von Bertalanffy was instrumental in providing the metabolics of GST, Agazarian and Peters (1981), and Miller and Miller (1983) developed a terminology defining the structure and operations of GST. This terminology explained the concept of living systems as including not only the properties within systems, but also the properties of the interactions between and among systems. According to Miller and Miller (1983):

Not all material things are systems. A system must have parts (units or components); these parts must have common properties, be interdependent, and interact within the system . . . living systems form a hierarchy [containing] similar components . . . in which each more advanced level is made up of systems at lower levels. (p. 33)

Miller and Miller (1983) identified seven levels of living systems: (1) cells, composed of non-living molecular components; (2) organs, composed of cells aggregated into tissues; (3) organisms, composed of organs; (4) groups of organisms;
(5) organizations composed of groups and/or individual organisms; (6) societies, composed of organizations, groups, and individual organisms; and (7) supernational systems composed of societies and organizations. The more complex levels of living systems were not simply aggregations of lower level systems. Each relatively higher level system structure was proposed also to contain emergent characteristics made possible by the newly formed system organization, i.e., the structure of a system influences its capabilities. This accords with Lewin’s (1951) observation that “The whole is not ‘more’ than the sum of its parts, but it has different properties . . . of its own” (p. 146). For example, a group composed of three members may engage two of its members in dialog while the third member observes the dialog and provides feedback about the characteristics of the dialog. In a group of two, this property of observation and third party feedback is structurally not possible. The properties of observation and feedback emerge as a potential form of communication as the group grows from two to three members. These “emergents” are more complex new properties or behaviors made possible by the triadic structure of the living system, and are related to the earlier state of the dyadic system through transformative rules associated with the growth of the group system. A combination of emergent properties and equifinality allowed von Bertalanffy (1981) to reasonably account for the complex structure and related behavior of individual living systems, as well as associations of living systems.

A central assumption for building complex living systems from simpler systems and components is the existence of subsystems and processes. Miller (1978) described subsystems as the important elements of systems that “keep particular system variables in
a steady state”, and a process as something that produces or accounts for “change over
time”. Miller and Miller (1983) stated that “The system as a whole maintains system-
wide variables in steady state by adjusting the processes of its subsystems” (p. 34).

Subsystems are responsible for starting or stopping processes in the system. A living
system boundary is the result of an essential subsystem at the perimeter of a system that
holds together the components of the system and makes it distinct. The boundary
subsystem might be as simple as a definition of what is included in the system or what is
excluded from the system, or as complex as a complete molecular description of the
barrier that the boundary may provide to keep outside and inside elements separate. For
example, at the organism level, the skin of an individual human being serves as a physical
and structural boundary separating the individual from the environment.

A critical assumption in a living system organism was that it self-regulates many
subsystem processes, including the opening and closing of its physical and emotional
boundary to the outside world of other systems and non-systems, giving the living system
the capability to either interact or transact with other systems (Agazarian & Peters, 1981).
An organism had all the properties of a system internally, and at the same time also
operated as a system interacting or transacting with other systems (Durkin, 1983).

Communications Between Living Systems

According to Agazarian and Peters (1981), Durkin (1983), and Miller and Miller
(1983), living systems are structurally interacting when they act upon each other without
either system’s boundary being permeable to the other system’s output. For example,
system A and system B may recognize each other’s outputs, but neither will change its basis for internally evaluating the other’s outputs since neither system allowed new information to cross its external boundary and influence its internal evaluating process. Living systems were said to be **transacting** when at least of them was operating with an open or semipermeable self-regulated boundary subsystem. Transacting systems were subclassified as being (1) dependent when the transaction was between one closed boundary system and one open boundary system, and (2) interdependent when the transactions are between two open boundary systems (figure 8).

![Interacting Systems](image)

**Interacting Systems**

**Systems transacting dependently**

**Systems transacting Interdependently**

Figure 8. Representation of systems interacting across closed self-regulated boundaries, and transacting dependently and independently between combinations of open and closed boundaries.

Durkin (1983) proposed that self-regulated boundary operations in humans referred to the state of the exchange of energy and encoded information between communicating individuals. From this perspective (1) **interacting systems** would not be
sharing energy and information, and (2) dependent and interdependent transacting systems could potentially share energy and information respectively unidirectionally or bi-directionally. Durkin also proposed that in human living systems, energy and information were conveyed by emotional and cognitive processes respectively. She concluded that:

on the whole, genuine spontaneous emotions tend to open boundaries while cognitive processes serve to maintain existing boundaries, or to draw new ones after an emotional shift has been experienced. . . .

Cognitive input has the effect of differentiating a human system's originally global emotions into a series of graduated feelings. Later the graduated emotions increase the child's ability to think. In the course of development a variety of emotional/cognitive structures are thus formed which may be thought of as patterns of transacting. In the group situation these complex patterns convey the energy and information that is exchanged in all living systems. (p. 91)

Durkin (1983) described living systems, interacting across closed boundaries, as each being internally consistent and organized during the interaction. For example, two individuals expressing an opinion or describing something may appropriately exchange only cognitive information that does not change either person's world view. Living systems that were transacting dependently or interdependently across open and closed boundaries allow for the possibility that a system with an open boundary might be influenced by the output of the another system. Specifically, Durkin proposed that when a
system boundary became permeable or open, that the system's internal consistency was potentially interrupted by the resulting exchange of energy and information with external systems. As the system boundary reformed, the exchanged energy and information must either become assimilated into existing system structures, accommodated into new structures, or isolated and expelled from the system. The period of time when boundaries were permeable thus offered the living system both the loss of consistency and control, and the opportunity for growth through assimilation and accommodation of information and energy. The changes within the living system perturbed it to seek a new and unique equilibrium point through the property of equifinality. In addition to the new equilibrium point, it was possible that new or different or more complex properties might emerge in the system as a result of its exchanges with the environment (Durkin, 1983; von Bertalanffy, 1981; Miller & Miller, 1983). Nicholas (1984) proposed that these new properties emerged assuming that "the greater the complexity of the system, the more potential it has for creating change. As the system develops more complexity, it calibrates itself so as to become even more sensitive to internal and external changes" (p. 9).

Ultimately, a spontaneous transformation from one state of the system to another may occur "when many factors act on one another at once" (Rogers, 1980, p. 131). Transformation in a group occurred when it included or excluded members, resulting in a new state of the group system. Structural transformation resulting from growth or contraction of the group system formed the basis for the Structural Classification Scheme.
The Structural Classification Scheme

A structural approach to group development was chosen for the classification scheme because it would be content independent. That is, a content independent approach would attempt to explain how an event structurally occurred, rather than describe what it meant in the mind of the observer. The author adopted the AGPA taskforce conclusion that General System Theory descriptions of group operations were most appropriate. The Structural Classification Scheme (SCS) protocol was generated based upon the General System Theory subsystem process of self-regulating boundary operations (SRBO), and the resulting transformation of SRBOs to higher levels of complexity as a result of growth in the size of a group. The SCS also identified and addressed any new properties of system structures that emerged as a byproduct of growth in the size of the group. The SCS related the views of individual behavior, interpersonal behavior, and group interactions in a group context, satisfying a portion of purpose of this study. The SCS protocol is a valid representation of General System Theory assumptions and transformational-generative rules, and accommodates the open and closed properties of groups as living systems.

Structural Classification Scheme Assumptions

The primary assumption for the SCS was that the structural view of groups, proposed by each theorist in this study, in many ways revealed the theorist’s interpretation of what was changing during process of group development. Nicholas (1984) observed that “Change for human beings has to do with shifts in attention more
than with actual changes ... Change is never not happening ... Change is how you look at it” (Nicholas, 1984, p. 8). In a complementary approach, the SCS focused on how groups changed structurally during the process of growth as reflected in the theorist’s choice of organizing structure.

The second basic assumption of the Structural Classification Scheme (SCS) was that groups are living systems, composed of parts with common properties, that are interacting or transacting with each other in the system. The living system parts were assumed to be individual human living systems related to each other by their association, or lack of association, with the group system. The self-regulated boundary operation (SRBO) was the common property selected in the SCS. Because the SCS attempted to classify a total group structure, the leader/observer was always assumed to be a member of the group system, and thus affected by the same structural rules and common properties as all other members of the group.

The third SCS assumption was that each individual was an independent living system nested in the group system; and that the content, but not the structure of all individual living systems over time became unique due to the process of equifinality operating in conjunction with each of their living experiences.

The fourth SRC assumption was that as the complexity of a system increased, new or different or unique properties might emerge as a byproduct of the more complex structure. These emergents were related to the earlier state of the system through the processes or rules that accomplished the growth change, transforming the system to a more complex state. For example, a group of two individuals has different properties, and
therefore different capabilities, than a group of three individuals, even though they share the individual property of self-regulating their individual boundaries.

Model of Relationships

The first step in developing the Structural Classification Scheme protocol was generating a model of relationships. A decision tree design was chosen to generate the SCS structure. The common element in the structure was the individual living system, and the common process for all elements was the living system property of self-regulated boundary operations. All elements in the decision tree were isomorphically linked by utilizing SRBO as the common living system property. (figure 9)

![Diagram of Structural Classification Scheme](image)

Figure 9. Structural classification model of relationships between individual living systems based upon the living system property of self-regulated boundary operations.
Using the decision tree, frames of reference or views of a group were generated by relating the possible combinations of closed and open boundaries as a function of the number of systems interacting and transacting with each other within each frame of reference. Generating a decision tree model allowed the development of SCS views of group behavior that were based upon the simultaneous assumption that: (1) groups are collections of individuals, (2) groups are collections of interacting pairs of individuals, (3) groups are collections of triads of individuals, and, (4) groups are combinations of 1,2,3 that operate as if they were intact social systems. The decision tree model also demonstrated self-regulated boundary operations as the common property or isomorphic characteristic present in all structural views of groups. SRBO was the deep structural element of SCS, and the root of the SCS decision tree, that allowed each surface view to be consistently transformed into successively more complex views of groups, beginning with the individual’s capability to autonomously open and close its boundaries. The ability to move from one view of a situation to another related view of the same situation is the hallmark of General System Theory. Operating from more than one frame of reference contributes to “open mindedness” (Nicholas, 1984), and allows one to grasp “sequences of development” (Berg & Landreth, in press).

**Frames of Reference**

In order fully recognize the growth of complexity and the emerging properties of groups, each related view of group was separately described as a framework or frame of reference for discussing the development of groups.
**Single system frame of reference.** In a SCS single system frame of reference, the state of an individual’s boundary is either open or closed with regard to other external systems and non-systems. The open or permeable state of the boundary of A (figure 10) allows potential exchanges of energy and information with other external systems [individuals or groups]. These exchanges may perturb changes within the system through the process of equifinality. The closed or impermeable state of the boundary of A does not allow the exchange of energy and information from external systems, resulting in the system’s movement toward internal equilibrium and stability (see figure 10).

![Figure 10. Structural Classification Scheme model of a single system frame of reference demonstrating the binary (open/closed) nature of self-regulated boundary operations at the individual level of structure.](image)

**Two system frame of reference.** The more complex SCS dyadic frame of reference is structurally related to the individual view through the consistent use of SRBO. Each member of the dyad or pair may open or close its boundaries autonomously.
In a two system frame of reference, the dyad AB has four combinations of SRBO modes of operating with each other: (1) closed A to closed B, (2) closed A to open B, (3) open A to closed B, and (4) open A to open B. However, two systems may generate as many as eight views of the state of self-regulated boundaries in the dyad since each system generates its own unique viewpoint for each of the combinations. This “rotating” approach to views of the state of SRBO was applied to all frames of reference in the SCS to represent the apparent increase in structural complexity in larger groups due to a shift in point of view. For example, (A closed, B closed) will be viewed differently from A’s perspective than the same situation is viewed from B’s because A’s internal locus of evaluation was defined earlier as being unique from any other. The system initiating the frame of reference is designated with ///// lines (see figure 11).

Figure 11. Structural Classification Scheme model of a two system frame of reference demonstrating eight potential rotated views of the dyad.
In addition to the variety of SRBO modes offered by the dyadic structure, in contrast to the individual or single system view, the possibility of a new or emergent property, "dialog", is created by the dyadic structure. Dialog is defined as interactions and transactions between two systems. Structurally, dialog first emerges as a property of dyads.

**Three system frame of reference.** The triadic frame of reference is structurally related to the dyadic and individual views of group through the consistent use of SRBO. The emergent property of the triad, not available to the dyad or single system, is feedback. Feedback is defined as the potential state of communications in a group of three or more individuals, where one member of a triad observes the interactions and transactions of two other members and potentially provides information about the dialog to the members of the dyad. Structurally, feedback first emerges as a property of triads.

In a three system frame of reference (figure 12), the triad ABC has only eight unique combinations of SRBO modes: (1) A closed, B closed, C closed; (2) A open, B closed, C closed; (3) A closed, B open, C closed; (4) A open, B open, C closed; (5) A closed, B open, C closed; (6) A closed, B closed, C open, (7) A closed, B open, C open; (8) A open, B open, C open. However, since every system may generate its own solitary viewpoint for each of the combinations, the true number of "rotated" views of the state of self-regulated boundaries between and among three systems may be as great as one hundred and ninety two, i.e., sixty four views from each viewpoint of A, B, and C, where \((AB = \text{four modes} \times BC = \text{four modes} \times AC = \text{four modes})\). For example, the situation of A closed, B closed, C closed is viewed differently from A's perspective, than the same
situation is viewed from B or C, because A's internal locus of evaluation is defined as being unique from B and C (see figure 12).

Figure 12. Structural Classification Scheme model of a three system frame of reference demonstrating 192 potential rotated views of the triad based upon self-regulated boundary operations at the triadic level of structure.

Four system frame of reference. The four system frame of reference is structurally related to the triadic, dyadic, and individual system views of group through the consistent use of SRBO. The four system framework contains the transformed frames of reference of the triad, as well as two pairs or four individual systems. Structurally, triangulation first emerges as a property of four system frames of reference. Triangulation is the capability of one group member to observe the systeming behavior of the three other members.
Utilizing the SCS protocol, the four system frame of reference produced four to the sixth power (4096) potential views of the situation. Utilizing the notion of "rotating" views established for two and three system frames of reference, the four system frame of reference may produce as many as 16,384 unique views of the same state of self-regulated boundaries between and among the systems in the group. The resulting variety of viewpoints is attributed to six possible views of the situation, each containing the possibility of four SRBO states, and the rotation of each viewpoint through A, B, C, and D (see figure 13).

Figure 13. Structural Classification Scheme model of a four system frame of reference demonstrating 16,384 potential rotated views of the foursome based upon self-regulated boundary operations at the four system level of structure.
Five system frame of reference. Structurally, the potential variety of transactions and interactions in a group of five becomes very complex, subsuming all previous frames of reference, and exploding the number of potential views of the state of SRBOs between and among group members to 4 to the ninth power (262,144). From the "rotated" viewpoint of each member, the potential total number of SCS viewpoints resulting from nine possible views of the situation involving a group of five members, each engaged in four possible states of SRBO, is (5) times (262,144) or 1,310,720. (figure 14).

Figure 14. Structural Classification Scheme model of a five system frame of reference demonstrating 1,310,720 potential rotated views of the group of five based upon self-regulated boundary operations at the five system level of structure.
Discussion of the Structural Classification Scheme Protocol

The SCS protocol generated in this study is a methodology capable of categorizing group relationships ranging from one individual or system of individuals to as many as five individuals or systems of individuals. The SCS demonstrates the impact of structural complexity in groups, and identifies the emergent or byproduct properties of structural complexity in groups.

The SCS protocol, for the purposes of this study, is five related frames of reference (individual, dyadic, triadic, four system, and five system) generated from the common living system property of self-regulating boundary operations (SRBO). Each frame of reference is related to all other frames of reference through the common property of SRBO. Each frame of reference is capable of describing groups structurally as:

1) The calculated complexity of the viewpoint of the observer, resulting from the number and type of connections between group members, and the rotated viewpoint of group members.

2) The instantaneous state of every member’s mode of SRBO connection with all other members in the group.

3) Emerging properties of groups as specific byproducts of group complexity related to growth.

4) A framework for implications about the behavior of groups.

The SCS protocol rules and structure appear to be valid for groups of more than five individuals, but those frames of reference were not developed in this study.
Chapter Three of this study utilized the SCS protocol to categorize theories of group development proposed by Bales (1950), Bennis and Shepard (1956), Bion (1959), and Tuckman and Jensen (1977), and to answer research questions posed in this study. The SCS protocol format for the review consisted of two major categories for each theory: (1) the identification of the primary frame(s) of reference apparently utilized by each of the four theorists to discuss group development, and (2) the implications of applying frames of reference as an alternative description of the group including structural implications, complexity, emergent properties, rules of transformation, and relationships to other frames of reference.
CHAPTER III

RESULTS AND DISCUSSION

Results

This chapter presents the results of applying the SCS protocol to categorize theories of group development proposed by Bales (1950), Bennis and Shepard (1956), Bion (1959), and Tuckman (1965), and answers research questions posed in this study. Included also is a discussion of results, implications, and recommendations for further research.

SCS Protocol Applied to Bion’s Theory of Group Development

Bion (1959) observed that any group was either working on a task, or acting as if it could not work on a task due to the emotional tone of the group. According to Eisold (1985), Bion’s approach to group therapy “referred not to therapy that takes place in a group context, but to therapy that is directed to the group as a whole . . . not at the individual members” (p. 327). Bion conceptualized the group as an entity, with few operations occurring between group members. His primary approach was from the leader toward the group, and the group toward the leader, suggesting a dyadic frame of reference.
Identification of the Basic Frame(s) of Reference

Bion (1959) apparently viewed the group from a dyadic framework consisting of the participant/observer and the group-as-a-whole. The dyadic framework best fit Bion's psychoanalytic conceptualization of the doctor and patient, and more specifically with an object relations approach to personality attributed by Agazarian and Peters (1981) to Melanie Klein. Bion's portrayal of the therapist-group dyad may have revealed his bias toward representing the group as an object, and the members of the group as part objects, allowing him to describe group behavior as if it were related to the original maternal object that was unstable and loosely assembled (Eisold, 1985). Whatever the reasons for his approach, Bion (1959) recognized that the chosen frame of reference was itself worth examining. He stated:

there is something in the in the speaker [group member] which colours his assessment of the situation in which he finds himself . . . even if it is still maintained that the individual's view of the group attitude to himself is of no concern to anybody but himself, I hope it is clear that this kind of assessment is as much a part of the mental life of the individual as is his assessment, shall we say, of the information brought to him by his sense of touch. Therefore, the way in which a man assesses the group attitude to himself is, in fact, an important object of study even if it leads to nothing else. (p. 43)
Implications of the Theorist's Basic Frame(s) of Reference

The SCS dyadic framework consists of four communicating modes between members of the dyad, potentially resulting in eight unique viewpoints. Applying the SCS protocol to Bion's dyadic view of groups resulted in the following analysis.

Structural implications. Bion's (1959) frame of reference appears primarily to have focused upon the dyad composed of the participant/observer and the group. The rotation of viewpoint allows a total of eight possible representations of what is happening between the participant/observer and the group. Bion (1959) represented the group's dyadic operation as, “the transition from a preoccupation with myself to a preoccupation with another member of the group is marked by a period during which the preoccupation with the other member shows unmistakable signs of containing a continued preoccupation with myself” (p. 44). This disclosure suggests that Bion recognized that initially his viewpoint began with assumptions about SRBO. Other evidence of Bion's view of group interactions being primarily dyadic concerned his concept of how the group responded to him. He stated:

The group will tend to express still further its preoccupation with myself, and then a point seems to be reached where, for the time being, the curiosity of the group is satisfied . . . then the group begins the thing all over again, but this time with some other member of the group. (p. 44).

This passage reinforces Bion's use of the dyadic framework to describe group interactions and capabilities. It should be noted that apparently all of Bion's assumptions about groups occurred from a participant/observer viewpoint that was never rotated to the
group's viewpoint through the use of self-reported measures of the group's opinion of its own state of affairs.

**Emerging properties.** The SCS protocol proposes that the property of dialog emerges as a byproduct of the growth of the group from the individual system state to the two system configuration. By choosing a dyadic framework to represent groups, Bion necessarily limited the group-as-a-whole or its individual members to be in a dialog only with the therapist, and limited the capability of the group in the area of meaningful interpersonal contact between members. The dyadic approach of therapist-group supported his proposal that the group must be feeling and acting as if it were of one mind in order to fit into his concept of a working phase and a basic assumption phase of operations. As explained earlier in this study, Bion proposed that a group might interrupt its primary working phase of operations with emotional patterns of behavior that he named the "basic assumptions" phase of group operation (Luft, 1984). The dyadic view is evident in his approach, since every member of the group component of the dyad was presumed to behave as if they were either working, or acting out of one of a common basic assumption modes of fighting, fleeing, pairing, or dependency. Bion described the basic assumption states as group behaviors "which seemed to be born of the conflict between group mentality and the desires of the individual" (p. 60). Eisold (1985) later characterized this conflict by stating, "our need to belong to at least some... groups is as profound as our need to sleep and dream. And yet, what we give up to belong!" (p. 339).
SCS Protocol Applied to Bennis and Shepard’s Theory of Group Development

In an adapted and revised version of the Bennis’ and Shepard’s (1956) theory of group development, Bennis (1964) observed that the formation of groups depended upon the resolution of authority issues and personal issues. Initially, the group leader attempted to define a boundary around the group, and assisted in forming it by facilitating the search for a common group goal. When this approach failed to produce results, the group split into two subgroups, one aligned with and dependent upon the leader, and the other resisting the leader and the leader’s supporters. When and if the conflict between the two subgroups reached a point that threatened the existence of the group itself as a haven of security from the outside world, a third subgroup of independent members emerged who were not aligned with either of the other subgroups. This third subgroup mediated between the two fighting subgroups, resulting in members reuniting the group by taking responsibility for the group and allowing the leader to become “just another member of the group”. This state of affairs lasted until the rule of “all decisions must be unanimous” failed to produce desired group harmony. Bennis (1964) commented that the rule of harmony began to break down when members realized that “Maintaining it [harmony] forces members to behave in ways alien to their own feelings; to go still further in group involvement would mean a complete loss of self” (p. 262). At this point, two new subgroups formed representing (1) those over personal members who banded together for unconditional love at whatever price, and (2) those counter personal members who banded together to resist further involvement.
Bennis (1964) proposed that the group might remain divided as two communicating subgroups until “Two forces combine to press the group toward a resolution . . . [as a result of] The approaching end of the training program and the need to establish a method of role evaluation [to differentiate group member responsibilities]” (p. 264). Once again, Bennis proposed that the independent group members would form a third subgroup “to restore member’s confidence in the group” (p. 264) reuniting the group and reestablishing progress toward its final goals.

Identification of the Basic Frame(s) of Reference

Structurally, Bennis and Shepard (Bennis, 1964) later credited Bion with the inventing dyadic modalities for dealing with group behavior. This framework provided the necessary mechanics for creating competing subgroups within a group, much as the therapist-group dyad competed with each other in Bion’s explanation of group development. Later, groups also employed a triadic structure to resolve conflict.

From the SCS viewpoint, Bennis and Shepard proposed that groups developed structurally by forming an external boundary to manage anxiety over security issues assumed to be important to its members. When leader facilitated progress toward anxiety reduction was not forthcoming, the unified group usually split into a dyad to struggle with the issues. When the dyadic format proved inadequate to resolve its conflicting positions, a third subgroup formed to mediate or provide feedback between the two fighting subgroups. The triadic framework apparently provided the group with the necessary tools to resolve its authority issues and return to a cohesive state. Later, when
this new state of harmony threatened individual autonomy, the group again divided into a
dyad to debate personal issues, and into a triad to negotiate a unified direction toward
final goals.

Implications of the Theorist’s Basic Frame(s) of Reference

According to SCS, Bennis and Shepard viewed group operations primarily as
dyadic and triadic frameworks.

Structural implications. Bennis’ and Shepard’s initial choice of the dyadic frame
of reference seems to have been based upon the assumption that in forming the group, the
leader is considered an outsider by group members, much as Bion had described. One by
one, group members align with the leader and are willing to adopt the rules of
membership modeled by the leader. Those members who did not adopt the leader’s rules
would themselves cause the first subgroup to form based upon their common goal of
resisting or competing with the subgroup now aligned with the leader. In later stages of
development, Bennis (1964) utilized a “bridging process” of feedback emerging from the
triadic frame of reference to resolve issues that apparently were insolvable from a dyadic
frame of reference.

Emerging properties. The dialog process assumed to occur between the two
competing subgroups is the emergent property that dyads possess and individual frames
of reference do not possess. Therefore, in utilizing a dyadic framework to describe the
initial stages of group development, the authors apparently believed that dialog was a
necessary property in the development of groups. The emerging triadic property of
feedback provided the mechanism for Bennis and Shepard to propose that a third subgroup might form and mediate or form a bridge between the fighting dyad. This move to a higher order of complexity to resolve issues beyond the scope of less complex structures accords with von Bertalanffy's (1981) assumption that systems may spontaneously adapt to complex situations by developing more complex forms through the living system property of equifinality.

**Complexity of structure.** The SCS dyadic framework consists of four communicating modes between members of the dyad, potentially resulting in eight unique viewpoints. The SCS triadic framework consists of sixty-four potential communicating modes between and among the triad, and as many as 192 unique viewpoints. The triadic form provides more than an exponential increase in the complexity of combinations of dyadic viewpoints between and among group members, and apparently introduces the structural capability for the group to explore and resolve more complex issues. Conversely, Bennis' (1964) model of group development indicated that groups would revert to simpler frameworks after issues were resolved at higher level frames of reference in order to focus on other issues. This apparent matching of structure to situation suggests a potential relationship between the complexity of the task and the complexity of the solution structure.

**SCS Protocol Applied to Bales' Interaction Process Analysis**

Bales (1950) assumed that group social processes were actually individual problem solving sequences of interactions. He stated, “what we usually regard as
individual problem-solving, or the process of individual thought, is essentially in form and in genesis a social process; thinking is a re-enactment by the individual of the problem-solving process as he originally went through it with other individuals” (p. 62). From this assumption, Bales logically concluded “that the best model we have for understanding what goes on inside the individual personality is the model of what goes on between individuals in the problem-solving process. The component parts—acts in a system of interaction—are identical” (p. 62). From this premise, Bales developed the Interaction Process Analysis (IPA). He proposed that “the idea of an interaction system is a key theoretical starting point. From it can derive the ideas of personality, social system, and culture.” (p. 62). The IPA is a set of twelve categories used to classify an individual’s immediate behavior in a group setting. Group behavior is categorized by an observer who ordinarily remained out of view of the group behind one-way glass. Active members (the actors) in the group were evaluated as they engaged in dialog with other group members. The transcripts of the group dialog were later evaluated to determine the progress of a session in moving toward its goal.

Identification of the Basic Frame(s) of Reference

Structurally, Bales (1950) created a virtual dyadic framework to capture interactions and transactions between individual members and target objects, and a virtual triadic framework to incorporate the unseen or non-participating observer into the group setting. According to Bales:
the observer tries to think of himself as a generalized group member ... as
the specific other to whom the actor is talking, or toward whom the actor's
behavior is directed, or by whom the actor's behavior is perceived ... in
other words, he attempts to put himself in the shoes of the person the actor
is acting toward. (p. 39)

Bales' (1950) process observer was "concerned not so much with what the basic
personality characteristics of the individual may be, but with the way the individual is
reacting here and now" (p. 41).

Implications of the Theorist's Basic Frame of Reference

Bales unusual combination of the dyadic and triadic frames of reference suggested
that the complexity of the task at hand influenced the choice of the most appropriate
structural frame of reference. A virtual dyadic framework proved to be adequate as a
basic structure for the IPA, and a virtual triadic framework proved to be adequate for
reporting results.

Structural implications. The structure of the Interaction Process Analysis was a
dyadic framework composed of the actor and the other group member who was the
receiver of the action. The dialog between members was studied by Bales in a half-duplex
manner, one side at a time, in order to "describe [what] takes place in a social context,
and if we assume that implicitly or explicitly it is divided among persons and is shared by
them, we can derive a fundamental sequence which will serve our purpose" (p. 53).
Assessing only the actor's behavior as it was likely received by the other member (1)
resulted in a virtual dyad composed of actor-observer, and (2) always located the viewpoint in the observer's position. No regard was given to the viewpoint from the actor's point of view. This approach simplified the assessment of behavior by eliminating any consideration of a reciprocal view of the action.

By creating an unseen or non-participating observer as a third element in the actor-other member virtual dyad, Bales was able to more accurately assess group events compared to the same situation involving a participating observer who also was engaged in a dyadic relationship with group members. The non-participating observer was also able to focus upon and record the here and now actions of the group without regard to any previous or anticipated future behavior of the group members.

Emerging properties. As stated earlier, Bales assumed that the best model of an individual personality was demonstrated through interactions between individuals. The virtual dyadic framework provided Bales with the property of dialog not present in the individual frame of reference. The properties of dialog were necessary for Bales to capture not only the impact of an actor's advances toward others in the group, but also to account for the dialog apparently observed between the actor and any target object, including the "self" of the actor. Bales stated, "A single biological individual in a room working at a problem, talking to himself or thinking out loud, is thus technically regarded as engaged in interaction [dialog], and insofar as the interaction is with the self—a social object—the actor is engaged in social interaction" (p. 42).

One of Bales' most important contributions to the study of group development was creating a triadic frame of reference consisting of the actor-other member-observer
virtual triad, where the unseen or non-participating observer was trained to record the here and now impact of group actors' apparent effect upon other group members. The emergent triadic property of feedback provided Bales with the necessary tools to diagnose group interactions. The non-participating observer's undisclosed feedback about group interactions provided Bales with the simultaneous benefit of a here and now recording of group events categorized in the IPA and the non-disruptive and uninterrupted viewpoint of the trained observer.

**Complexity of structure.** Bales managed the complexity of the dyadic and triadic frameworks in the IPA by limiting the rotation of viewpoint in the virtual dyad, and by providing only indirect feedback about group interactions in the virtual triad. In the virtual dyad, only the observer's view of the other group member's impressions of the actor was analyzed, and only four of the eight possible unique views of a dialog were available for analysis. In the virtual triad, direct feedback from the observer was not immediately available to the observed dyad of group members, resulting in the same four views in a possible 192 possible unique here and now views of the interaction being available.

**SCS Protocol Applied to Tuckman and Jensen**

Tuckman's (1965) article proposed four developmental stages (forming, storming, norming, performing) in the life cycle of the small group. Later, Tuckman and Jensen (1977) revised the life cycle to add a fifth stage, adjourning, to the sequence of small group development. These general categories were proposed to represent small groups in
settings that included group therapy, training groups (T-groups), and natural groups that were formed to do a job. The five stage model attempted to rationalize the content of more than fifty approaches to group development, and has been cited widely as a model of typical small group development.

Identification of the Basic Frame(s) of Reference

Structurally, Tuckman and Jensen (1977) defined small groups as having 5-30 members, depending upon the setting. In a group-therapy setting, group size ranged from 5-15 members, training groups ranged from 15-30 members, laboratory-task groups under 10 members, and natural groups were not bounded by size. In generalizing their results to all small groups, Tuckman and Jensen were able to focus on the content implications of each stage of group development, but not on structure. This study focused on the structural implications of the Tuckman (1965) and Tuckman and Jensen (1977) articles.

Implications of the Theorist's Basic Frame of Reference

Tuckman and Jensen (1977) described the development of groups in terms of what was apparently happening during each stage of development with no mention of structure. Applying the SCS to the Tuckman and Jensen stage model produced an alternative description of each stage of development.

Structural implications. Matthews (1992), commenting on the Tuckman and Jensen stage model, concluded that in the forming stage, the group leader facilitated the formation of a common boundary around a collection of individuals operating with closed boundaries. The leader accomplished this task by modeling a norm that
demonstrated everyone was considered to be in the group unless they chose to leave. In the forming stage, the leader was assumed to have the responsibility of bringing members into the group through some process of initial interviews, task assignment, or some other method of determining membership in the group. Structurally, this process ideally began with a dyadic relationship between the leader and each member. As group members were initiated into the group through the dyad of leader-member, the group grew to its ultimate core size. As discussed before in the description of SCS frames of reference, the simple growth in the size of the group introduced the potential for an extraordinarily evolution in the number of potential connections between group member SRBO modes of communications, and in the complexity of the rotated viewpoints. A group composed of leader and member potentially had eight SRBO-based rotated views of each other, and a group with three members including the leader had 192 SRBO-based rotated views of the situation. Groups of four and five members, including the leader, structurally created the opportunity for 16,384 and 1,310,720 SRBO-based rotated views of individuals in the groups. Applying the SCS protocol throughout the remaining four phases of development amounted to generalizing that as a group utilized successively greater numbers of potential connections and views, it developed the capabilities necessary to progress from forming to storming, to norming, to performing. In adjourning, the group apparently disengaged and simplified its potential connections between group members.

**Emerging properties.** In the forming phase, group members who were initially in a relationship with only the leader probably first began to operationalize potential connections with other group members through dialog and by rotating the view of the
group situation. As triads formed within the group, and feedback among members became possible, the group created its own opportunity to move toward integrating itself at higher frames of reference. For instance, a group of five members might begin to integrate its members by practicing dyadic relationships and dialog, and later move to explore triads and feedback. As the group began to operationalize the connections and emerging properties of four individuals, e.g., an individual observing a triad, the potential was created to learn first hand about how group systems operate without having to directly participate in the action. As the actual structural complexity of the group increased, apparently so did the opportunity for holding and expressing opposing individual views, referred to by Tuckman and Jensen as the beginning of the storming phase.

From an SCS viewpoint, the storming phase appears to be a time when group members tested SRBO combinations of communications modes to determine which ones felt safe or unsafe, and which ones were effective or ineffective. As the members began to agree upon safe and effective SRBO combinations of communications modes, the group began the norming stage.

Structurally, during the norming stage of the Tuckman and Jensen model, the group had the opportunity to operationalized many of the optional SRBO modes of communication, and institutionalized many of those combinations into the group's identity. According to Matthews (1992), during this phase the group may actually inspect its own method of operation from multiple viewpoints, allowing the process of equifinality to enrich each member's understanding of the group process. Individual
members might even become aware of recurring rhythms in the sequences of opening and closing their personal boundaries. As the focus of this stage began to shift from individual and group process to goal directions, the performing stage began.

From an SCS standpoint, during the performing stage of group development the group adopted the most appropriate structure to achieve its goals, and began the process of goal achievement. The performing stage introduces the possibility of routinely oscillating between more than one group structure, e.g., individual and dyad, dyad and triad, etc., in order to continue movement toward individual and group goals. The consistent and seamless transition between group structures seems to be accomplished only when all members recognized and utilized the rules of transformation based upon the deep structure of the group; the ability of every individual to autonomously self-regulate its boundary state with regard to others in the group.

When group goals began to be accomplished, the group began a process of adjournment. From an SCS viewpoint, adjourning is marked by a transition to a more appropriate frame of reference as task complexity diminished. In other words, when the group form was no longer necessary, it was disposed of just as practically as it had been created.

The researcher has observed that many groups avoid a process of adjournment and simply disband. This action violates the rules of transformation regarding movement from complex to more simple forms of structure. From a structural view, disbanding does not allow individuals an opportunity to reorient themselves to simpler structures as they did when they operationalized more complex structures. In addition, when group
members leave the group one at a time, the structural complexity of the remaining group declines to accommodate the smaller frame of reference. In larger groups, this loss of potential complexity may not be noticed. In smaller groups, the effect will actually impact the remaining group’s process. Structurally, it seems evident that structure and task complexity are related.

Discussion

This study demonstrated that a structural approach to categorizing theories of group development might be effective not only at a superficial or summary level of analysis, but also at an elemental level. The elemental level of analysis is made possible by the content independent and structural nature of the SCS protocol. The study revealed the apparent underlying structure present in each of the theories, and also revealed the apparent point of view held by the theorist when designing the theory. The following is a summary of structural observations for each theory.

Bion

Bion advanced the idea that the therapist-group relationship might be conceptualized from the therapist’s point of view as a dyadic relationship of two interacting or transacting system components. Bion apparently regarded the group as if it were a very complex individual, engaged in observable behavior. Bion restricted the opportunity for alternative viewpoints of group members by assessing them to be behaving as if they were of one mind. That is, from the therapist’s viewpoint, the group’s behaviors might be understood as if they were working toward a commonly understood
unified goal, or that they were interrupting that working behavior by acting as if they had commonly understood emotionally based assumptions about the group that caused them to fight, flee, pair, or, in some way, depend upon the leader. Structurally, Bion may be said to have advanced the study of groups by demonstrating a frame of reference in his descriptions of group that allowed for more opportunity (as many as eight unique viewpoints in the dyad to explain the behavior of individuals in a group setting) than a psychodynamic bimodal view of the individual being either open or closed to the outside world.

Bennis and Shepard

In their discussion of group development, Bennis and Shepard (1956) extended the dyadic presentation of group behavior, and more thoroughly inspected group members' systematic behavior by proposing that groups appropriately divided into dyads and triads to apparently match the group structure to the group task at hand (Bennis, 1964). Although Bennis and Shepard did not propose a structural theory of group development, the embedded framework in each of their phases of group development was made clearly visible through their description of what they thought was happening in developing groups. A structural approach allows another view of the situation explaining how these events might have occurred. The progression from one structural framework to another consistently followed uniform rules of transformation and generation in that emerging and submerging framework properties always matched the description of the group's capabilities. The concept of shifting from one structure to another vastly
increases the complexity of potential connections and unique views of a situation, and probably contributes to the solution of the task at hand. However, the overhead of maintaining such an increased set of connections and views by all members probably led the group to return to a simpler structure after the task at hand has been accomplished or declared impossible to accomplish.

**Bales**

This study revealed that one of Bales' most important contributions to the field was his creative use of the dyadic and triadic frames of reference. Bales IPA protocol created a virtual dyad composed of the actor and the observer in order to focus unemotionally on the potential impact of the actor's here and now actions from the view of other members in the group. The introduction of an observer into the actor-other member dyad created a virtual triad, with the observer safely distanced from the interaction. One must recognize that Bales created the IPA protocol as a structural process for more objectively observing and recording group events, and that he must have understood and managed the structural frameworks of reference to meet the complexity of the task at hand, i.e., the measurement of socio-emotional and task oriented group interactions.

**Tuckman and Jensen**

The Tuckman and Jensen (1977) sequence of development in small groups created a unified view of group development. It portrayed small groups as social systems
that moved through cycles of development. Each cycle was called a phase in the developmental model, and development was characterized as being continuous. From an SCS viewpoint, the growing structural complexity of small groups probably itself creates the potential for individuals to develop a wide variety of connections and views of other individuals in the group, resulting in a process that Tuckman and Jensen identified as stages of group development. In other words, as groups increase the size of their fully participating membership, the resulting emerging properties and variety of potential connections create the potential for developing the group to higher and more complex forms of organization and, presumably, higher levels of understanding. If this is the case, then the level and type of participation within a group structure may significantly contribute to that group’s development. From a structural point of view, Tuckman and Jensen’s contribution to the field may be seen as the diagnosis of the level of group involvement and development versus its potential for involvement and development based upon its structure.

Conclusions and Limitations

This study structurally identified and categorized the theories of group development proposed by Bion (1950), Bennis and Shepard (1956), Bales (1950), and Tuckman and Jensen (1977). Moreover, this study structurally assessed the process of group evolution presented from each theorist’s unique and creative point of view. However, due to the qualitative nature of discovery utilized in this study, certain limitations must be recognized as being part of the SCS protocol and its reported results.
The limitations of this study include (1) the review of literature and the derivation of relationships between group structures may have influenced the construction of the SCS methodology; (2) the selection of theories to be reviewed may have influenced the author and the resulting generation of the SCS protocol; (3) the SCS protocol treated all individuals, all dyads, and all triads as if they had identical structural capabilities; (4) all small groups of the same size were assumed to be structurally identical, but not operationally identical, regardless of their assigned task or leadership; and (5) the SCS protocol was only generated for group structures composed of one, two, three, four, and five members. By inference, larger groups were expected to follow the same rules of generation and transformation.

Research Questions Answered

The following research questions were answered as a result of developing a structural method of analysis that classified and categorized theories of group development:

1. Is there a content independent structural classification process that simultaneously codifies, accounts for, and categorizes the processes of individual behavior, interpersonal behavior, and group interactions?

This study generated the SCS protocol based upon the GST individual subsystem process of self-regulated boundary operations, and utilized the SCS protocol to demonstrate relationships among and between individual, interpersonal, and group frames of reference. The SCS protocol demonstrated that selecting one element of individual
behavior allowed group theorists to propagate a viewpoint based upon individual behavior into dyadic and triadic views containing emerging properties and numerous opportunities for connections between group members. The SCS protocol also demonstrated that group interactions may be related to group size and deep structural elements.

2. Could a content independent structural classification process be utilized to classify and categorize and relate multiple theories of group development proposed by Bales (1950), Bennis and Shepard (1956), Bion (1959), and Tuckman and Jensen (1977)?

The SCS protocol was applied in this study to theories of group development proposed by Bales (1950), Bennis and Shepard (1956), Bion (1959), and Tuckman and Jensen (1977) resulting in descriptions and categorizations of apparent underlying structural components in each theory, and the development of tentative relationships between the theories. It was speculated that group development, as described by the four theorists in this study, was also related to the level of intensity at which group members participated within a given structure. Emerging properties and connection possibilities combined with intensity of participation seemed directly related to the process of group development.

**Implications**

The results of this study indicated that a structural approach may be an effective method to evaluate and relate all theories of group development. Describing and explaining the apparent underlying structure in each theorist’s approach to small groups
provided new insights, and new respect for work done more than 20 years ago describing group process and development.

The structural classification scheme protocol may be viewed as a meta-theory of group operations and development that presents a parallel and alternative means of describing and assessing group behavior. New insights and implications gained from creating the SCS protocol and applying it to theories of group development included the following:

1) From a structural standpoint, it appeared that groups must learn to be groups. That is, while the small group structure or frame of reference potentially provided emerging properties and opportunities for connection to other group members, operationalizing those properties and connections appeared to require that sufficient group member skills be present to execute the group’s ultimate potential. The leader appeared to play a key role in the development of those necessary skills.

2) The group’s structural properties appeared to be directly related to the current frame of reference utilized by group members, and directly related to group size. Emergent structural properties of dialog, feedback, and triangulation were inspected in this study and found to be related to both the available or actual group structure and to a potential group structure related to its size. In other words, a group of five members may have only practiced and mastered dialog between interacting pairs although structurally it is capable of feedback and triangulation.

3) Connection opportunities appeared to be directly related to group size. Unique views of the group situation also appeared to be directly related to group size. This
finding implies that as groups grow initially to attain stable membership, their structural dynamics are seriously altered each time a new member is included in the group. In addition, absent members in mature groups would be predicted to have a direct effect upon the properties and connection possibilities of small groups.

4) Group development seemed related to group participation, and specifically to the ability of members to structurally open their boundaries, share emotional energy and information, and close their boundaries in order to assimilate and accommodate any altered sense of themselves. The assumption of a “rhythmic” opening and closing of structural boundaries to other members may suggest that some patterns of opening and closing boundaries might result in more group development than other patterns.

5) Group or team leaders with little counseling or interpersonal skills training might profitably use a structural approach as one estimate of a group’s or team’s ability to achieve its goals. A structural plan of action might provide a more emotionally neutral approach to discuss progress and problems encountered in attaining stated goals.

6) Group and team leaders might be trained to temporarily restructure groups in order to achieve immediate goals, with the full knowledge of the potential interruption to total group operations created due to changing properties and connection possibilities. This implication has far reaching effects in a business and personal services situations where reorganization has become a way of life.

7) Group and team leaders might be trained to acknowledge and plan for the change of structural state that potentially occurs when any group is reorganized, restructured, centralized, decentralized, franchised, or “downsized”. That is, the
properties and capacity of the group to do work may be irrevocably altered in measurable ways after those changes in group structure.

8) Structural countermeasures might be developed to buffer organizational changes resulting from reorganization, restructuring, centralizing, decentralizing, franchising, and downsizing as a means to more reliably alter the outcome of proposed structural changes.

Recommendations

More research is required to assess the relationships among and between a group’s structure, its operating frame of reference, and the group or team’s ability to achieve goals. This research might suggest that goal setting processes might more appropriately precede the design of groups or teams in order to improve the probability of achieving stated goals.

Valuable research might derive from an experimental approach to determining differences in capability among and between dyadic and triadic or larger group forms when attempting identical tasks. A structural approach to this area might allow a more objective identification of what measurable changes occur when one individual joins another to become a dyad, a dyad becomes a triad, a triad becomes a foursome, etc. A related issue in this research would be the potential determination of an “ideal size” for a group to accomplish its goals based upon its structure.

Additional research might demonstrate a correlation between perceived client boundary state, observed boundary state, and performance capability. For instance,
Durkin (1981) proposed that although a state of disorganization and confusion existed while boundaries were open, opening and closing boundaries was essential to the processes of change and learning in the organism. Experimentally, it might be possible to confirm her proposal that groups who regularly cycle through periods of open boundary sharing develop to higher levels of insight and presumably to higher levels of awareness and demonstrated productivity. From a structural standpoint, this research might also demonstrate that groups whose members reported utilizing more potential modes of connection might achieve group goals more quickly or with higher perceived quality.
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