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DANCING TOWARDS WHOLENESS:
AN EXAMINATION OF EMPATHY AND COHESION
IN SOCIAL WORK TREATMENT GROUPS

BY

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M.S.W., University of British Columbia, 1994
B.S.W., University of Victoria, 1983

DISSERTATION

Submitted to the Faculty of Social Work
in partial fulfillment of the requirements
for the Doctor of Philosophy in Social Work degree
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2001

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Abstract**DANCING TOWARDS WHOLENESS:
AN EXAMINATION OF EMPATHY AND COHESION
IN SOCIAL WORK TREATMENT GROUPS****By William James Pelech**

The purpose of this dissertation was to examine the relationship between empathy and cohesion in a social work treatment group. The findings reported below were derived from videorecording and analysis of 12 one-hour sessions from one closed residential treatment group. Both group cohesion and empathy were measured with validated rating scales involving observer ratings and self-reports by group members. In addition, a new construct was introduced to the study of group behaviour. Interpersonal coordination was imported to this inquiry as a means of examining changing patterns of nonverbal behaviour in the treatment group under study. Interpersonal coordination was defined as comprising two behavioural elements, behavioural congruence and interpersonal synchrony. Bivariate cross-correlational time series analysis and hierarchical cluster analysis were employed to examine the changing patterns of interpersonal relationships during each session. Bivariate cross-correlational time series analysis was also utilized to examine the relationship between the behavioural elements of interpersonal coordination and the changing group properties of empathy and cohesion. In addition, the influence of significant events and interpersonal relationships were explored and compared to significant relationships found in interpersonal coordination between group members.

This inquiry found a strong positive relationship between empathy and cohesion as well as evidence supporting further investigation of interpersonal coordination as a method for examining the quality of interpersonal bonds and affect shared between group members. The limitations of this inquiry, as well as the implications for future group work practice and research, were also discussed.

Acknowledgements

This dissertation is dedicated to the Dene Tha elders of northwestern Alberta. A traditional ceremony planned and led by the Dene Tha elders, known as the Tea Dance, will forever occupy a special place in my memories of working with the Dene Tha. From my experience, the Tea Dance served as a wonderful metaphor for group process. I will elaborate further on the special contribution that the Dene Tha elders have made to this project and my thinking about group treatment in the first chapter. Several other people made an enduring contribution to my practice, teaching, and research, and I would like to acknowledge the gifts they have shared with me. First, I thank Dr. Richard Sullivan, Associate Professor, University of British Columbia. Dr. Sullivan inspired my work as a teacher and researcher. His care and dedication to supporting the work of his students and his remarkable virtuosity in the use of theory to understand human behaviour bestowed upon me a vision of scholarship that propelled me into doctoral studies. Second, I acknowledge the contribution of Dr. Norma Lang, Professor Emeritus, University of Toronto. I will be forever grateful to Dr. Lang for introducing the rich legacy of practice wisdom offered by the social work with group's literature. Within this body of knowledge, I discovered a home, a heritage, and a deep sense of professional identification. Of course, I must also acknowledge the help and support of each of my Committee members. My Chair, Dr. Robert Basso, has offered patience, support, and wisdom both as a colleague teaching group work and in the design and implementation of this inquiry. I have learned a great deal from him about research methods and how to work effectively with students and colleagues. Through him, I have also learned a great deal about how to teach and facilitate treatment groups. His contributions touched all aspects of my life and work at Laurier and will continue to assist me long after his role of Chair ends. Dr. Martha Laurence has embodied many of my ideals of what it means to be a congruent social work educator. She too offered a rich

legacy in sharing her seminal work with groups at the National Training Laboratory. It has been both a pleasure and an honour to work with Dr. George Monette. Dr. Monette always approached data analysis with a level of patience, simplicity, and warmth that I have seldom encountered in my academic life. He also has shared with me a passion for inquiry and research that I will carry into future research. Through him, I have learned that quantitative research can be a truly exciting and creative endeavour. Dr. Jannah Mather has been an inexhaustible source of encouragement, warmth, and support that has sustained me throughout my doctoral program. Her gifts have benefited many associated with Laurier, and are in large part responsible for establishing within the Faculty of Social Work the conditions necessary for the fostering of growth and creativity so essential for meaningful graduate education. In sum, each member of the Committee have contributed in a vitally important and meaningful way, and each has demonstrated not only what it means to be effective Committee members, but also effective teachers, advisors, and group workers.

Finally, I need to acknowledge the courage, wisdom, and openness of the workers and clients who participated in this inquiry without whose contribution this inquiry would not have been possible. Through them, I have learned that research, though undeniably affecting the phenomenon under study, can often enhance the effectiveness of the therapeutic process. Indeed, as the group under study progressed through its work, group members began to realize that their initial discomfort with being recorded reflected more about their own levels of self-acceptance than the intrusiveness of the methodology. In this way, the camera and the one-way mirror reflected those very issues that the group members needed to address in order to recapture a sense of wholeness. Their experience confirmed an important element of group work practice wisdom, that every event occurring in the life of a group offers the potential of being harnessed in service of the group's therapeutic work.

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CHAPTER I: INTRODUCTION

Seated in a circle, deep in reflection, I have been honoured to witness those special moments where a thoughtful silence comes over a group. It is here where I have often sensed that group members have collectively entered a new space and a new way of being together. This awareness frequently arose in the midst of chaos, often following a time when one or more members have risked sharing a deeper and more vulnerable aspect of their selves that resonated with everyone in the circle. It is at this point that group members came to realise that the group can no longer be described as a discrete aggregation of individuals; rather a more expansive sense of self had arisen in the group.

In the literature relating to social work with groups, there has also been an appreciation of the emergence of the group as an entity. Grace Coyle (1948) once described this as "the intangible way in which the group spirit or esprit de corps manifests in the group" (p. 251). Helen Phillips (1957) later added:

The interaction of each member to the others and to the worker produces something new – a group feeling...Group feeling is more than the sum of the feelings of all of the group members, is a somewhat intangible quality but which is clearly identifiable to one who is free to sense it. (p. 110)

Often articulated as a sense of 'groupness,' 'bond,' 'we-ness,' or 'group spirit,' this feeling has been most commonly referred to in the literature as cohesion¹ (Yalom, 1995). It is at this point where, given appropriate conditions, a treatment group becomes a system of mutual aid and a powerful instrument for individual therapeutic change. It is also here where members experience a sense of something greater than their individual identities, a sense of oneness and

connectedness. An inspired colleague once described this phenomenon as “When spirit shows itself” (Dr. Pamela Colorado, personal communication, September 1992), and though it promises a profoundly healing experience, it is something that many crave yet seldom enjoy. There are many plausible reasons for this deprivation, such as early traumatic familial experiences, as well as a social and cultural context that eschews human relatedness and exalts rugged individualism. Yet it remains both a deeply felt human need and a memory that calls out to us all with a subtle prayer-like voice, like the songs of the Dene elders, leading us around the circle of life towards wholeness as people, families, communities, and a planet.

When I began to design this research inquiry, I reflected upon the previous times when I had experienced this sense of group spirit or cohesiveness. During this time, I realised just how remarkable it was for me, a white, middle-class helping professional raised in Vancouver, that my first experience in such a profoundly therapeutic group was in a far northern First Nations’ community during a traditional Dene ceremony known as the Tea Dance. As in a treatment group, the Tea Dance was held in a circle. It was led by the songs and drumming of the Dene elders. The elders brought to the circle skills and knowledge that had been passed down over many generations and which reflected the collective traditional wisdom of the Dene people. Yet, like truly skilled group workers, the elders did not approach the Tea Dance as experts who told the participants when or how to dance. Rather, they approached the circle with respect and trust. The elders respected each individual’s unique dance. They also trusted that if they prepared and conducted the dance in a good way, over time a wonderful phenomenon would unfold during the dance, a phenomenon arising from the convergence of each sound, movement, and behaviour towards a transformative synchrony–synchrony that resonated and sustained both the dancers and singers, and that offered a profound and deeply spiritual healing experience for all who entered the

¹Tropp (1976) also identified such attributes as bond, loyalty, stability, intimacy and mutual aid to describe a cohesive group. Coyle (1948) also related group cohesion to the bonds existing between members.

circle. In this process, I experienced a sense of wholeness and connectedness that I had never before enjoyed in my largely urban existence. From my experience, it is a process best done in a group, and in its essence, it is indeed a dance towards wholeness.

The overarching research question posed in this dissertation was: What is the relationship between empathy and cohesion in the group treatment? Specifically, are there patterns in how empathy and cohesion vary together over the life of a treatment group? If there are discernible patterns, how do they relate to the overall therapeutic effectiveness of the treatment group? This inquiry was generally exploratory in nature, and thus hypothesis testing was not a primary concern. As will be noted in the theoretical discussion, a relationship between empathy and group cohesion was hypothesized. In addition, the relationship between interpersonal coordination and the global variables of empathy, cohesion, and therapeutic effectiveness was examined. However, the major emphasis of this inquiry focused on relating the relationships indicated by the content of group interactions to the patterns of interpersonal coordination occurring over time. Through this process, the relevance and utility of interpersonal coordination as an indicator of the nature of interpersonal relationships, group cohesion, and group development was explored.

This inquiry attempts to respond to the need for: (a) a redefinition of empathy and cohesion in the development of social work treatment groups; (b) a more clearly articulated paradigmatic and theoretical basis for social work with groups; (c) increased coherence between paradigmatic revolutions and theoretical developments in science, social work practice theory, and models; (d) a new approach to measuring the development of interpersonal bonds and cohesiveness in groups; and (e) additional knowledge relating to how empathy, cohesion, and therapeutic effectiveness vary over the life of a treatment group.

To frame the remainder of this discussion, my examination of the nature and relationship of cohesion and empathy in treatment groups will be presented in four additional chapters. The

second chapter will identify and contrast salient principles of classical dynamics with those of a new theoretical framework known as self-organization theory. The second chapter will also offer a critical review of the literature pertaining to the constructs of group cohesion and empathy. This critical review will include a discussion of the limitations of previous research relating to cohesion and empathy in treatment groups.

The third chapter will outline the methodology adopted in this inquiry as well as the challenges encountered in attempting to capture the nonverbal behaviour of group members over the life of a treatment group. The reliability of the various measures utilized in this inquiry as well as the statistical approach taken in data analysis will also be explored.

The fourth chapter will describe the findings of this inquiry. This chapter will begin with a session-by-session analysis that describes how patterns of behavioural congruence and synchrony compare with the interactions and critical incidents that occurred during each session. Following the sessional analysis, an overview of the changes in the major constructs over all sessions will be offered, as well as a discussion of the relationship between the various instruments used to measure the constructs of empathy, cohesion, and therapeutic effectiveness.

Chapter Five will provide an overview and interpretation of the major findings of this inquiry. Particular attention will be paid to the relevance of the findings to the purpose of this inquiry and the tentative answers they provide for the research questions. Accordingly, included in this final chapter will be some observations about how the constructs of empathy, group cohesion, and interpersonal coordination appear to function in a treatment group. Finally, this chapter will close with a discussion of how the findings of this inquiry may inform future research, and how they may assist group workers to interpret and intervene more effectively in group interactions.

It should be noted that at the time of writing this dissertation, no other inquiry had adopted

time series and hierarchical cluster analysis for the purposes described here. In addition, no other investigator had explored the relationship between nonverbal behaviour and constructs of empathy and cohesion. Finally, no studies were found that extended measurement of interpersonal coordination beyond dyadic relationships. Consequently, this inquiry is precedent-setting, for it extends a new construct to inform our understanding of group dynamics and it pioneers the application of new statistical tools for empirical group work research.

CHAPTER II: LITERATURE REVIEW

Our understanding of group development is situated within a paradigmatic context. Over the years dominant paradigms have shifted, and thus, so have our perspective and understanding of such constructs as group development, cohesion, and empathy. In the first part of this chapter, I will discuss two theoretical frameworks that inform our understanding of group constructs. First, I will provide an overview of classical dynamics, which dominated physics and Western science from the Enlightenment to the beginning of the 20th century. From dynamics will flow a discussion of group dynamics and a summary of the traditional definitions of group cohesion and empathy. The second framework that will be delineated is self-organization theory. Included in this part will be the principles of self-organization theory, their contribution towards a redefinition and reconceptualization of the roles of empathy and cohesion, and their implications to our understanding of group development. In the third and final part of this chapter I will present a critical overview of the research literature relating to group cohesion and empathy in treatment groups.

Part One: Theoretical Frameworks

The field of dynamics involves the study of how various forces effect change (Barton, 1994). It offers a micro-level description of system behaviour as it focuses solely on individual components to account for changes in an entire system (Bushev, 1994). Founded by Newton, classical dynamics attempted for several centuries to explain all motion and change over time for all objects in the universe, ranging from atoms to planetary bodies. Classical dynamics was based

upon several fundamental principles including atomism, reductionism, determinism, externalism, stationarity,² and linearity.

Newton's idealized universe was dead and disconnected. Newton's universe was dead in that it contained inert matter consisting of fundamental building blocks or atoms. It was disconnected in that atomistic assumptions idealized all entities as self-contained, isolated, or conservative³ machines (Cambel, 1993; Griffin, 1988). Like a child trying to understand how his toys worked, Newton assumed that the universe could be understood by taking it apart. Hence, classical dynamics assumed that a complete understanding of any phenomenon or entity could be obtained from analysis of its basic components (Goldstein, 1995a). Also underpinning this reductionist epistemology was the assumption that the whole was simply the sum of its parts (Davies, 1988; Griffin, 1988).

Newton's universe was also deterministic. Once the initial conditions (e.g., position, mass, velocity) affecting an object were established, its behaviour was solely determined by the external forces acting upon it (Davies, 1988; Griffin, 1988). Classical dynamics reduced all motion into sets of idealized two-bodied relationships, where the motion of any object under study was predicted through calculation of individual forces exerted by each neighbouring object. In this orderly and lawful 'billiard ball' universe, it was both a possible and an ultimate goal of science to analyze, reconstruct, predict, and control any event or phenomenon. Thus, complete knowledge of causal laws and antecedent conditions would allow science to eventually predict the future with absolute certainty (Capra, 1982).

² Stationarity refers to a type of process of a time series that must satisfy two conditions. First, a stationary process is indicated by a mean and variance that remains relatively the same over time. Second, a stationary process is also evident when the covariance between two random variables is a function of their relative lag and not of their starting point (Gottman, 1981)

³ A conservative system is a closed system in that it does not allow the passage of matter, energy, or information across its external boundaries (Cambel, 1993).

As one may surmise from the above, classical dynamics was also founded upon an externalist ontology. External reality was considered as the only legitimate domain for reputable scientific inquiry. Subjectivity and introspection were eschewed as acceptable sources of knowledge (Griffin, 1988). Moreover, externalism also informed classical dynamics in terms of how entities functioned. In classical terms, systems were changed or organized solely by external forces. These external agents produced change through disturbing a system's equilibrium. From a classical standpoint, stability and order were associated with health (Goldstein, 1995a). Indeed, homeostasis was considered both a natural state and a goal that all entities strive to achieve (Goldstein, 1995a). Consequently, organismic processes and behaviour were assumed to be stationary; that is, they were viewed as fluctuating around a mean or equilibrium point. Accordingly, measures of central tendency were assumed to adequately approximate a system's ongoing state.

Not only was all motion or change completely determined and predictable, it was also assumed to be linear. Linearity presupposed that causes and effects were related proportionally. The magnitude of any fluctuation or behavioural response by an organism was viewed as being directly proportional to the magnitude of the initial stimulus or perturbation. (Davies, 1988). Classical behaviour was also believed to be reversible. Reversibility meant that changes in a system occurring over time could be undone and earlier system states could be repeated (e.g., regression).⁴ Finally, system movement through space was limited to what was termed locomotion, or simple linear motion from point A to point B (Griffin, 1988).

All of these principles have in one way or another informed our early theories about groups. For example, reductionism has resulted in the property of group cohesion being reduced to the sum of individual member attractions and a series of factors. Assumptions about linearity and locomotion have resulted in empathy being construed as primarily unidirectional in nature and

group development as a phase-invariant process. However, it was the work of Lewin that provided the most elaborate application of classical dynamics to group behaviour.

Group dynamics provided perhaps the single most influential contribution to our understanding of group behaviour and the nature of group cohesion. Lewin posited that a group was a social field where events arose from a totality of coexisting entities and prevailing forces (Lewin, 1951). True to classical equilibrium-based principles, Lewin conceived group process as being quasi-stationary, where equally strong forces maintained a dynamic equilibrium that fluctuated around an average level (Lewin, 1951). Tension and the potential for action was created by need (Durkin, 1964), and behavioural change was seen as a product of disequilibrium. Goal-oriented behaviour in groups arose as a result of efforts to reduce tensions and satisfy member needs. To describe such behaviour, Lewin adopted the classical construct of locomotion to describe how change in the forces impinging upon a system resulted in goal-oriented behaviour (Lewin, 1951). Each resultant force was the sum of two countervailing forces, a driving or goal-directed force and a restraining force that represented physical or social obstacles that hindered locomotion in the desired, goal-oriented direction (see Figure 1) (Agazarian & Peters, 1981; Lewin, 1951). Change involved a three-phase reversible process of unfreezing, locomotion, and refreezing.⁴ Outcomes of worker interventions were considered both predictable and determined by changing the resultant forces (i.e., reducing restraining forces) acting upon the entity targeted for change (Lewin, 1951).⁵

⁴For example, the construct of regression, which posits that systems can return to earlier states, has informed virtually all fields of practice.

According to field theory, system change was reversible, involving 'regression' in life space in the direction opposite to that characteristic of development (Lewin, 1951, p. 251).

⁵Lewin (1951) also noted a number of constructs that broke from classical dynamics and that predated the development of systems, ecological and self-organization theory. These constructs included interdependence (where social events were viewed as a function of the whole social field, where change in one part affects every other part), and contemporaneity (here and now orientation).

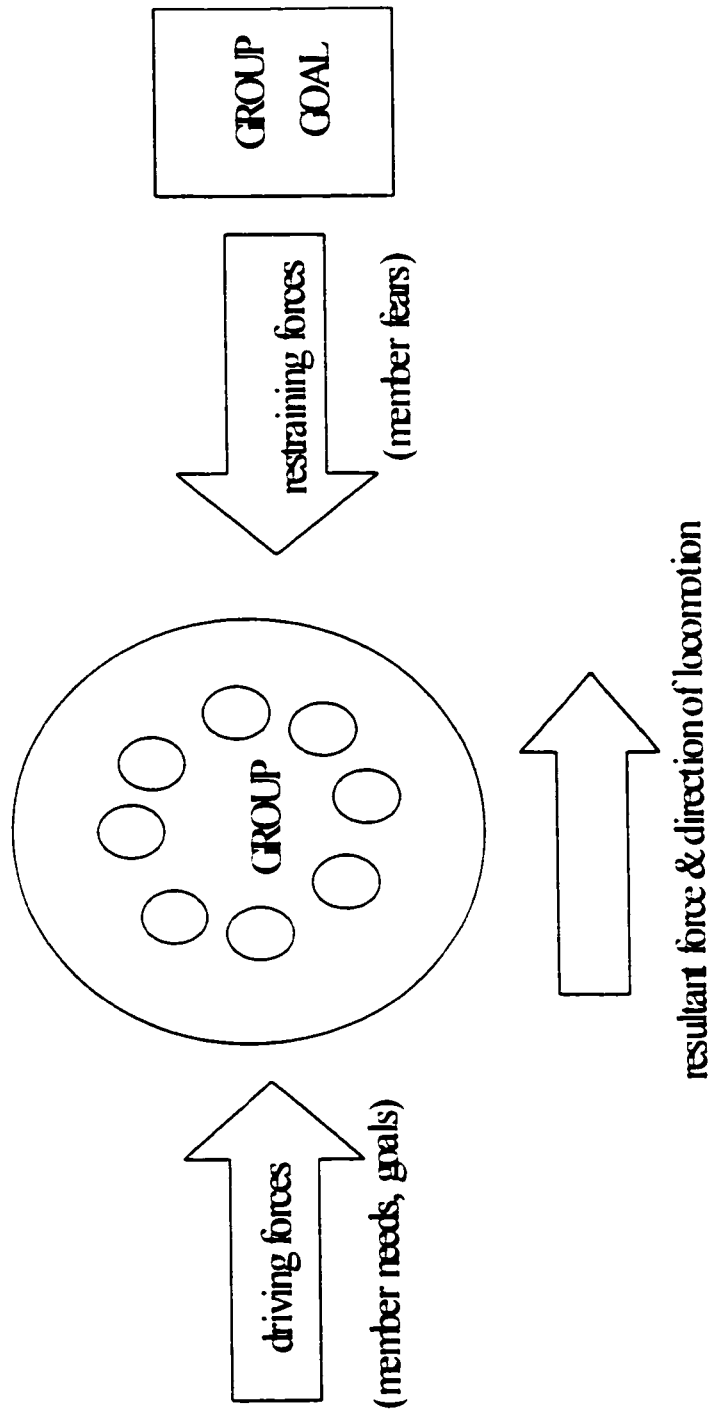


Figure 1. Lewin's Field of Forces

Though rooted in classical dynamics, Lewin's field theory also integrated more contemporary developments in gestalt theory and electromagnetism.⁷ Lewin (1951), well ahead of the development of systems theory, posited the process of regulation through circular causality or what later were to be termed feedback loops.⁸ To be sure, Lewin's contribution to our understanding of group dynamics left researchers with a rich theoretical legacy from which to launch many laboratory and field based research studies, and heralded what some have called a golden age in group practice and research in the 1950s and 1960s (e.g., Lang, 1979a).⁹

Defining Cohesion

In this section, I will briefly explore and comment on various perspectives on group cohesion prevalent in group treatment literature. First, after providing a literal definition of cohesion, I will discuss the mixed reviews accorded to cohesion as a therapeutic factor. Next, I will examine cohesion both as a micro-level property of member attractiveness to group and as an emergent group property. In the final part of this section, I will note how cohesion could be further expanded and conceptualized as an isomorphic construct.

The literal meaning of the word *cohesion* or the state of cohering was derived from the Latin word *cohaesus* meaning "to cleave or stick together" (Pines, 1994, p.47). From the beginning of social work with groups, there has been a close association between the constructs of group and

⁷ I have emphasized how Lewinian principles demonstrate the influence of classical dynamics; however, Lewin (1951) also noted a number of principles that went far beyond classical dynamics. In referring to causal loops (a precursor for feedback loops), he hinted at nonlinear relationships. He treated the group as a whole that was different than the sum of its parts, he also emphasized the interdependence of all behaviour and social events on the whole social field rather than solely on individual characteristics.

⁸ This construct was not only crucial for the development of systems theory, but also in understanding emergent complexity in self-organizing systems.

⁹ Development of the principles of force field analysis by his contemporaries, led to theories of planned change that have made a lasting contribution to social work practice to the present. Several texts (e.g., Pincus & Minahan, 1973) became required texts in schools of social work throughout North America in the 1970's and 1980's.

cohesion. Wilson and Ryland (1949) adapted Eubank's traditional definition, and defined a group "as two or more individuals in a relationship of psychic interaction involving an affective relationship based upon a mutual bond or we feeling" (p. 44). Similarly, the Germanic word for group was derived from the word for *crop*, or gizzard of a bird, wherein an agglomeration of substances were glued together through changes brought about by ingestion (Pines, 1994, p. 47).

Attempts at defining cohesion have been informed, and at times confounded, by prevailing scientific paradigms. Though definitions that describe cohesion as a global group property have abounded in the literature since McDougall (1920) and Le Bon (1910) grappled with the concept of 'group mind,' attempts to describe how a group collectively acts together have focused primarily on the behaviour, characteristics, and needs of individual group members.¹⁰ Beyond paradigmatic constraints, in the West there has also been a clear value bias that has favoured autonomous, individuated selves over interdependent collectivities (Jordan, 1984). Indeed, early interest in cohesion focused on understanding and preventing the negative effects of contagion in crowds. Le Bon (1910) described members of a crowd as a collective 'crowd man,' a body in which the normative ego controls or inhibitions of its constituents were surrendered to powerful and primitive group forces. In 1921, Freud (1967) offered what was the first of many descriptions of the Janus-faced nature of group cohesion. Informed by Le Bon's work, Freud described cohesion as a primitive 'herd instinct' (1967, p. 49). Drawing from his appreciation of families, Freud also described cohesion as arising from Eros or love.

Cohesion as a Therapeutic Factor

Despite this early and enduring ambivalence towards cohesion, cohesion has also been described as the "ultimate in achievement of group formation" and a "desirable state" from the

standpoint of the group as an instrument of service delivery (Hartford, 1972, pp. 258-259).

Cohesion has been one of the most widely examined therapeutic factors in group treatment.¹¹

Regardless of group type (i.e., inpatient/outpatient; Kapur et al., [1988]), member characteristics (e.g., age, gender), group setting or treatment modality (Colijin, Hoencamp, Snijders, Van der Spek & Duivenvoorden, 1991), cohesion has consistently been rated by group members as either the most helpful (Maxmen, 1973) or one of the top four therapeutic factors (Long & Cope, 1980; Marcovitz & Smith, 1983). The relative importance of cohesion as a therapeutic factor in promoting positive treatment outcomes (Bednar & Kaul, 1994) has resulted in it being considered as important as the client-worker relationship in casework (Fuhriman & Barlow, 1983). Moreover, it has come to be regarded as a necessary precursor for the development and influence of other therapeutic factors (Yalom, 1995).

Several extensive reviews of therapeutic factors in group treatment research (Bloch & Crouch, 1985; Corsini & Rosenberg, 1955; Lott & Lott 1965) have included cohesion as a therapeutic factor. In an early review, Corsini and Rosenberg (1955) identified cohesion as a sense of group identity and classified it as a subcategory of acceptance. This association with acceptance, defined in individualistic terms as "respect for and sympathy with the individual" (Corsini & Rosenberg, 1955, p. 407), has contributed to its reduction from a group or collective construct to an individual member experience.

However, many analytically oriented group therapists have retained Freud's ambivalence towards cohesion. Bion (1970) described cohesiveness as "cement" that joined members together in shared basic assumption states. He, like Slavson (1979), regarded cohesion as counter-

¹⁰Corsini and Rosenberg (1955), in what was the most comprehensive review of group therapy literature of its day, identified cohesion as a component of acceptance. Within the category of acceptance, a sense of group identity or cohesion was the most frequently cited aspect.

¹¹ A therapeutic factor is an element of group treatment that brings about improvement in a member's condition and is a product of the actions of group members and the worker (Bloch & Crouch, 1985).

therapeutic and asserted that cohesion blocked individuation (adopting the negative sense identified by Freud) and the therapeutic work of a treatment group. A cohesive group in this negative sense defended against anxiety through unconsciously adopting one or more basic assumption states (dependency, pairing, fight/flight) and their related emotions (guilt, hope, anger, hate). Similarly, Pines (1994) noted that although cohesion endowed a group with the capacity to work through conflict and differences, cohesion also impeded group development through fostering an overemphasis on member similarities and excessive idealization of the group among its members. Cohesion was thus viewed by many analytically oriented therapists as an archaic or primitive form of fusion and a collective defence against anxiety (Pines, 1993).

This pejorative view of cohesion has led others to question whether the relationship between therapeutic efficacy and cohesion is strictly linear, or whether beyond a certain level cohesion becomes counter-therapeutic¹² (Bloch & Crouch, 1985; Douglas, 1979; Goldberg-Wood & Middleman, 1996; Northen, 1988). Northen (1988), after outlining many positive impacts of cohesion, noted that overly strong cohesiveness may inhibit therapeutic processes (e.g., expression of negative feelings, loss of individuation, isolation from external information, discouragement of difference in thinking, feeling and behaving). Goldberg-Wood and Middleman (1996) similarly equated cohesion to gravity (or a continuous force that arises in any group over time) and raised similar concerns about how cohesion fostered conformity and suppressed difference and conflict.

Another theoretical stance depicted cohesion as neutral (Bloch & Crouch, 1985; Douglas, 1979; Frank, 1957). In this view, cohesion could differentially promote or impair both therapeutic change and group development depending upon the nature of prevailing group norms and culture. Frank (1957), and later Stock-Whitaker and Lieberman (1964), noted that combined with proper therapeutic norms, cohesive groups enhanced self-esteem, resolved conflicts, facilitated catharsis,

and increased the group's ability to bring about and maintain therapeutic change (cited by Frank, 1978). As Frank (1957) explained:

The therapeutic relevance of group cohesiveness lies chiefly in the fact that the more a group's members are attracted to it, the more they are influenced by its standards. If these approve diversity of outlook, non-defensive expression of feelings and honest attempts at self-examinations; if they reward maintenance of communication no matter how angry patients get at each other; and if they put a premium not on mutual liking but on mutual respect—then the more cohesive the group is, the more likely it is to induce therapeutic changes in its members. (p. 63).

Cohesion: Micro-level – Member Attractiveness to Group

During the 1950s, cohesion was clearly identified as a central construct in group dynamics. As for all other behaviour in both classical dynamics and field theory, cohesion was viewed here as a function of prevailing forces. Cohesion also appeared related to another Lewinian construct known as valence.¹¹ Valence was described as a field of forces that had a positive central field where, in the absence of other competing valences, a person would move towards the centre (Lewin, 1951). Thus, cohesion was seen from this perspective as a positive valence, one that attracted each member towards the group (see Figure 2). Lewin also postulated that group cohesion was positively associated with the relative similarity of goals, values, and needs shared by group members. In addition, he also posited that group cohesion decreased when a group failed to reach certain need-satisfying goals, or when members were satiated by repeated need gratification (Lewin, 1951).

Festinger, Schachter, and Back (1950) introduced what was to become the traditional definition of cohesion as "the total field of forces that act on members to remain in the group" (p. 164). Here the dominant metaphor for cohesion was atomistic and magnetic, where members, like

¹² Indeed, later in this discussion relating to self-organization theories it will be shown how cohesion may indeed constrain group development and hence therapeutic efficacy.

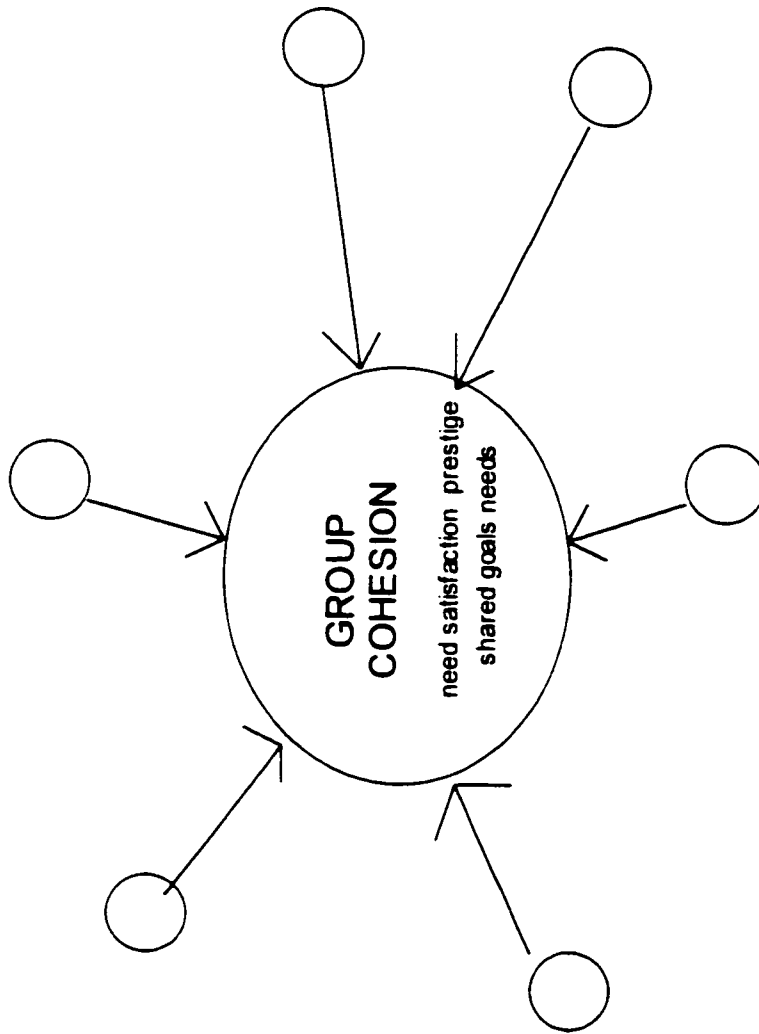


Figure 2. Cohesion as Positive Valence

iron filings, were attracted by the magnetic force of the group (Agazarian & Peters, 1981).

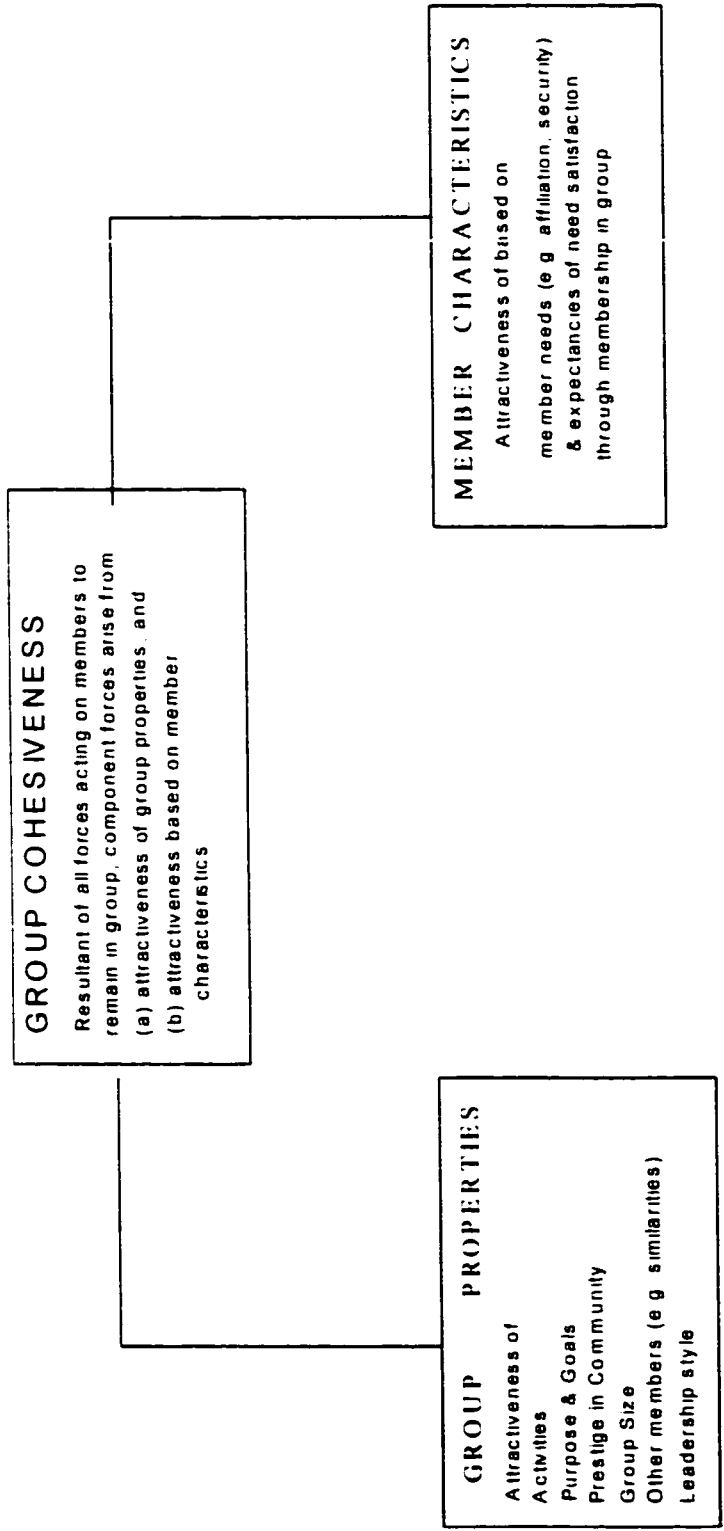
Forces of attraction were additive, in that addition of attractions from different sources would increase the total attractiveness of the group for its members (Cartwright, 1968). Cohesion varied depending upon group properties (e.g., goals, programs, size, prestige in community) and member characteristics (e.g., needs for affiliation, recognition, security) (see Figure 3) (Cartwright, 1968).

Cohesion could be increased as a function of member expectation of need gratification, the relative clarity of group goals and member tasks, and the perceived prestige of group membership (Cartwright, 1968). Group dynamics also postulated that a member would leave a group when its net cohesiveness was less than zero. This occurred when forces driving the member away (e.g., attractiveness of alternative group memberships) were greater than the sum of the forces restraining her departure (Cartwright, 1968). Moreover, highly cohesive groups were viewed as intolerant of even small differences of opinion. Difference was associated with disequilibrium, an unnatural state that a cohesive group would continuously attempt to eliminate (Cartwright, 1968).

Contemporary variants of a micro-level definition based upon the attraction of each individual member to the group have endured until the present.¹⁴ Several have (Bloch & Crouch, 1985; Fuhriman & Barlow, 1983; Yalom, 1995) supported an expanded definition to include member to worker, member to member, and member to group relationships. Retaining similar two-bodied relational qualities, attraction has been supplanted with such new terms as ties (Granovetter, 1973), commitment (Fuhriman & Burlingame, 1994b; Goodman, Ravlin & Schminke, 1987; Piper, Marrache, Lacroix, Richardsen & Jones, 1983), member involvement (Moos, 1976 cited by Evans & Jarvis, 1980), and enlargement of member-worker alliance

¹³ The construct of valences bears an important similarity to what in classical and dynamical systems theory have been labelled as attractors.

¹⁴ See also Bloch and Crouch, 1985; Cartwright, 1968; Donigan and Malnati, 1997; Frank, 1957; Johnson and Johnson, 1991; Levine, 1979; Libo, 1953; Lott and Lott, 1961; Nicholas, 1984; Northen, 1988; Pepitone and Kleiner, 1957; and Stokes, 1983.



Adapted from: Cartwright (1968)

Figure 3. Group Cohesiveness: Total Attractiveness of Group Properties and Member Characteristics

(Grotjahn, 1981). Frequently, cohesion has been identified as analogous to a dyadic therapeutic alliance (Budman et al., 1989; Furihman & Barlow, 1983; MacKenzie, 1990; Yalom, 1995).

More recently, faithful to classical reductionist strategies, several investigators have ironically suggested fragmenting cohesion and reducing it to a number of smaller equally ill-defined parts (Bednar & Kaul, 1994; Braaten, 1991; Budman, Soldz, Davis, & Merry, 1993; Piper et al., 1983). In general, attempts at empirically demonstrating the multivariate nature of cohesion have not been successful. For example, Budman et al (1989), despite creating a multivariate cohesiveness scale,¹⁵ reported that "contrary to our expectation that we would find cohesion to be a multidimensional concept, the data appear to point to a single dimension (or underlying factor)" (p. 347). Similarly ironic was the position taken by Bednar and Kaul (1978) who, after noting that there was little cohesion in cohesion research, supported discarding cohesion as a construct entirely and reducing it to a series of factors.

Ultimately, adherence to an outmoded epistemology, combined with methodological expediency, has resulted in cohesion being treated as largely a member phenomenon. This obfuscation of a group property produced a "legacy of confusion" (Mudrack, 1989, p. 37) and frustration. As Mudrack (1989) noted:

Definitions that utilize the metaphor of 'the atom' to describe group cohesiveness (i.e., 'resultant forces,' 'fields or forces,' 'disruptive forces') have turned out to be impossible to operationalize. On the other hand, definitions that employ notions of 'attraction to group' or 'mutual positive attitudes' while clearly easier to operationalize—focus exclusively on individuals at the expense of the group, and may not entirely capture the concept of group cohesiveness. (p. 42)

There have been many who have criticized the use of mean and aggregated member cohesion ratings to gauge overall group cohesiveness (e.g., Budge, 1981; Evans & Jarvis, 1980; Gully, Devine, & Whitney, 1995; Libo, 1953). Others (e.g., Drescher, Burlingame, & Fuhrman, 1985) have concluded that by adopting such methodologically expedient approaches most

researchers have implicitly defined the group property of cohesion as simply the sum of its parts.

Moreover, as Evans and Jarvis (1980) asserted:

Much of the confusion associated with the concept of cohesion has been the result of equating cohesion with the combined attraction to group scores of individual group members. This approach does not capture the group nature of cohesion, and has confounded the conceptualization of cohesion and attraction to group. (p. 366)

Finally, many reviewers (Drescher, Burlingame, & Fuhriman, 1985; Evans & Jarvis, 1980; Mudrack, 1989) have commented on the overarching lack of conceptual clarity in terms of how cohesion has been defined and operationalized in empirical research.

Cohesion: As an Emergent Global Property

Social work, though inevitably affected by prevailing paradigmatic influences, has also been strongly influenced by sociological theory, and has historically adopted a more global and interactionist perspective with respect to group processes and cohesion. For example, Coyle (1930) described how cohesion or "magnetic centres" arise out of the "total web" of member interactions. (p. 33). Coyle described cohesion or esprit de corps as a complex emergent emotion arising in the group that waxed and waned over time. As Coyle (1948) noted: "The intangible and permeating atmosphere of any group has its ups and downs of barometric pressure" (p. 251).

Similarly, Hartford (1972) asserted that cohesion was

a group phenomenon, the product of the interaction, the outcome of the other group processes that culminate into a synthesis or an integration of individual factors and the achievement of group factors. (p. 247)

Moreover, Coyle (1948) offered what was one of the first isomorphic descriptions of cohesion. Coyle described the group bond (a forerunner of cohesion) as functioning on three levels, including at the conscious level as an avowed common purpose; at the preconscious level

¹⁵ See the Harvard Community Health Plan Cohesiveness Scale in Budman et al., (1993).

as assumed or implicit objectives; and at the unconscious level in the release of aggression and other impulses.

Like Coyle, Hartford (1972) noted that cohesion fluctuated over time. She conceptualized cohesion as being affected by the presence of conflict and several of the aforementioned factors (e.g., member need satisfaction, group status). As Hartford noted:

Just when the group seems to be forming, a radical change may take place. There may be a strong forward thrust towards integration, or there may be conflict or disintegration followed by rapid termination or reintegration. (p. 80)

Douglas (1979) identified four group processes: basic interaction, structural, locomotive, and molar processes. Cohesion was identified as a molar or global process, one that was primarily emotional in nature and that influenced other processes. Northen (1988), offering a mixed view, defined cohesion as arising out of a number of well-documented factors (member interaction and attraction, attraction or agreement with group purpose, goals, interests, activities) and noted that cohesion was

a group property with individual manifestations of belongingness and attraction to the group. The concept refers to the attraction that members have for each other and for the group as an entity. (p. 43)

As demonstrated by our early writers, an understanding of cohesion required an appreciation of its emergence as a function of member interaction over time. Accordingly, most social work group developmental models identified cohesion as most prominent during the middle stages of group development (e.g., Garland, Jones, & Kolodny, 1973; Northen, 1988; Trecker, 1972) As Northen (1988) noted:

To the extent that the group is viewed as the agent of change, as contrasted with changes being brought about by the worker or activity, strong cohesion during the core stages of development is a major therapeutic or dynamic force for change. (p. 44)

Finally, Budge (1981) contended that, at a minimum, cohesion possesses dialectical properties arising from an ongoing tension between integration (the maintenance of interpersonal

bonds) and differentiation (or the expression of individuality or difference) existing throughout the life of a group.

Outside of social work there have been others who have defined cohesion in more global terms. Frank (1957) noted how the global properties of a group served to influence individual members. Frank (1957, 1978), consistent with a self-organizational view, also asserted that in social groups there was a natural process,¹⁶ a "human tendency" to make groups cohesive (Frank, 1957, p. 97). Durkin (1964), echoing social work literature, described how bipolar (i.e., centrifugal or centripetal) group processes (e.g., norms, conformity pressures, leadership) variably moved the group towards greater cohesion or fragmentation. Several have separated individual member acceptance or attraction from the global property of group cohesion (Furhriman & Burlingame, 1994b; Yalom, 1995). Evans and Jarvis (1980) redefined cohesion as the degree of group unification. Owen (1985) offered several definitions of cohesion similar to early social group workers (bond, group culture, or sense of we-ness developing through interaction) and noted how, as a product of interaction, groups developed consensual meanings, structures, metaphors and social realities.

Expanding the Construct

Bion's (1970) application of object relations theory to group treatment also provided for expansion of the construct of cohesion to the intrapsychic level.¹⁷ Object relations involved the study of how interpersonal relations determine intrapsychic structures. It focused on how these intrapsychic structures maintain, change, and trigger past internalized relations with others in the

¹⁶ Kellerman (1981b) similarly described cohesion as a natural evolutionary process.

¹⁷ At the intrapsychic level, two psychoanalytic approaches have introduced the concept of cohesion, object relations theory, and self psychology. Both of these two person psychologies have been extended to work in groups. Both Kohut's cohesive self and Kernberg's metabolized self-representation define mental health as a coherent, stable, and positive sense of self (Hartman, 1981).

context of present interpersonal relations (Wong, 1981). Object relations theory assumed that all individuals attempt to structure their social environment so that it reflects their internal object representations (reflecting their early relationships with caregivers responsible for meeting their needs) (Wong, 1981). From an object relations perspective, self-cohesion was achieved through successful restructuring of the self through regression and the loosening of superego structures (Hartman, 1981). At the core of object relations theory was the process of internalization through which members form internal schemata of their experiences with others (Brabender & Fallon, 1993). Pathology involved perceptual distortion and arose when, to reduce inner chaos or anxiety, individuals impose primitive defensive structures upon their environment. Some of these primitive defensive or coping responses included splitting and projective identification (Wong, 1981). Splitting involved an attempt to preserve self-cohesion by splitting off intrapsychic conflicts and projecting them onto other members, workers, or the group as a whole (Weinhold & Weinhold (1995). Projective identification involved expelling unacceptable elements onto other members and acting to elicit the element from them. From an object relations view, healing occurred when a member re-internalizes expelled elements, forming a new, more cohesive intrapsychic structure. Characteristic of the aforementioned analytic bias, Kibel (1993) has also noted how member bonding was achieved in the early stages of a group through selective ego regression that reduced anxiety associated with role uncertainty. Similarly, Hartman (1981) noted how fluctuations and regression in intrapsychic structures made cohesion possible (Hartman, 1981). From this view, intrapsychic cohesion fluctuated during interpersonal conflicts and over the course of group development.

Agazarian and Peters (1981) integrated psychoanalytic, field, and systems theories, and offered what was one of the most sophisticated treatments of cohesion. Integrating the traditional field theory magnetic metaphor with the energetic constructs of systems theory, Agazarian and

Similarly, Braaten (1989) has commented how internalization of atmosphere of a cohesive group

Peters described cohesion as a magnetic or bonding force measured by the amount of energy needed to move group members away from the group. Consistent with a systems view, they redefined cohesion in isomorphic terms and described how it influenced group dynamics at various levels of description. At a group level, they defined cohesion as an internal magnetic force that maintained group integrity through its phases of development. Here cohesion was viewed as affecting the energy available for enforcement of norms, locomotion towards goals, and the maintenance of group structure. On an interpersonal level, cohesion was defined as the connectedness between the group members and subsystems. Here, cohesion was manifested by member bonding in reciprocal role relationships. On an individual level, cohesion was seen as related to member expectations for need satisfaction, as measured by the ratio of anticipated gratification to expected cost. Groups, and other superordinate systems that emerged over time, were seen to be dependent upon antecedent subordinate systems (e.g., subgroups, individuals). According to Agazarian and Peters (1981), isomorphic relations existing between all system levels allowed for change in any system level to bring about changes on all others.¹⁸ Thus, in extending the principle of isomorphism, Agazarian and Peters (1981) provided an opportunity for exploration of how group cohesion brought about individual therapeutic change, and provided an expanded view of cohesion extending from intrapsychic to global levels.¹⁹ From this position, one may readily discern how limiting cohesion to any single level of description impairs an appreciation of how cohesion functions as a therapeutic factor. Rather than reducing cohesion to

promotes self-acceptance or self-cohesion.

¹⁸ Piper (1993) has expressed concern about how such a multidimensional approach may be too complex for application to actual groups.

¹⁹ An ecological view of cohesion has not been explicitly addressed within the social work or group therapy literature save for expression of the need for inclusion of transactions with the groups environment in our models (Kellerman, 1981b; Moore, 1983).

an atomistic construct or limiting it to a group property, cohesion may be optimally viewed from a broad ecological perspective ranging from intrapsychic to global levels of description.²⁰

Defining Empathy

Historically constrained in the same paradigmatic context as cohesion, our understanding of empathy has been similarly plagued by conceptual confusion and inconsistencies (Gladstein, 1987). For example, descriptions of empathy have been reductionistic and have often focused on the identification and analysis of its separate components (e.g., cognitive, affective). Empathy has also been defined in atomistic terms and conceived of as an individual internal response (Surrey, 1990). Similarly, empathy has been considered as primarily a unidirectional and linear phenomenon, something that is done to or for a client. The constraints imposed by a two-bodied definition may have, in part, resulted in the paucity of research into how empathy functions in treatment groups. However, in the work of Jordan (1984), empathy has been reframed as a relational process characterized by mutuality (cited by Jordan, 1990). In the balance of this section, I will briefly discuss the conceptual development of empathy as well as its application to groups.

Empathy was derived from the Greek term *empathia*, meaning affection and passion with a quality of suffering (Barrett-Lennard, 1981). Scheler identified three primitive forms and five higher forms of empathy (Scheidlinger, 1982).^{21 22} The modern usage of the term was coined by

²⁰ The interplay of intrapsychic and interpersonal functioning has been well documented in the literature. Yalom (1995) has noted how a treatment group is a social microcosm where interactions in the group mirror the members' relationships in the broader social environment. Moreover, Yalom (1995) has noted how social acceptance by other group members and self-acceptance are interdependent. Kellerman (1981a) has described how cohesion was related to congruence between member superego structures and group structure.

²¹ These included three primitive forms: (1) *Einfühlung*—an instantaneous community of feeling along with reflex motoric mimicry; (2) *Miteinanderföhlung*—where two or more people react simultaneously in a similar manner to the same stimulus (spectator like reactions to an event); and (3) *Geföhl ansteckung*—emotional contagion. Higher forms of empathy are (4) *Miteföhl*—common feeling of sorrow or pain by two or more persons with awareness that they all suffer; (5) *Einsföhlung*—feeling of

Lipps (1897) when he used the term *emfuehlung*, which he described as the process where one becomes totally absorbed in an external object and receives a powerful meaning (Barrett-Lennard, 1981). Of particular relevance to this discussion, in 1906 Lipps (as cited by Hatfield, Cacioppo, & Rapson, 1992) also suggested that empathy was an unlearned or innate motor mimicry response to another person's expression of affect.

Psychoanalytic theory, particularly self psychology, as well as humanistic theory and feminist perspectives have prominently influenced empathy as a therapeutic construct. One classical psychoanalytic definition of empathy was:

a special mode of perceiving the psychological state or experiences of another person. It is an emotional knowing of another human being rather than intellectual understanding. To empathize means temporarily to share, to experience the feelings of another person. (Moore & Fine, 1968 in Berger, 1987)

Empathy in self psychology was viewed as a scientific tool used to gather data about another's experience (Rowe & MacIssac, 1991). This tool involved what Kohut (1984) termed "vicarious introspection," which was, according to Kohut, a special form of non-judgmental (or neutral) analytic listening and sensing (Shapiro, 1991). This special form of attending brought about one's temporary immersion into the feeling state of another without losing one's boundaries or sense of self (Harwood, 1992). According to Kohut, vicarious introspection was accompanied by the worker relating her own interpretation back to the client (Arensberg, 1990). This interpersonal process served to facilitate the unfolding of a client's inner experiences and the emergence of unmet developmental needs (Rowe & MacIssac, 1991). From a psychoanalytic

oneness with another object—approaches identification with others based upon a common tie, goal or quality; (6) *Nachfuehlung*—understanding of how another person feels; (7) *Menschenliebe* and (8) *Akosmistische person und gottesliebe*—love and respect for humankind, a mystical religious sympathy.

A simpler typology was later proposed by Buie (1981). Buie identified four types of empathy as: (1) conceptual empathy—involving a cognitive understanding of what is meant; (2) self-experiential empathy—where the worker draws upon his or her own experiences to derive an empathic response; (3) imaginative imitation empathy—where one's imagination is used to put oneself into the world of

perspective, to empathize required uniquely adult functions and an ability to decentre within an integrated sense of self (Berger, 1987).

In social work, empathy has been described as a primarily affective process²³ that was closely linked to intuition (Northen, 1988). Here empathy was commonly defined as the ability to feel with another person (Northen, 1988; Phillips, 1957) and could be experienced and expressed in various degrees ranging from relative unawareness to a level where a group member clearly understood that the worker was with them in their experience.²⁴

Within the humanistic tradition, empathy served as one of the three therapist-offered conditions necessary for therapeutic growth. Along with congruence and unconditional positive regard, Rogers (1980) defined empathy as the ability

to perceive the internal frame of reference of another with accuracy and with the emotional components and meanings which pertain thereto as if one were the person, but without ever losing the 'as if' condition. (p. 26)

Consistent with Buie (1981), Rogers defined empathy as an interpersonal, and yet essentially unidirectional, process in which the client learned about herself through the worker's empathic understanding.

However, limiting empathy to a unidirectional therapist offered condition, did not promote an understanding of how empathy functioned in a group setting, nor helped to explain how a group may function as a system of mutual aid. Implied in these definitions was an assumption that for group members to understand their feelings and experiences they must experience the worker's empathy (Giesekus & Mente, 1986). Clearly, empathy as a necessary ingredient in

another; and (4) resonant empathy—involving an intense, supposedly primitive form of emotional communication.

²³ Perlman (1979) has noted that emotion and movement stem from the same Latin word, *movere*.

²⁴ Similar definitions and prescriptions were applied by Wilson and Ryland (1949), Phillips (1957), and Konopka (1983).

treatment must be expanded to a condition not only offered by the worker but by group members as well.

Expanding the Construct

To this end, in recent years the work of Barrett-Lennard (1981), the Stone Centre (see Jordan, 1984, 1990; and Surrey, 1990), and humanist group psychologists have served to redefine empathy as a relational process. Barrett-Lennard (1981, p. 92) coined the term 'relational empathy'. This construct was complex, multi-levelled, and cyclical. Informed by systems theory, it included the principle of feedback, where all parties participated and were "co-affected" by the empathic process.²⁵ Barrett-Lennard (1981) described relational empathy as an interactive process, where empathically attending to someone often facilitated further personal expression and feedback. Further developing the relational nature of the construct, Kaplan (1990) described mutual empathy as

a complex, refined and highly developed process that simultaneously encompasses knowledge and affect, self and other, action and receptivity, inner and outer experiences, and mutual growth towards empowerment. (pp. 8-9)

Noticeably absent in this definition was a more able (and powerful) empathizer helping a less able empathizee. In such a relationship characterized by greater mutuality and interdependence, all participants experienced growth (Surrey, 1990). As Kaplan (1990) noted:

we believe that clients and therapists grow through active participation in an empathic process which enhances their sense of themselves as relational beings, able to join with others in relational connection. (p. 8)

Jordan (1990) observed that mutually empathic relationships offered validation and affirmation of feelings; expansion of awareness, affect, and knowledge of self and relationships:

²⁵ Forgive the play on words here, but given the affective nature of empathy I could not resist substituting co-effected with co-affected.

an increased sense of interpersonal responsiveness and efficacy; a reduced sense of shame; and increased openness and self-disclosure. Important to our understanding of cohesion, Jordan (1990) also noted how empathy served to integrate previously split-off feelings and experiences and promoted an expanded sense of wholeness. According to Jordan, experiencing the empathic presence of another enabled clients to become more self-empathic and decreased their punitive self-structures. Jordan pointed out the interrelationship between cohesion and empathy when she further added that having empathy for others promoted self-acceptance and decreased isolation and fragmentation.²⁶ As she described:

Empathy for the other thus ultimately lessens my conviction of personal badness. Empathy for the other then contributes to empathy for self, which in turn expands the capacity for movement out of isolation into connection. (p. 13)

It is noteworthy that each of the above theoretical perspectives described empathy as a process involving an oscillation of conscious awareness between self and another.²⁷ Luyten (1985) described the empathic process as a constantly recurring moment, where the distinction between self and other flickers. This process paralleled a dance in that it involved a continuous process involving "touching" and "letting go". (p. 45). However, only in the feminist perspective were both parties changed or affected through this dance. As Jordan (1990) aptly pointed out, where a worker simply reflects another's statements and adds nothing to the interaction, the therapeutic process stalls and the helping relationship stagnates. She shared with the self-psychologists an understanding that the worker must promote a non-linear interactive empathic process. As will be noted, a non-linear process involves the coupling of at least two persons in

²⁶ Several humanistic writers also noted the benefits of member empathy (e.g., Gieseckus & Mente, 1986; Mente, 1990)

²⁷ Perlman (1979, p. 59) described it as "momentary merging" and regaining an objective stance; Berger (1987) described it as oscillating between participant and observer; Jordan (1984) described it as rapid oscillation of accommodation of images of self to images of other; Rogers (1975) similarly noted that some distancing must occur after emotional involvement.

mutual iteration. Through such a process, subtle feelings and thoughts may be amplified and new meanings generated which potentially expand each participant's awareness and understanding.

Just as with models of group development, most of the above perspectives outlined various numbers of stages or phases in the empathic process.²⁸ However, the most elaborate phase model was Barrett-Lennard's (1981) five-stage empathy cycle (see Figure 4). The first stage involved member A actively attending with an empathic set to member B, who was expressive of her own experience. Second, member A resonated with member B,²⁹ such that aspects of member B's experience became known to member A. Third, member A communicated her awareness of member B's experience. Fourth, member B attended to member A's response sufficiently (with some degree of an empathic set) to assess the extent of member A's immediate personal understanding. Fifth, member B continued self-expression and provided feedback to member A regarding the accuracy of her empathic understanding (Barrett-Lennard, 1981).³⁰

However, how does one apply a two-bodied construct like empathy to a group setting? Clearly, to account adequately for the development of the group as a system of mutual aid, it must

²⁸ Examples include Rogers (1975) two-stage model—including temporarily sensing the client's experience and then communication of sensing to client; Northen (1988) delineated a three-stage model involving (1) identification with other(s), (2) experiencing of others' feelings and thoughts as though they were her own; (3) professional detachment—enabling worker to objectively analyze her own perceptions. Berger (1987) from a psychoanalytic perspective described four stages: (1) listening, (2) inwardly experiencing, (3) comprehension, and (4) interpretation. Katz (in Levine, 1979) identified a four-stage sequential empathic process involving (1) identification—contemplation and evocation of the feelings and experiences of another, (2) incorporation—accepting another person's experience into oneself, (3) reverberation—interaction between incorporated feelings and feelings arising internally, and (4) detachment—where reason is used to withdraw from subjective involvement. Finally, Stern (1985) presented a consensus definition of empathy consisting of four sequential processes: (1) resonance of the feeling state, (2) abstraction of empathic knowledge from emotional resonance, (3) integration of abstracted empathic knowledge into an empathic response, and (4) transient role identification.

²⁹ Barrett-Lennard (1981) has noted that A's actual empathy will vary as a result of having a finite range of natural frequencies; that is, there are aspects of B's experience to which she can readily resonate, others where such resonance occurs very lightly or partially.

³⁰ I have described the Barrett-Lennard empathy cycle using member A, B to point out that any member in a group, including the worker, may provide empathy. It is also important to note that rather than member B returning to an empathic set and continuing to attend to A, these roles could just as easily shift with A attending to B's emotional expression. Such flexible role relationships are essential for effective groups.

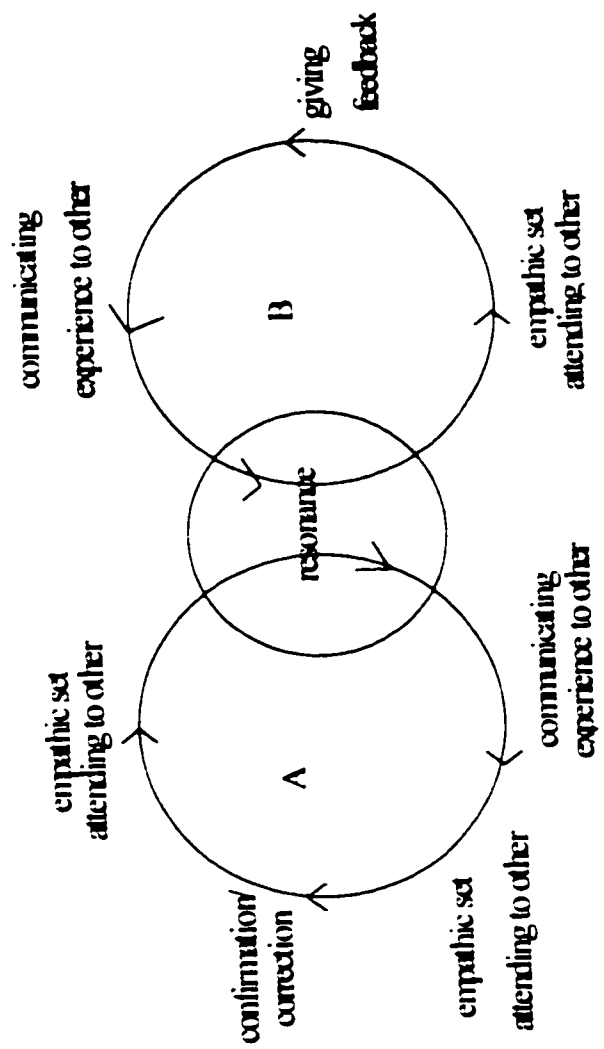


Figure 4. Barrett-Leimard Empathy Cycle

be expanded to include a condition members increasingly offer each other.³¹ From this broader perspective, member empathy may be seen as playing at least an equal, if not more important, role in promoting the therapeutic efficacy of a treatment group (Giesekus & Mente, 1986; Shapiro, 1991). Mente (1990) has noted that empathic group members were the most helpful in facilitating group interaction and group cohesion, as well as the most successful in their own therapy. Many others have commented on the therapeutic benefits of participating in an empathic group in terms of how receiving empathy enabled participants to offer increased empathy for themselves and others (both within the group and in external relations; e.g., Brown, 1994; Shapiro, 1991). The benefits of mutual empathy in a relationally oriented group have also prompted Fedele (1994) to proclaim that development of mutual empathy was the "ultimate relational goal of group work" (p. 10).

The role adopted by the worker in supporting the development of empathy in a treatment group differs sharply from how she offers empathy in a casework relationship. As several have noted, in group treatment the worker's role involves more than offering an empathic response to each client; she is also primarily responsible for the establishment of norms and ground rules that promote a safe, respectful, and validating relational space (Fedele, 1994; Giesekus & Mente, 1986; Levine, 1979). The group worker also promotes empathy by helping members to relate and empathize with each other. (Ferencik, 1992; Fuhriman & Barlow, 1983; Garvin, 1997; Kleinberg, 1991; Phillips, 1980; Shapiro, 1991). As suggested by Barrett-Lennard's (1981) empathy cycle, one may also speculate that accompanying a conducive therapeutic atmosphere and interpersonal coupling there arises a group empathic set, or the first stage of the empathy cycle, where the group is prepared to experience resonance.

³¹ At least one study has reported that worker-offered empathy alone is insufficient to produce positive therapeutic outcomes (Gurman & Gustafson, 1976). Moreover, combined therapist and group levels of empathy, warmth, and genuineness are related to positive therapeutic outcomes (Truax, 1971; Truax, Carkuff & Kodman, 1965).

The Importance of Resonance

Consistent with some of the earlier definitions, empathy involves a form of emotional communication that elicits an internal emotional response or resonance.³² Resonance literally means the sounding together of several bodies (Schoppe & Brunner, 1992).³³ In this way, and consistent with the early Lipps (as cited in Hatfield et al., 1992) definition, resonance may be related to what we have described as synchrony. From physics we know that all matter has wave-like properties and possesses specific resonant frequencies. For example, while most objects are capable of resonating to infrared radiation, only certain free metals are able to tune in to radio waves. Similarly, rainbows are formed by the differential resonance of sunlight with water droplets (Cole, 1985).³⁴ In fact, all of the colours we perceive are a product of those frequencies that are not resonant and are reflected back to us. As Cole (1985) noted:

Resonance, in other words, determines what we see, and what's reflected; what goes right through, what gets stuck, and what sinks in....What's visible and what's invisible clearly depends on what (or who) is doing the looking...What's visible is whatever you happen to be tuned into. (pp. 272-274)

³² Note: in the Barrett-Lennard definition, resonance is considered part of an empathic process, rather than a primitive form of empathy.

³³ My interest in resonance was piqued with a trip to the Ontario Science Centre with my son where I visited an exhibit with two interconnected metal bars that vibrated. When their vibrations were out of phase with each other their conflicting energies would result in their cancelling each other out; however, when they synchronized their vibrations, they suddenly began to fluctuate widely together, amplifying and releasing much higher magnitudes of energy.

³⁴ I have referred to a rainbow here partly due to my earlier experience with a Tea Dance in Assumption Alberta in 1986. When I first began working in Assumption I was introduced to Alexis Seniantha, who was at that time the oldest and most respected Dene elder in the community. The drum that Alexis used for the Tea Dance ceremony had a small rainbow drawn on it. I had often wondered about the significance of the rainbow on his drum. A year later, after months of planning, a traditional assembly was to begin with a Tea Dance ceremony. For the Dene Tha this assembly also signified the rebirth of a traditional practice which, like the potlatch and sun dance, had been actively suppressed for several generations by the Church and government. However, it had rained for several days prior to the opening ceremony and the weather threatened to force the cancellation of the assembly. Undaunted, after making an offering of tobacco, Alexis sang a special prayer song, and then together with the other elders present, many of whom like Alexis were well into their 90's, he began to sing and drum in the midst of a rainstorm. Taking Alexis's lead, a number of hardy souls began to dance around the rather slippery Tea Dance ring. Within a few minutes, the clouds parted and sunlight broke through, creating a huge and luminous rainbow directly over the assembly grounds. It did not rain again for the next four days, and I no longer wondered why Alexis had a rainbow on his drum.

Another important property of resonance is how friction impairs resonance within any system. An object that contains great friction (like putty) is severely restricted in terms of its ability to resonate. However, small amounts of internal friction produce differential and broader resonant effects. Moreover, since most objects are able to resonate to more than one frequency, single fluctuations (e.g., disturbances, interventions, comments, and statements) in the presence of relatively small degrees of friction will often produce harmonic resonance or a spectrum of frequencies (Cole, 1985). In group treatment, Agazarian and Peters (1981) provided an expanded definition of resonance as

a form of communication between group members which takes place primarily at an unconscious level, and is a function of the interdependent, affective responses of members to particular shared conflicts as stimulated in the group's working together...resulting in the amplification of the particular theme being resonated. (p. 19)

By way of review, this part has offered a discussion of prevalent scientific paradigms, which have both furthered the development and constrained our understanding of the nature and definition of the constructs of group cohesion and empathy. However, just as Lewin in the 1940s drew upon advances in the physics of electromagnetism in the formulation of field theory and group dynamics, and later von Bertalanffy extended systems theory from the realm of thermodynamics, over the past 30 years another theoretical framework has emerged in physics and has begun to inform the social sciences. Prigogine's exploration of dissipative structures, Haken's study of how light self-organizes in a laser, and most recently, the emergence of dynamical systems theory are all examples of the development of a new theoretical framework increasingly referred to in the literature as self-organization theory.

Part Two: Principles of Self-Organization

Self-organization was first coined by von Foerster and was defined as

the spontaneous emergence of new structures and new forms of behaviour in open systems far from equilibrium, characterized by internal feedback loops and described by non-linear equations (Capra, 1996, p. 85).

A self-organizing system is a system composed of subsystems interconnected by feedback loops (Guastello, 1995). Though different models propose different processes, change in a self-organizing system occurs through the transformation of existing internal relations. In contrast to classical dynamics where external forces were solely responsible for system change, in self-organizing systems external influences are seen to have a global influence, while internal structural change is determined by the system itself (Bushev, 1994). As illustrated by its definition, there are certain conditions required for self-organization, including openness, nonlinearity, emergent complexity, far from equilibrium conditions, and chaos (Capra, 1996; Goldstein, 1995a; Schiepek, Fricke, & Kaimer, 1992; Tschacher, Brunner, & Schiepek, 1992).¹⁵

Openness

A self-organizing system possesses permeable boundaries allowing for exchanges of information, energy, and matter internally between system components and externally with its environment (Capra, 1996; Schiepek, Fricke, & Kaimer, 1992; Tschacher, Brunner, & Schiepek, 1992). Groups, as self-organizing systems, possess permeable boundaries that differentiate them from their environment. Groups also self-organize through the differentiation of internal boundaries, often manifested in the form of member sub-groupings. Self-organizing systems are also dissipative systems in that they must continually import energy and resources to sustain system operation.¹⁶ The importance of boundaries and energy exchange suggests that a full

¹⁵ I have highlighted a number of shared principles here in order to contrast self-organization theory with classical dynamics. A consensus in the literature respecting the basic principles of self-organization theory has not as yet been obtained. Outlined here are those principles that seem to be shared by contributors to the various models of self-organization to be discussed later in this discussion.

¹⁶ Environmental exchanges may include material resources such as a meeting place, agency mandate, and financial support. Environmental exchanges also include information that members bring into the group as well as new members themselves.

understanding of any self-organizing system must include its larger environmental context, and hence requires an ecological perspective.

An ecological perspective includes the principles of wholism, flexibility, diversity, interconnectedness, and interdependence (Capra, 1996). Echoing long-standing group work principles, an emphasis on wholism shifts the way one attempts to understand a system, for it entails the refocusing of one's attention to the system as a whole rather than its parts. Further, self-organization theory asserts that to understand a given system, one must obtain knowledge of three aspects of system operation: the parameters acting on the system (boundary conditions), interacting variables or elements, and the emergent patterns arising from interactions between system components or variables (Kelso, 1997). Flexibility or adaptiveness is seen here as an essential characteristic for the health and development of any living system situated in an ever-changing environment. As I will note throughout this discussion, flexibility and adaptiveness also require diversity. Diversity in any self-organizing system provides a broader range of creative resources (e.g., knowledge, skills) and allows for greater adaptability and innovation.

At the core of the ecological perspective are the constructs of interconnectedness and interdependence. Here all living systems are seen as being components of larger wholes linked together by virtue of a common need for survival and growth (Falck, 1988). Unlike classical conservative systems, groups as self-organizing systems exhibit interdependence in terms of their internal and external relations in that they require the cooperative efforts of their membership and depend upon exchanges with the environment. Clearly our group work notions of mutual aid and the principle of interdependence are closely related. Indeed, the development and therapeutic efficacy of a treatment group may well depend upon the quality of member relationships, and their ability to work cooperatively towards mutually determined goals.³⁷

³⁷ Margulis (1981) asserted that biological evolution was also strongly shaped by the coupling of previously independent forms into a more creative and adaptive groups. An ecological perspective emphasizes the importance of partnership, involving the cooperative exchange of energy and resources

Nonlinearity

Nonlinearity must be present for self-organization to occur. Technically, nonlinearity exists where a system's output (e.g., behavioural response) is not proportional to the magnitude of input (e.g., a stimulus). Nonlinearity requires interconnectedness and the presence of multiple feedback loops existing between coupled system components (Vallacher & Nowak, 1997).³⁹ In social systems, multiple feedback loops are manifested in the form of verbal and nonverbal communication that facilitates the transfer of energy (e.g., information, affect) between participants (Anderson & Carter, 1978).⁴⁰ Nonlinearity arises when multiple feedback loops through iteration⁴¹ amplify small system fluctuations bringing about large-scale changes or responses by the system (Capra, 1996; Goerner, 1995).

In self-organizing systems, linear causal links are difficult to identify (Goerner, 1995). The presence of coupled components and feedback loops produces circular causality. Here effects or changes in state of one component or variable at one point, produce feedback and become causes in the next moment.⁴² Lewin (1951) discussed circular causality in reference to the relationship between perception and action. According to Lewin, perception informed action, which in turn informed perception. For example, a group worker, responding to certain behavioural patterns she observes, may make a comment or gesture that in some way influences member interaction, then

(Capra, 1996; Loye & Eisler, 1987) Increased appreciation of interdependency and interconnectedness has led to a shift in emphasis on the relative roles of cooperation and competition, not only in group development, but in the ongoing evolution of the ecosystem.

³⁸ This notion of collective work toward mutual goals and interests has been a longstanding principle of effective group work (see Schwartz, 1961).

³⁹ Feedback refers to the process in which a system monitors internal or environmental responses to its behaviour and adapts itself to that information (Anderson & Carter, 1978).

⁴⁰ Lang (1979b) noted how individual change in social work groups is essentially nonlinear, resulting from the interacting influences of the worker, member and group as a whole.

⁴¹ Iteration refers to repetitive feedback loops where change in system components also results in feedback to other linked components and serves as a basis for later change—iteration results in exponential amplification of difference by repetition. Briggs and Peat (1989) have likened iteration to feedback involving the continual reabsorption or enfolding of previous responses or events.

concomitant changes in member interaction feedback and modify the worker's subsequent perceptions and behaviour in the group. Mathematically, the effects of nonlinearity also mean that there can be multiple solutions or states available to a system.⁴³ Therefore, the presence of nonlinearity makes a major difference in increasing the range of behaviours available to be displayed by a system (Vallacher & Nowak, 1997).

Emergent Complexity

Self-organization theory also offers a new perspective that reconciles a long-standing scientific debate between mechanists and vitalists concerning living systems (see Figure 5). Prior to the advent of self-organization theory, mechanists, adopting an upward arrow of causation, posited that local interactions caused global properties. On the other hand, vitalists, adhering to a downward arrow, asserted that global properties determined the behaviour of entities at the local level. Self-organization theory contends that both influences are essential and contribute to the overall complexity of a system under study (Lewin, 1992). In complex social systems, a main feature of self-organization is the emergence of global properties arising from non-linear interactions among coupled components. Once established, these global properties influence system components and dramatically increase the overall complexity of the system (Baron, Beek, & Amanzeen, 1994; Merry, 1995; Vallacher & Nowack, 1997).^{44 45} For example, many social work scholars have noted how global properties, like cohesion and group norms, arise from interactions within groups. In so doing, such emergent global properties feedback to system components and serve as both a cause and an effect of member interaction. In this way, a group

⁴² Thus self-organization differs substantively from classical dynamics estimation of unidirectional causal links.

⁴³ Indeed Poincare's many-bodied solution allowed for more than one possible answer regarding the predicted positions and mutual influences that more than two bodies would have on each other.

⁴⁴ In complex nonlinear systems emergence, and resultant coordination of system components, does not require any higher order or external agent (Vallacher & Nowak:1997).

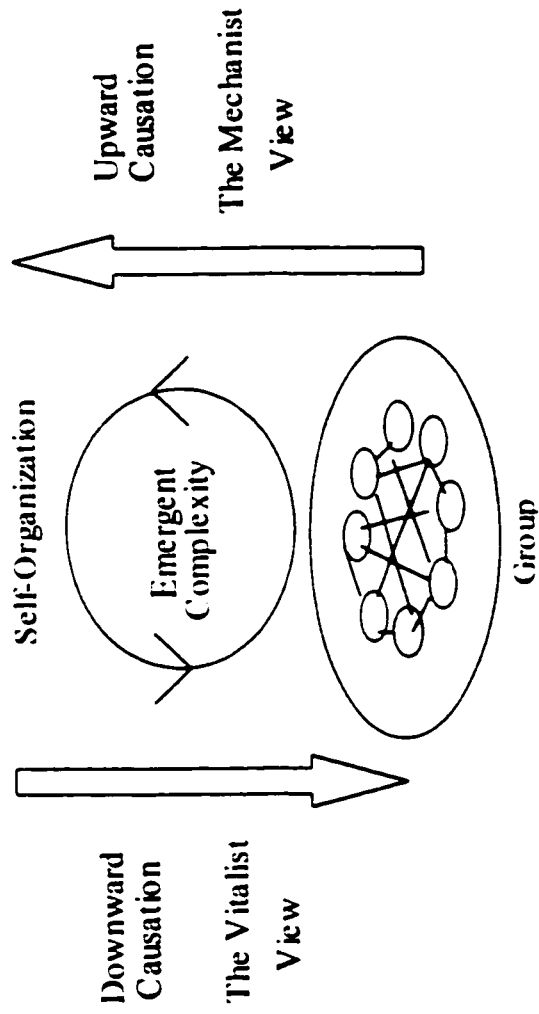


Figure 5. Emergent Complexity & the Mechanist/Vitalist Debate

Adapted from: Lewin (1992, p. 189)

may become increasingly complex such that "increased complexity makes the whole system greater than the sum of its parts, and gives it more capability" (Miller, 1990, p. 163; Davies, 1988).

Groups, as with all living systems, are assumed to have an innate tendency towards growth and more complex organization (Francis, 1995; Goldstein, 1995b). There is also an important parallel between self-organization theory and humanistic psychology's construct of self-actualization. Rogers (1980) defined self-actualization as the tendency or movement towards greater complexity (Sandford, 1993). Further, Merry (1995) has asserted that greater complexity requires increased interconnectedness, interdependence, and hence improved relationships among system components. Thus, under self-organization theory, individuals, families, groups, communities, and societies may be viewed as learning systems that self-actualize by continually generating new ideas and exploring more adaptive structures, processes, and relationships (Capra, 1996).

An important consequence of nonlinearity and emergent complexity is irreversibility. Complex self-organizing systems cannot undo the structural and relational changes that have brought them greater complexity (Cambel, 1993). As Fuhriman and Burlingame (1994b) explained in describing emergent complexity, once a choice is made, the system can't go back. This is not to say that old patterns of behaviour cannot be repeated, but living systems cannot undo their own complexity or return to an earlier state of organization (Fuhriman & Burlingame, 1994b; Sandford, 1993).⁴⁶

⁴⁵ Goertzel (1995) has formally defined emergent processes between two entities as "a process is emergent between X and Y if the degree to which it is a pattern in the union of X and Y exceeds the sum of the degree to which it is a pattern in X and the degree it is a pattern in Y" (p. 135).

⁴⁶ Several theorists (e.g., Marks-Tarlow, 1995; Perna, 1995) have questioned the validity of regression as a construct in light of self-organization theory.

Far From Equilibrium Conditions

There is an increasing appreciation that the optimal condition for any living system is far from equilibrium (Capra, 1996; Guastello, 1995). Systems experiencing far from equilibrium conditions, poised "at the edge of chaos" (Lewin, 1992), possess greater sensitivity and adaptiveness to internal as well as environmental changes (Merry, 1995). Under far from equilibrium conditions, perturbations or fluctuations may bring about system restructuring and new behavioural patterns, rather than an inevitable return to previous patterns. On the other hand, systems at equilibrium cannot store or produce new information (Haken, 1988) and are incapable of self-organization. At equilibrium, change can only be achieved through external organizational forces. Accordingly, equilibrium-based theories are now seen as limiting cases of an overarching theoretical framework that also includes non-linear and far from equilibrium based processes to account for system self-organization, change, and growth (Goldstein, 1995b). Regarding equilibrium-based theories, Merry (1995) declared:

This approach ignores states of disequilibrium in the human world. It cannot account for discontinuous change, for evolution, for self-organization, and for emergence. It gives only half of the picture and ignores the other half...Far from equilibrium in non-linear systems is both the source of chaos and of renewal. Living and social systems that are by their nature non-linear, far from equilibrium and interdependent are in a permanent flux that includes a phase of chaos, self-organization and renewal. (p. 33)

Further, there is growing awareness that for living systems, the rigidity that accompanies prolonged equilibrium states is inherently pathological (Francis, 1995; Goldstein, 1995a; Gottman, 1979; Marks-Tarlow, 1995). For example, when a group maintains a prolonged equilibrium it becomes increasingly misaligned with its environment and unable to respond to the changing needs of its membership. Such inflexibility often results in fragmentation (Gemmil & Smith, 1991) and the dissolution of the group as a viable system.

Chaos. Chaos Everywhere!

There has been a great deal of attention paid in recent years to chaos. Everyone seems to be looking for this newly discovered pattern in nature.⁴⁷ Proponents of two self-organization theories have claimed chaos as their own,⁴⁸ and others have elevated it to the status of a new process science (e.g., Gleick, 1979). However, this interest in chaos is well founded, as chaos plays an vital role in self-organization (Scott, 1991). Chaos theory has been defined as the "qualitative study of unstable aperiodic behaviour in deterministic non-linear dynamical systems" (Kellert, 1993, p. 2). Like a Zen koan, chaos is paradoxical. It lies in an epistemological twilight zone (Bushev, 1994), adopting for explanatory purposes the seemingly contradictory principles of strict determinism and pure chance or stochastics (Davies, 1988; Kincannon & Powel, 1995). In this realm, determinism and predictability are not synonymous. Here totally deterministic equations can lead to completely unpredictable results (Robertson, 1995). Chaos is also paradoxical in the sense that despite displaying apparent randomness at the local or micro-level, it demonstrates an ordered pattern at the global or macro-level. As Gleick (1987) noted, chaos is locally unpredictable yet globally stable.

Self-organization requires chaos. To successfully achieve qualitative changes in self-organization each system must experience periods of chaos. As I will discuss, emergence and change in global properties are preconditioned by chaos on the micro-level (Bushev, 1994). As Bushev (1994) explained, "Chaos turns out to be the creative force leading systems to states of complex structures" (p. 224). The emergence of chaos requires all of the aforementioned conditions of self-organization, as well as the amplification of fluctuations through iteration (Merry, 1995). Different models of self-organization offer different explanations to account for how chaos arises in self-organizing systems.

⁴⁷ Often through the misinterpretation and misapplication of its basic principles (see Kincannon & Powel, 1995).

Order Parameters

In self-organization theory (specifically dynamical systems theory and synergetics), there are two classes of dynamical variables known as order and control parameters. Unlike conventional independent and dependent variables, these parameters may, and often do, affect each another. In complex social systems like treatment groups, highly complex non-linear interactions at the micro-level may give rise to relatively simple and orderly patterns or symmetry at a global level (Vallacher & Nowak, 1997). Order parameters describe these macroscopic patterns and serve as an index of a system's responses, development, and phase transitions over time (Vallacher & Nowak, 1997). Order parameters thus represent the collective modes of many individual processes and components (Schiepek & Tschacher, 1992) and are quantitative measures of the coordination, coherence, or cooperativity among interacting components. Simply put, order parameters give orders to system components (Kelso, 1997) that promote order and preserve symmetry in their patterns of behaviour. Though there are a number of potential candidates for order parameters in treatment groups (e.g., group norms, commitment, and cooperation), for the purposes of this inquiry group cohesion clearly qualifies as an order parameter. All of the earlier definitions of cohesion as a property that attracts members would seem to support this contention.

Entrainment

As noted earlier, one precondition for self-organization to occur is nonlinearity. Nonlinearity arises when there are connections or couplings between system components. Goerner (1993), echoing Frank's (1957) discussion relating the group cohesion, described a natural tendency towards coupling that serves to increase both the complexity and efficiency of any living system. The process whereby such coupling results in system components mutually influencing each other in a way that brings about synchronization in their behaviour is known as entrainment.

⁴⁸ See Abraham (1992); Prigogine and Stengers (1984)

In a social systems context, this notion of entrainment is not a completely new concept. Chapple (1970) conceptualized small groups as “populations” of oscillators, to which each member brings a constellation of behavioural and physiological rhythms. As members interact, a shaping process occurs and member activity rhythms become mutually entrained.⁴⁹ Chapple contended that the entrainment of activity rhythms promoted interpersonal attraction (Warner, Malloy, Schneider, Knoth, & Wilder, 1987). Further, recalling that group cohesion was defined in terms of member attraction, one could surmise that the degree of entrainment in activity rhythms would also be an important indicator of the relative cohesiveness present in a group. By extension, one would expect that levels of entrainment would vary depending on many of the same factors associated with promoting group cohesion in the literature. (e.g., group size, changes in composition).⁵⁰ Similarly, paralleling Budge’s (1981) assertions relating to cohesion, there appears to be an optimal range wherein entrainment promotes both system integrity and adaptiveness. Reminiscent of Janis’s (1983) assertions with respect to the deleterious consequences of “group think,” Gottman (1979) found that entrainment was an index of how poorly a social system functioned. Gottman (1979) cogently argued that, among distressed or maladaptive families, high degrees of predictability of current behaviour stemming from past behaviour indicated a rigid and maladaptive system locked in an inflexible and repetitive pattern where no new information was communicated. Similarly, Warner et al. (1987) found a curvilinear relationship between entrainment and affect, with moderately rhythmic interactions being rated more positively than those that were not at all rhythmic or extremely rhythmic.

⁴⁹ Warner (1992) later found support for Chapple’s theory. In studying dyadic communication, she found a systematic increase of cyclicity in dyadic communication suggesting mutual entrainment over time.

⁵⁰ Chapple (1970) also suggested that physiological rhythms would primarily influence social behavioural rhythms. This notion was later refuted by Warner et al. (1987), who found that social cues have stronger influences on activity than do physiological states.

Redefining Cohesion

In sum, if we can conceive of cohesion as an order parameter, one which represents the natural tendency of social systems to become ordered through the coupling and entrainment of group member behaviour over time, then the degree of interpersonal coordination existing in any group would be a valid measure of overall group cohesion. Indeed, in the literature relating to nonverbal communication, interpersonal coordination has been defined in terms consonant with our understanding of entrainment. Bernieri and Rosenthal (1991) have defined interpersonal coordination as

the degree to which the behaviors in an interaction are nonrandom, patterned, or synchronized in both timing and form. (p. 403)

Bernieri and Rosenthal (1991) have delineated two aspects of interpersonal coordination: behavioural congruence and interactional synchrony. Both of these aspects represent the entrainment of group member behaviour on two closely interrelated dimensions. Behavioural congruence relates to how members demonstrate similar (e.g., matching or mirrored postures) nonverbal behaviour over time. Interactional synchrony involves a temporal dimension and measures the extent to which members are moving together in the same cycles or rhythms. This process, involving both movement and rhythm, clearly parallels our notions of dance. Given the natural tendency for groups to move towards convergent movements and rhythms, group development may thus be viewed as a dance towards wholeness. Further theoretical discourse and research evidence supports this view in both dimensions.

Behavioural Congruence

Consonant with our understanding of group cohesion, behavioural congruence appears to indicate the relative coordination or togetherness among interactants (e.g., Charny, 1966; Kendon, 1970; LaFrance, 1979, 1985; Schefflen, 1964). According to Schefflen (1964), congruent postures indicate the nature of member interpersonal relationships or associations. Congruence may be demonstrated by members copying exactly or mirroring each other's posture. Schefflen (1964)

theorized that postural congruence was a measure of the togetherness or similarity of two people's internal states, and thus in a group, reflects a shared view by group members. According to Schefflen, where a group has differing views adopted by two or more sub-groups, members may adopt postures congruent with other members of their sub-group. A lack of togetherness or association may be depicted by a lack of behavioural congruence. In this way behavioural congruence may be seen as one indicator of group cohesion. Similarly, Dabbs (1969) asserted that people perceive others as being more similar to them (a correlate of cohesion) to the extent that their behaviours are congruent (postures, posture shifts). In addition, postural congruence also seems to be related to rapport.⁵¹ For example, LaFrance and Broadbent (1976) found the degree of teacher/student postural mirroring was positively correlated with rapport.⁵² LaFrance (1979) later concluded in reference to dyads and groups:

Postural mirroring may be uniquely helpful in understanding the ongoing formation, change and dissolution of these social units...Posture mirroring appears to be a reliable and valid indicator of interpersonal solidarity...From an outsider's perspective, an observer might similarly be able to gauge the level of cohesion between and among members of an encounter by noting the amount of mirroring displayed. (p. 292)

Similarly, both Dabbs (1969) and Trout and Rosenfeld (1980) found that people who assume similar postures are judged to have a higher rapport with each other than do those whose postures are not similar. In a meta-analysis of 10 related studies, Tickle-Degnen and Rosenthal (1987) found that mirroring was positively correlated with ratings of degree of togetherness in an

⁵¹ Many others have explored the relationship of nonverbal behaviour and interpersonal attraction or liking. For example, investigators of forward, backward lean included: Mabry (1989), Hasse and Tepper (1972), and Trout and Rosenfeld (1980). Investigators of eye contact or gaze included: Argyle and Dean (1965), Ellsworth and Ross (1976), Foddy (1978), Hasse and Tepper (1972), Kleeck and Nuessle (1968), LaCross (1975), Mabry (1989), Stern (1971, 1974), and Wiener and Mehrabian (1968). Investigators of arm and or leg position included: Bull (1987), Mabry (1989), Machotka (1965), and Smith-Hanen (1977).

⁵² LaFrance and Broadbent (1976) found strong positive correlations ($r = .46; p < .01$) between postural mirroring and composite ratings of involvement, togetherness, and rapport among instructor and student in college classrooms. Just as cohesion has been found to serve as a precursor for the development of other therapeutic factors, postural congruence was found to precede the development of rapport. LaFrance (1979) later confirmed these findings in more elaborate studies. She observed the correlations between postural mirroring and composite ratings of rapport varied from high levels in the early classroom sessions ($r = .63; p < .01$) to lower levels at the end of term ($r = .44; p < .01$).

interaction. Thus, empirical evidence suggests that behavioural congruence positively affects perceptions of rapport (Trout & Rosenfeld, 1980) and is a consequence of cooperativeness among participants (LaFrance, 1985).⁵³

Interactional Synchrony

The ability to establish interactional synchrony represents an innate human capacity and one of the earliest forms of human communication.⁵⁴ It appears to serve two important functions relevant to effective group treatment. First, interactional synchrony serves the basic survival needs of bonding (a term used in early group studies to describe cohesion), safety, and comfort (Condon, 1980; Condon & Sander, 1974). Second, it appears to regulate interpersonal interaction.⁵⁵ Many of the studies concerning interactional synchrony have examined infant mother interaction (e.g., Als, Tronick, & Brazelton, 1979; Bullowa, 1975; Condon & Ogston, 1971; Kempton, 1980; Tronick, Als, & Brazelton, 1977). For example, Condon and Sander (1974) found that newborns synchronized movements to human speech. In their seminal studies, Tronick, Als and Brazelton (1977) found that synchrony was a way child communicates "continue" and dissynchrony how he or she communicates "stop". Similarly, Stern (1971, 1974) found that interactions between mothers and infants have cyclical (approx. 10 seconds) periods of engagement and disengagement. Bernieri and Rosenthal (1991) defined interactional synchrony as

the degree of congruence between the behavioral cycles of two or more people. In fact, if any aspect of an interaction were found to have rhythmic or cyclic characteristics, it would

⁵³ A meta-analysis of studies examining body posture and rapport by Tickle-Degnen and Rosenthal (1987) found that postures characterized by forward lean, direct body orientation, or openness (e.g., arms, legs) were strongly and positively correlated with rapport.

⁵⁴ The innate biological basis of interactional synchrony has been established by Bullowa, 1975; Byers, 1976; Cappella, 1981; and Hatfield, Cacioppo & Rapson, 1994)

⁵⁵ For example, Ekman and Friesen (1969) and Zuckerman, DePaulo and Rosenthal (1986) found that dissynchrony in clients' nonverbal behaviour indicated ambivalence or an attempt to block self-disclosure.

imply that the interactants themselves were in sync; otherwise their combined behavior (i.e., their interaction) would not show any temporal pattern. (p. 411)

Finally, just as with behavioural congruence, interactional synchrony appears to be related to perceived rapport (Bernieri, 1988; Bernieri, Davis, Rosenthal, & Knee, 1994).

Control Parameters

Control parameters influence or drive an order parameter through its phases or states. Changes in a control parameter may cause qualitative changes in the order parameter (Baron, Beek, & Amanzeen, 1994). More specifically, changes in control parameters bring about transitions in the patterns of behaviour of the system under study. Though there are a number of candidates that may aptly serve as control parameters influencing cohesion, empathy may be an important control parameter. A fundamental property of all self-organizing systems is their ability to influence their own control parameters (Abraham, 1992). When a control parameter is changed, instability arises and marks a transition to a new system state or pattern of behaviour (Haken, 1988). As Kelso (1997) noted:

Collective variables and control parameters are the yin and yang of the entire approach, separate but intimately related. You don't really know you have a control parameter unless its variation causes qualitative change; qualitative change is necessary to identify collective variables unambiguously. (p. 45)

It would appear that empathy, and especially one component of empathy known as resonance, plays an important role in the regulation of behavioural coordination. Consistent with some of the earlier definitions, empathy involves a form of emotional communication that elicits an internal emotional response or resonation. Resonance literally means the sounding together of several bodies (Schoppe & Brunner, 1992).

In group treatment, Agazarian and Peters (1981) provided the most thorough definition of resonance as

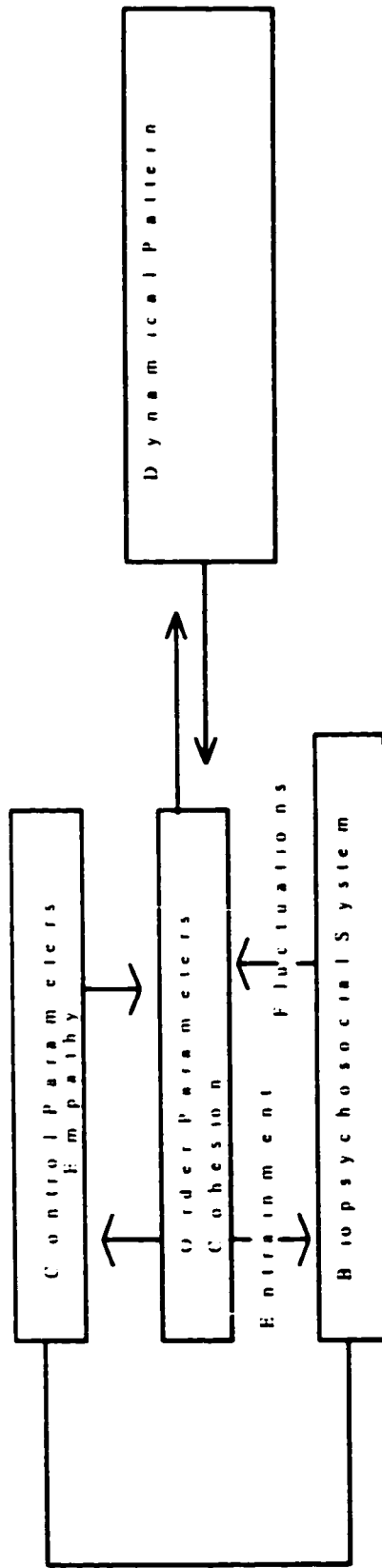
a form of communication between group members which takes place primarily at an unconscious level, and is a function of the interdependent, affective responses of members to particular shared conflicts as stimulated in the group's working together...resulting in the amplification of the particular theme being resonated. (p. 19)

Fundamentally, resonance is an energy construct that, through non-linear amplification, provides the energy necessary to move the group through its phases of development. Resonance occurs where a fluctuation (i.e., a reaction to a particular group event or feeling by one member) acts to produce concordant or complimentary responses in other members. This results in group members reverberating towards attentional, emotional, and behavioural synchrony at various levels of consciousness (Hatfield et al., 1992). Levine (1979) has noted that empathic resonance may elicit at least two different classes of responses. First, resonance may amplify feelings that are coupled with empathically supportive responses. Second, members may experience feelings that they find threatening or intolerable and react with hostility or defensive coping behaviour.⁵⁶ In either case one may readily discern how these responses to resonant affect may influence the behavioural coordination and the quality of interpersonal relationships present in a treatment group. Adding further complexity is the fact that the same resonant affect may readily promote both harmony and discord within the same group at the same time. In this way, differential responses to resonant affect experienced among group members may eventually result in the formation of subgroups based upon shared bonds or affinities.⁵⁷

Figure 6 illustrates the relationships of empathy and cohesion from the view of self-organization theory. Here, empathy serves as a control parameter, and the ability of group

⁵⁶ Eisenberg and Fabes (1992) also supported the contention that social behaviour varies as a function of the interaction between emotional arousability (including reactivity and intensity) and regulatory or coping skills. Eisenberg and Fabes (1992) noted that each person may possess a threshold for emotional intensity where coping or regulatory behaviours shift from adaptive to negative responses. Overarousal or arousal of negative emotions may result in a self-focussed or defensive response aimed at reducing emotional arousal.

⁵⁷ Resonance may also arise in terms of shared issues, problems, and responses. Durkin (1964) and later Agazarian and Peters (1981) have noted how at an interpersonal level resonance is manifested in the emergence of complementary role relationships between members.



from Schiepek & Fischacher (1992)

Figure 6. The Roles of Cohesion and Empathy in Group Self-Organization Processes

members to resonate and use their empathic responses in service of the group's therapeutic purpose is critical in the self-organization of the group. For this reason there is a line linking control parameters with the biopsychosocial system. System order parameters, including group cohesion, emerge from the complex stream of events, interactions, and affect in the biopsychosocial system. The upward arrow represents the process of self-organization that is promoted by empathy and resonance. In this model, empathy serves to amplify fluctuations from the membership, promoting self-organization and fluctuations in the level of cohesion and the prevailing patterns or symmetry of the group. As an order parameter, and well documented in even the earliest literature, cohesion also constrains or entrains members of the biopsychosocial system. While cohesion, and its ability to inform and entrain group members, constitutes the downward arrow (depicting how information is enfolded into group members), amplification of fluctuations facilitates the unfolding of self and group process that gives rise to new emergent macro-level meanings and realities. These emergent meanings subsequently inform group members and the symmetry of the group.

Implications for Group Development

Given the temporal nature of self-organization processes, to more fully appreciate the interplay of empathy and cohesion and the worker's use of self, one must understand how they function and vary over time.⁵⁸ Our early social group workers possessed a keen appreciation of the developmental nature of groups. For this reason, social work, social psychology, and to a lesser extent group psychotherapy have produced a number of group developmental models. Each model generally consists of a number of phases or stages. For example, Bales (1950) outlined a model that included only three stages, while Beck (1974) delineated a model consisting of nine

⁵⁸ Indeed, one of the most problematic trends in group cohesion studies has been the measurement of cohesion at only one point in the group's life.

stages.⁵⁹ Among the numerous taxonomies of group developmental models (e.g., Mann, Gibbard, & Hartman, 1967),⁶⁰ two major trends may be readily noted. As MacKenzie (1994) observed, there are a number of models that view group process as repetitive and cyclical in nature.⁶¹ In these models, group members must continually recycle certain basic issues. A seminal example was Schutz (1958) who outlined a model involving the cyclical processing of inclusion, control and affection phases. In contrast, most approaches have viewed group development as a linear progression through a series of invariant stages.⁶² MacKenzie (1994) suggested that in treatment groups there might be processes that tend to be progressive and others that are cyclical. He noted that cohesion and member relatedness would tend to increase progressively and linearly (see Figure 7).

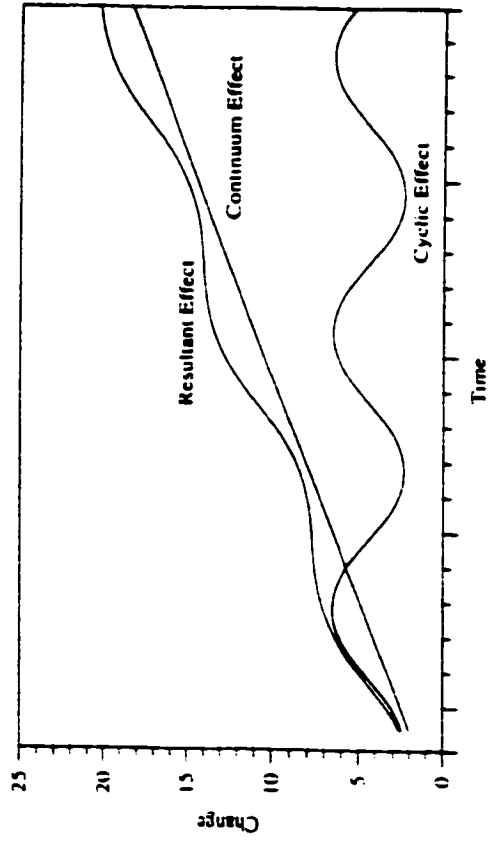
From a dynamical view, as cohesion increases, member behaviour becomes increasingly coupled, entrained, and convergent. For example, patterns of self-disclosure shift from factual information to personal reactions, interpersonal issues shift from focusing on power and competition to affiliation and cooperation. Similarly, group discussion also becomes more immediate, shifting from general, abstract, and externally focused content to detailed, specific, and internally focused content. At the same time, recurrent cyclic, and predominantly micro-level, dynamics were posited to continue over the life of a group and manifested a dialectic dance ranging between patterns of relative enmeshment to differentiation and relative openness to

⁵⁹ Northen (1969) has defined a stage of group development as a "differentiable period or discernible degree in the process of growth and development" (p. 49).

⁶⁰ Mann et al., (1967) divided group developmental models into five categories: graduated linear successive models, recurrent cyclical models, composite linear cyclical, life cycle models, and sub-grouping models.

⁶¹ MacKenzie (1994) cites Altman, Vinsel and Brown (1981), Bales (1950), Bennis and Shepard (1956), Bion (1970), Gibbard, Hartman and Mann (1967), Schutz (1958), and Slater (1966) as examples of recurrent cyclical models. The above-mentioned model proposed by Gemmil and Smith is also an example of a recurrent cyclical model.

⁶² It is important to note that the diversity of models also indicates the different types, structure and composition of groups described. For example, open groups, which readily add new members on an



Source: MacKenzie (1994, p. 258)

Figure 7. Progressive and Cyclical Processes

defensiveness. This dance was viewed as largely dependent upon each member's ability to tolerate various levels of resonant affect and, in particular, anxiety. MacKenzie (1994) concluded that the combined patterns of linear and cyclical processes would be marginally non-linear and progressive in nature.

MacKenzie (1994) also summarized four commonly held assumptions underpinning most group developmental models. MacKenzie (1994) asserted that treatment groups were predictable, invariant, and epigenetically determined, and demonstrate increasing interactional complexity. First, he asserted that groups developed in a regular and predictable pattern, allowing observers (and workers) to make predictions of future developments. Second, he posited that the same developmental features would be evident in all treatment groups (provided they developed in a normative fashion). Third, he observed that development in treatment groups was epigenetic, in that later development was contingent upon the successful negotiation of earlier developmental challenges and crises. Fourth, he asserted that groups over time demonstrated increased interactional complexity arising from the influences of intrapsychic, interpersonal, and group phenomena. He also noted that groups might also exhibit reversibility, that is, they may recycle back to earlier stages of development.

However, if one adopts the principles of self-organization theory, several of MacKenzie's conventional assertions must be revisited and qualified. First, in reference to predictability, given certain conditions, patterns rather than long-term outcomes may be predicted for treatment groups. Given that treatment groups are embedded in a larger social context, it is not surprising that global social influences would prevail to entrain similar patterns and developmental features in treatment groups. However, even this assertion must be tempered with the understanding that different cultural contexts and group compositional factors may bring about variation in the

ongoing basis, as is common in psychiatric institutions, may not develop in the same way as a closed outpatient social work treatment group.

appearance of such developmental features.⁶³ All three models of self-organization challenge the principle of epigenetic determinism. Each model provides a role for fluctuations and chance, where, under conditions of instability, a group may undergo an abrupt change in its behavioural patterns. Indeed, self-organization in treatment groups would often be discontinuous rather than graduated and incremental. Then there is the role of chaos. Many of the models (e.g., Garland et al., 1973, "power & control"; Hartford, 1972, "disintegration and conflict"; Henry, 1992, "conflict"; Klein, 1972, "resistance"; MacKenzie, 1990, "differentiation"; Northen, 1969, "testing"; Tuckman, 1963, "storming") identified one or more periods of crisis or conflict during the life of a group. Several (Garland et al., 1973; Levine, 1979) posited that each developmental phase involved a transition through a developmental crisis.⁶⁴ I would assert that on the basis of self-organization theory, such crises represent the emergence of chaos within the group system. Finally, self-organization theory would contend that increasing complexity and reversibility are contradictory, since theoretically a non-linear complex system that has undergone qualitative change cannot return to the same earlier state. It is simply not the same group that it was and cannot undo its increased complexity. More pragmatically, though a group may recycle conflicts experienced earlier in its life, it does so with the skills and experience derived from its earlier experience with the conflict (Brabender, 1997).

In the next part, this rather abstract examination of theoretical constructs will shift its focus to the more concrete application and operationalization of the constructs in empirical research. However, many of the paradigmatic and conceptual limitations noted above have also been translated to the design and implementation of group-focused research.

⁶³ For example, Schiller (1995) has noted that for groups composed exclusively of women, conflict emerges much later in the group's development once sufficient safety and trust has developed in the group. Most other models identify conflict as emerging during the second stage of development.

⁶⁴ Garland (1992) has described each phase of group development as representing, "a task, a crisis, or a level of interpersonal functioning to be serially encountered and mastered" (p. 395).

Part Three: Critical Analysis & Summary of Research Findings

Drescher et al. (1985) proposed that group treatment research focusing on cohesion may be classified into four dimensions: what? or variable function (including conceptual and operational definitions and the relationship of process variables); who? or the person dimension (i.e., the units of observation and analysis); how? or the measurement dimension (i.e., describing how the cohesion is observed and measured); and when? or temporal dimension (including the frequency and timing of when cohesion is observed in relation to the group's development). A total of 29 studies were reviewed for this dissertation and are combined with those reported by Drescher et al. (1985).

The Variable Dimension – What?

A common criticism of many cohesion studies has been their general lack of clarity and consistency in how the construct has been conceptually and hence operationally defined (Dies, 1994; Drescher et al., 1985; Mudrack, 1989). In their ongoing critical reviews of 1978, 1985, and 1994, Bednar & Kaul have repeatedly observed a lack of consistency in operational definitions involving cohesion (Bednar and Kaul, 1994). Several reasons were offered for this situation, including a lack of replication of studies (Bednar and Kaul, 1994), failure for researchers to report their operational definitions, and the difficulty that the construct presents in precise definition (Mudrack, 1989). This definitional difficulty has also led to attempts to achieve greater specificity through either narrowing the scope of cohesion to a specific behaviour or phenomenon (e.g., seating proximity) or delineation of cohesion as a multidimensional construct. Many elected to simply describe cohesiveness instead of providing an explicit definition (Mudrack, 1989). Yalom (1975, 1995), though remaining loyal to the traditional Festinger definition, has attempted to unify this fragmented construct by broadening the scope of cohesion to being composite of member-member, member-therapist, and member-group relationships.

Beyond definitional issues, the use of cohesion as an antecedent or response variable is also significant. Yalom (1995) has clearly established cohesion conceptually as both a precondition for change and a therapeutic variable predictive of therapeutic change. Yet, as Table 1 indicates, only 13 of 42 (8 were reviewed) studies involve cohesion as an antecedent variable. These studies may be divided into two groups, seven examined the relationship of group cohesion with some outcome measure. In six of these studies (Budman et al., 1989; Hurley, 1989; Littlepage, Cowart & Kerr (1989); Tschuschke & Dies, 1994; Wright & Duncan, 1986; Yalom, Houts, Zimmerberg & Rand, 1967) researchers found either that cohesion was positively related (in correlation studies) to treatment outcomes or that significantly improved outcome measures were found in comparisons of low and high cohesion treatment groups. The only exception to the positive outcomes associated with group cohesion involved a study involving treatment of sexual offenders (Roether & Peters, 1972). However, the validity of this finding is questionable since the workers, as opposed to members or independent observers, rated group cohesion and the involuntary group composition⁶⁵. Remaining studies examined what were posited as components or dimension of cohesion. Despite Braaten's (1989) efforts to find support for his five factor model of cohesion, two other studies (Budman et al., 1989; Piper et al., (1983) do not support cohesion as a multidimensional construct. Indeed, Piper et al. (1983) found support for cohesion only as a group-as-a-whole phenomenon.

⁶⁵Several studies have found that workers/therapists report significantly lower rates of group cohesion than to group members or independent observers. For example, Hurley (1989) noted that therapists generally rate group cohesion less positively than members.

Table 1
Cohesion as an Antecedent and Response Variable

Investigator	Antecedent Variable	Response Variable
Anderson (1978)	Worker Approaches, Empathy	Alienation, Cohesion
Braaten (1989)	Cohesion	Self-Disclosure, Empathy, Outcome
Budman et al. (1989)	Cohesion, Therapeutic Alliance	Outcome
Butler & Fuhriman (1980)	Group Type (Day vs. Outpatient)	Therapeutic Factors (Cohesion)
Colijn et al. (1991)	Member Characteristics	Therapeutic Factors (Cohesion)
D'Augelli (1973)	Composition (Interpersonal Skills)	Cohesion, Interpersonal Behaviour
Dierick & Lietaer (1990)	Perceived Helpfulness (Self, Other, Worker)	Cohesion
Dies & Hess (1971)	Duration (Marathon Conventional)	Cohesion
Hurley (1989)	Cohesion	Outcome
Hurst et al. (1978)	Worker Style	Cohesion
Kapur et al. 1988	Group Type (Inpatient outpatient)	Cohesion
Kirshner, Dies, & Brown (1978)	Group Structure	Cohesion
Kratochvil & Vavrik (1976)	Worker Empathy, Warmth & Sincerity	Group Tension (Cohesion)
Lieberman (1970)	Worker Behaviour	Cohesion & Outcome
Littlepage et al. (1989)	Cohesion	Outcome
Long & Cope (1980)		Cohesion
Long & Shultz (1973)	Worker Empathy	Cohesion, Self-Exploration
MacKenzie (1987)		Therapeutic Factors (Cohesion)
Marcovitz & Smith (1983)		Therapeutic Factors (Cohesion)
Maxmen (1973)		Therapeutic Factors (Cohesion)
Piper et al. (1983)	Cohesion	
Roark & Sarah (1989)	Empathy, Self-disclosure, Trust, Group Type	Cohesion
Roether & Peters (1972)	Cohesiveness & Hostility	Outcome
Truax, Silber, & Wargo (1966)	Group Therapy, Worker Empathy	Outcome
Tschuschke & Dies (1994)	Therapeutic Factors (Cohesion)	Outcome
Weiss (1972)	Interaction	Cohesion
Wright & Duncan (1986)	Cohesion, Attraction	Outcome
Yalom et al., (1967)	Pre-group Structure	Cohesion, Interaction, Attitudes

Table 1 (cont.)
Cohesion as an Antecedent and Response Variable

Investigator ⁶⁶	Antecedent Variable	Response Variable
Bednar & Battersby (1976)	Self-Disclosure	Cohesion
Bugen (1977)	Composition & Pre-training	Cohesion
Evensen & Bednar (1978)	Member Cognitive Behavioural Characteristics	Cohesion, Self-Disclosure, Feedback
Flowers, Booraem, & Hartman (1981)	Cohesion	Outcome
Jacobs (1977)	Feedback	Cohesion
Kapp et al. (1964)	Group Type	Cohesion, Involvement, Personal Change
Lee & Bednar (1977)	Member Risk-taking Disposition	Cohesion, Evaluative Attitudes
Lieberman, Yalom, & Miles (1973)	Cohesion	Outcome
Lott & Lott (1961)	Cohesion	Communication Level, Conformity
Martin & Jacobs (1980)	Feedback	Cohesion
Peteroy (1983)	Cohesion	
Ribner (1974)	Member Self-Disclosure Disposition	Cohesion & Self-Disclosure
Shadish (1980)	Verbal/Nonverbal Groups	Cohesion & Self-Disclosure
Shipley (1977)	Group Structure	Cohesion
Stokes et al. (1983)	Self-disclosure	Cohesion
Yalom & Rand (1966)	Compatibility	Cohesion
<i>TOTALS -ALL STUDIES - (42)</i>	12	30

There were also 19 studies reviewed that treated cohesion as an outcome variable. These studies fall into three categories. The largest group of studies (8 of 19) focus on ranking of cohesion and other therapeutic factors (often using Yalom's Q-sort methodology). Other studies are categorized based upon their antecedent variables: worker behaviour (6 studies) and member characteristics and behaviour (4 studies). Consistently through all the studies reviewed, cohesion was rated as being either the most helpful (Maxmen, 1973) or one of the top four therapeutic

⁶⁶ These studies were not reviewed. Table adapted from Drescher, Burlingame & Fuhriman (1985)

factors (Long & Cope, 1980; Marcovitz & Smith, 1983) regardless of group type (i.e., inpatient/outpatient-Kapur et al., 1988), member characteristics (i.e., age, sex) or group setting or treatment modality (Colijn et al., 1991). In an extensive investigation of group therapeutic factors, Dierick and Lietaer (1990) utilized a qualitative design to examine helpful events as perceived for self and others as well as by workers. Three categories emerged: the relational, structural and group climate aspects (e.g., cohesion and empathy); process aspects (e.g., personal involvement, authenticity, self-exploration and disclosure); and specific interventions by members or workers. Dierick and Lietaer found that 60% of helpful events reported were process aspects (with members identifying process aspects significantly more often than workers). Both D'Augelli (1973) and Roark and Sarah (1989) examined the relationship of member interpersonal skills in promotion of cohesion. D'Augelli, examining leaderless sensitivity groups compared groups composed of highly skilled members (i.e., empathic understanding, emotional honesty, warmth). Groups composed of highly skilled members were found to be significantly more cohesive than those with lower skilled membership. Roark and Sarah (1989), comparing three types of groups, found that member empathy, self-disclosure, acceptance, and trust were positively correlated with cohesiveness. Moreover, empathy was found to be more highly correlated with other variables (including cohesion) than any of the other variables were with each other. Kirshner et al. (1978) compared groups instructed to self-disclose to groups that were not. Though cohesiveness was found to increase over time in both groups, it did not parallel increases in member self-disclosure. Similarly, Weiss (1972) could not find a linear relationship between member interaction and the development of cohesiveness.

Anderson (1978), comparing worker approaches (i.e., Gestalt, Rogerian) and leaderless groups, found that Rogerian and self-directed groups were significantly better in reducing member alienation and promoting cohesion and feelings of being understood among members than Gestalt and control. Hurst et al. (1978) found that workers rated high on caring and self-disclosure had significantly more cohesive groups than those rated low for these traits. Hurst et al.

(1978) found that worker caring was essential for the development of cohesiveness. Moreover, he found that a medium (but not high) degree of worker self-disclosure added to group cohesiveness only if a medium to high amount of caring was present. Similarly, Kratochvil and Vavrik (1976) found worker empathy, warmth, and sincerity were positively related to cohesion and reduced group tension. Likewise Long and Shultz (1973) found that groups led by workers rated high on empathy demonstrated significantly higher degrees of inter-member empathy and depth of self-exploration than those led by low empathy workers. However, no significant differences were found in terms of group cohesion. Beyond empathy, Liberman (1970) found that the worker simply reinforcing or prompting member statements affirming group cohesion effectively produced groups that were significantly more cohesive than a control group. Liberman suggested that cohesion could be promoted by the worker who responds quickly to cohesion-enhancing behaviour, keeps the intervention simple, addresses members directly using reinforcement more than prompting, and avoids excessive commentary. Finally, Dierick and Lietaer (1990) found that group members reported more helpful events associated with other members of the group as a whole than in relation to the worker. Though workers identified their own interventions as helpful more often than members, Dierick and Lietaer confirmed that the most helpful worker role is more of an indirect one that facilitates group processes. These findings are consistent with Anderson's (1978) earlier conclusion that member interaction (vs. worker-centred gestalt) was the primary medium for change in group work.

The Person Dimension – Who?

Drescher et al., (1985) delineated the person dimension to describe the most prominent research foci in terms of units of observation and analysis. These units may include individual members or the worker, sub-groups, and the group as a whole. Units of observation refer to the unit that is observed or that reports. As depicted in Table 2, cohesion research most often involved the individual member as the unit of observation, generally involving self-reports (e.g.,

scales, Yalom's Q sort of therapeutic factors). In the relatively few occurrences of group level observation, ratings of cohesion were based upon critical incidents rated by the worker or independent raters. The unit of analysis relates to how the data are treated statistically and the unit which the results attempt to describe. Most often, the group was the unit of analysis achieved through use of mean scores from individual self-reports.

Table 2
Cohesion Studies (Reviewed) by Units of Observation/Analysis

Investigator	Unit of Analysis	
	MEMBER	GROUP
Anderson (1978)	O	A
Braaten (1989)		O, A
Budman et al. (1989)	O	A
Butler & Fuhriman (1980)	O	A
Colijn et al. (1991)	O	A
D'Augelli (1973)	O	A
Dierick & Lietaer (1990)	O	A
Dies & Hess (1971)	O	O, A
Hurley (1989)	O	O, A
Hurst et al. (1978)	O	A
Kapur et al. 1988	O	A
Kirshner et al. (1978)	O	O, A
Kratochvil & Vavrik (1976)	O	A
Lieberman (1970)	O, A	O, A
Littlepage et al. (1989)	O	A
Long & Cope (1980)	O	A
Long & Shultz (1973)	O	A
MacKenzie (1987)		O, A
Marcovitz & Smith (1983)	O	A
Maxmen (1973)	O	A
Piper et al. (1983)	O	A
Roark & Sarah (1989)	O	A
Roether & Peters (1972)		O, A
Truax et al. (1966)	O	A
Tschuschke & Dies (1994)	O	O, A
Weiss (1972)	O	O, A
Wright & Duncan (1986)	O	A
Yalom et al. (1967)	O	A

Table 2 (cont.)
Cohesion Studies by Units of Observation/Analysis

Investigator	Unit of Analysis	
Bednar & Battersby (1976)	O	A
Bugen (1977)	O	A
Evensen & Bednar (1978)	O	A
Flowers et al. (1981)	O	O, A
Jacobs (1977)	O	A
Kapp et al. (1964)	O	A
Lee & Bednar (1977)	O	A
Lieberman et al. (1973)	O	A
Lott & Lott (1961)	O	A
Martin & Jacobs (1980)	O	A
Peteroy (1983)	O	A
Ribner (1974)	O	A
Shadish (1980)	O	A
Shipley (1977)	O	A
Stokes et al. (1983)	O	A
Yalom & Rand (1975)	O	A
<i>STUDIES - TOTAL UNITS</i>		
Observation	41	44
Analysis	1	10
All Studies	42	54

Note. Adapted from Drescher et al., (1985)

Continuing the train of thought from the above dimension, there were also methodological problems with the use of individual observations in order to describe group phenomenon. Firstly, the use of mean scores infers that cohesion represents the sum of group member parts and that cohesion is in effect a member phenomenon rather than a group phenomenon or gestalt (Drescher et al., 1985). Secondly, use of a measure of central tendency vis-à-vis variance is particularly influenced by extreme scores and implies that cohesion is relatively

homogeneously experienced by all members. For example, a very cohesive group experiencing conflict between two members, resulting in one extremely low self-report rating, may be measured as being less cohesive than a low cohesive group where a few members rate the group as very cohesive.

The Measurement Strategy Dimension—How?

Drescher et al. (1985) identified six strategies how cohesion or other process variables can be measured: physical indices (PI) such as attendance, promptness, or proximity; verbal content (VC) such as ratings or frequencies of statements that involve self-disclosure; verbal style (VS), which includes various communication modalities; overt behaviour (OB), which includes ratings by observer's of elements of member interaction; covert behaviour (CB), which includes reporting of constructs not observable to the investigator observer (such as self-report questionnaires, scales, member satisfaction ratings); and therapeutic intervention (TI), which includes monitoring of technique(s) employed by the worker. As indicated on Table 3 and consistent with our findings in relation to the person dimension, the use of covert behavioural strategies- which in nearly all cases involve the use of individual member self-reports- outnumber all other strategies combined. Aside from the conceptual problems outlined above with respect to extension of a member unit of analysis to a group construct, individual self-reports are also problematic to administer repeatedly given the temporal nature of cohesion. Indeed, the need for repeated measures clearly introduces confounding testing effects into such a measurement strategy. Verbal content methods were clearly problematic, given the simple fact that only one person generally speaks in a group at any given moment. Thus, verbal content methods are the most individualistic, since they do not provide a measure of cohesion that captures all group members at any given moment.

Of special interest here are the five strategies used to measure worker interventions. Most often (5 of 6 studies reviewed) worker skills (e.g., empathy) or theoretical approaches were rated

Table 3
Cohesion Studies (Reviewed) by Measurement Strategy

Investigator	Measurement Strategy					
	PI	VC	VS	OB	CB	TI
Anderson (1978)					X	X
Braaten (1989)		X		X		
Budman et al. (1989)					X	
Butler & Fuhriman (1980)					X	
Colijn et al. (1991)					X	
D'Augelli (1973)					X	
Dierick & Lietaer (1990)				X	X	X
Dies & Hess (1971)				X	X	
Hurley (1989)					X	
Hurst et al. (1978)					X	X
Kapur et al., 1988					X	
Kirshner et al., (1978)	X			X	X	
Kratochvil & Vavrik (1976)				X	X	X
Lieberman (1970)				X		X
Littlepage et al. (1989)					X	
Long & Cope (1980)					X	
Long & Shultz (1973)				X	X	X
MacKenzie (1987)		X	X	X		
Marcovitz & Smith (1983)					X	
Maxmen (1973)					X	
Piper et al. (1983)	X				X	
Roark & Sarah (1989)					X	
Roether & Peters (1972)				X		
Truax et al. (1966)					X	
Tschuschke & Dies (1994)	X	X	X	X	X	
Weiss (1972)				X	X	
Wright & Duncan (1986)					X	
Yalom et al., & Rand (1967)				X	X	

Table 3 (cont.)
Cohesion Studies by Measurement Strategy

Investigator	Measurement Strategy					
	PI	VC	VS	OB	CB	TI
<i>OTHER STUDIES*</i>						
Bednar & Battersby (1976)					X	
Bugen (1977)					X	
Evensen & Bednar (1978)					X	
Flowers et al. (1981)	X				X	
Jacobs (1977)					X	
Kapp et al. (1964)					X	
Lee & Bednar (1977)					X	
Lieberman et al., (1973)					X	
Lott & Lott (1961)					X	
Martin & Jacobs (1980)					X	
Peteroy (1983)					X	
Ribner (1974)					X	
Shadish (1980)	X					
Shipley (1977)	X	X			X	
Stokes et al. (1983)					X	
Yalom & Rand (1975)	X				X	
<i>TOTAL - ALL STUDIES</i>	7	4	2	12	39	6

prior to assignment to a group. Thus, experiential conditions were manipulated by worker assignment. In Anderson (1978) the therapeutic intervention involved differing group theoretical approaches (i.e., leaderless member-centred, Rogerian, and Leader-centred Gestalt). In Hurst et al (1978) workers were pre-tested (Leadership style scales—Lieberman et al., 1973) for their degree of caring and self-expressiveness. Workers rated high or low were then randomly assigned to groups. A similar strategy was employed by Long and Shultz (1973) who pre-tested workers using the Carkuff & Truax Accurate Empathy Scale. Similarly, Kratochvil and Vavrik (1976) tested workers in terms of their empathy, warmth, and sincerity. Finally, Lieberman (1970) assigned workers to treatment and control groups. Workers in the control group were instructed to

reinforce/prompt cohesion-promoting statements, while those assigned to the control group were not. However, seldom were workers rated during their actual group sessions, thus calling into question the actual validity of the treatment conditions. Of the reviewed studies, only Dierick and Lietaer (1990) examined worker interventions during the actual group sessions.

The Temporal Dimension—When?

Cohesion has been regarded by most theorists (e.g., Corey & Corey, 1992; Garland et al., 1973; Tuckman, 1963) as related to stages of group development. That is, one would expect to find (using Garland et al.'s (1973) five-stage model of group development) higher ratings of group cohesion in the middle stages (e.g., intimacy) than in earlier stages (e.g., pre-affiliation). Given the assumed developmental nature of cohesion, one would expect to find within cohesion research something resembling a standardized schedule of measurements relative to group development. However, in Table 4 it appears that the temporal dimension is but another example where theoretical conceptualization was not reflected in research design. Several disconcerting trends appeared among the 24 cohesion studies reviewed. First, although there was in some cases a reasonable dispersion of measurements between beginning, middle, and end times of group life, 10 studies reported measuring cohesion on only one occasion. Of these, four measured cohesion at the end of group sessions or after the group ended, only three measured group cohesion at the middle stage. In the remaining studies, cohesion was measured inconsistently at various points by different members (e.g., open groups). Within these studies were a surprising diversity of group types (e.g., open groups, inpatient outpatient, marathon, and conventional groups meeting once or twice each week). Also of concern were the relatively large number of atypical analogue (single session) groups which, though more convenient methodologically, offer limited generalizability to conventional outpatient treatment groups. In addition, a general lack of consistency persisted in the frequency, schedule, and types of instrumentation administered for measuring group cohesion. These limitations greatly impair the generalizability of findings and call into question the validity of replication studies that administered cohesion measures at different points in group

development than the original studies. For example, in those studies that replicate Yalom's Q-sort rankings of therapeutic factors, if cohesion is developmental and temporally determined, then the timing of the Q-sort may become of critical importance.

In terms of the findings of these studies in relation to temporal aspects of cohesion, it appears that as the development of group cohesiveness in early group stages is of special import. For example, duration and proximity of early sessions appear to influence cohesion. Dies and Hess (1971) found that marathon groups produce greater cohesion than conventional weekly sessions of the same duration. In general, group cohesion was found to increase over time (Kirshner et al., 1978; Weiss, 1972). Similarly, cohesion was found more helpful in day treatment (i.e., daily sessions vs. weekly) than in outpatient groups (Butler & Fuhrman, 1980). Several investigators found significantly improved group treatment outcomes when cohesion developed early during a series of group sessions (Budman et al., 1989; Tschuschke & Dies, 1994). Likewise, member self-disclosure and cohesion in early group sessions was positively correlated with outcomes. Moreover, Dierick and Litaer (1990) noted that group cohesiveness and climatic aspects were more often mentioned being helpful in the early sessions (as were experiences of acceptance, belonging, and group identity) than in later sessions where process aspects became more prominent.

Table 4
Cohesion Studies by Time of Measurement

Investigator	Type	Duration	Tests	When	Approximate Stage		
					Beg	Mid	End
Anderson (1978)		12 hrs	2	pre-test, 6hrs	X	X	
Budman et al. (1989)		15 sess		random	X	X	X
Butler & Fuhriman (1980)	Open Grp	variable	1				
Colijn et al. (1991)	Open Grp	variable	1				
D'Augelli (1973)	Analogue	2 hrs	1				X
Dierick & Lietaer (1990)		variable	2		X	X	
Dies & Hess (1971)	An. Conv	12 hrs	4	hrs 1,4,8,12	X	X	X
Hurst et al. (1978)	Conv	30 wks	6	every 5 wks	X	X	X
Kapur et al. 1988	Inp/Out	variable	1	after 3 wks		X	
Kirshner et al. (1978)	Analogue	8 hrs	2		X		X
Kratochvil & Vavrik (1976)	Conv	30 wks	30	weekly	X	X	X
Liberman (1970)	Conv	37 wks	37	weekly	X	X	X
Littlepage et al. (1989)	Retrosp		1				
Long & Cope (1980)	Open		1	after 8 session		X	
Long & Shultz (1973)	Analogue	18 hours	1	post-session			X
MacKenzie (1987)	Conv	40 sess	20	first 20 sess	X	X	
Marcovitz & Smith (1983)	Inp Open	min 3 ses	1	at discharge			X
Maxmen (1973)	Inp Open	5X week	1	Sess. 5 to 16		X	
Piper et al. (1983)		8 wks	5	week 1,2,3,4,8	X	X	X
Roark & Sarah (1989)	3 conv	10~ sess	3	Sess. = 6,9,11		X	X
Truax et al. (1966)	Inp/Conv	24 sess	2	pre-post	X		X
Tschuschke & Dies (1994)	Conv	83,93 ses	44		X	X	X
Weiss (1972)					X	X	X
Wright & Duncan (1986)	Analogue		1				X
Yalom et al. (1967)	Conv	52 weeks	2	6 & 12 months		X	X
<i>TOTAL - ALL STUDIES</i>					13	16	16

Summary

Cohesion has been conceptualized as a therapeutic factor essential for individual change (Yalom, 1995), and as a precondition necessary for the development of other therapeutic factors. Generally, it has been found to be related to positive treatment outcomes, and is particularly influential as a therapeutic factor when established in the early stages of group development. As Fuhriman and Barlow concluded:

The atmosphere of warmth and unity that cohesion creates through acceptance and belonging provides the basis for change. (1983, p. 268)

However, as one might anticipate, the exact nature of cohesion in operational terms has remained as elusive as has its clear and consistent definition. Certainly, consistent with practice theory and group development models, cohesion (though again hampered by methodological inconsistency) is temporally related to the phase or stage of group development. However, further attempts to exact clarity through reduction of this construct have been largely unsuccessful. Indeed, the literature seems to support a more global vis-à-vis multidimensional construction (Piper et al., 1983). However, cohesion certainly appears to be interrelated with such qualities as empathy, self-disclosure, acceptance, and trust being established in the group. Of these elements, empathy (Roark & Sharah, 1989) appeared to be the most influential and warrants additional investigation.

As will be evident in the following chapter, this inquiry will attempt to redress some of the aforementioned limitations prevalent in the research literature. First, as was hinted at during our theoretical discussion, progress will be achieved in moving the construct of cohesion beyond individualistic and atomistic perspectives. Rather than examining cohesion solely from an individualist vantage point, it will be examined from multi-levels of analysis including interpersonal and holistic perspectives. This inquiry will also serve to develop conceptual and operational definitions that describe the group as a whole rather than its parts. As will be noted, the methodology adopted here will examine the group as both the unit of analysis and

observation. In addition, as cohesion has been conceptualized as being developmental in nature, the research design employed in this inquiry will continually measure cohesion throughout the life of the group under study. Finally, as this inquiry involved the study of an actual group situated in a residential day treatment setting, naturalistic conditions more closely approximating the realities of group practice will be employed.

In light of the above review of the previous research related to group cohesion and empathy, and to help frame the discussion of the methodology utilized in this inquiry, I will again reiterate the research question and its various aspects below. The purpose of this inquiry is to examine the relationship between empathy and group cohesion. Based upon the foregoing, it will be hypothesized that empathy acts as a control parameter influencing changes in group cohesion over time. In order to respond to the aforementioned limitations of research into the nature of group cohesion, a new construct known as interpersonal coordination will be utilized in this inquiry. This construct will be adopted because it may offer another approach for the study of aspects of both group cohesion and empathy through its two components of behavioural congruence and interpersonal synchrony. Finally, in addition to examining the interrelationship of each construct over time, the impact of nodal events, interventions, and interactions among group members upon the constructs of cohesion, empathy, therapeutic effectiveness, and the relative interpersonal coordination within a group will be examined. The intent of such an approach will be to triangulate quantitative findings with events in the group, thus providing a context from which to provide a richer interpretation of the quantitative findings and deeper insights into the implications of the results for group work practice and future research.

CHAPTER III: METHODS

Setting

The setting of this research project was a psychiatric hospital in southern Ontario. Both the University and Hospital gave approval for the recording of three separate treatment groups. This dissertation reports the findings for the first of three treatment groups. This group was composed of eight male clients who had been admitted to the Hospital. As a major ethical safeguard of the project was to ensure that no client would experience a reduction of therapeutic services as a consequence of their refusal to participate in the study, a ward was selected that offered several groups for male and female clients. This provided the option for clients who did not wish to participate to be assigned to a group not involved in the research project.

Sample

The Hospital's Director of Research, in consultation with ward's treatment team, identified the ward that served as the site of the research project. Two pairs of group workers volunteered to participate in the project. As each client's willingness to participate in this project determined whether they would be assigned to a group participating in the project, participants in this project were both voluntary and self-selected for the group under study.⁶⁷ Each of the clients participating in the group session had been previously diagnosed as experiencing clinical depression. All clients were taking various types of anti-depressant medication. A demographic

⁶⁷ The limited number of clients willing to participate in this study and the small number of groups available in the ward precluded the use of randomization as method of assigning clients to the groups under study.

breakdown of the clients attending the group is given in Table 5 below (see also Appendix A for sample Participant Information Form).

Table 5
Aggregate Demographic Characteristics of Clients in Treatment Group

Characteristic	N	Mean/ Median	Range (Min: Max)	Proportion of Clients (%)
Age	8	42.5	30:50	-
Income Level	8	3.0 (Middle)	1:4	-
Education	8	3.5 (H.S. Graduation)	2 (Grade 8-12): 5 (Degree)	-
Previous Group Experience	8	-	1:3	50
On Medication	8	-	-	100

Clients could be described as middle-aged (with a mean age of 42.5), and somewhat heterogeneous in relation to education and income level. Educational attainment ranged between completion of some high school (2 clients) to completion of a university degree (1 client). Income levels were self-reported on a five-point scale. Reported incomes ranged from low (2 clients) to upper middle (1 client), with median income estimated as middle. Half (50%) of the clients reported having previous experience in group treatment. One client reported having previously attended three groups, and two clients reported that they had attended one group prior to entering the hospital.

As indicated in Table 6, clients entered the group at different times after a two-week initial assessment period. Four clients entered the group at the same time (Ry, Sc, Ty, Jn). One member entered a week earlier (Rb), and three others entered later (St, Dn and Pl), with Pl entering the group one day before the commencement of recording. However, no new members

entered the group during the 12 sessions under study. Half (50%) of the clients attended all of the 12 sessions recorded. Two clients (Rb and Dn) were absent from more than one session. Rb, having entered the group before the other clients, completed his treatment program and left the group prior to the final week of recording (missing the last three sessions). Dn was absent from two sessions due to illness. Ty was frequently late for group sessions (three sessions) and left the room temporarily during two sessions.

There were three workers involved with the group described here. The primary worker (hereinafter designated as 'W1') was a Caucasian male aged 43 who held an MSW and had worked on the ward for approximately two years. The two other co-workers (hereinafter designated as 'W2') were female nurses (aged 32 and 45) who had limited previous involvement in co-leading treatment groups. Only one of the nurses attended any given session. Nurse 'K' participated in 4 of the 12 sessions, while Nurse C attended 5 of 12 sessions. The primary worker facilitated sessions 1, 2, and 3 alone. This inquiry was not intended to produce results generalizable to other similar groups, nor did it intend to compare the efficacy of specific treatment conditions. For these reasons, control groups and random assignment were not employed.

Table 6
Participation by Clients in Treatment Group

Code Name	Previous Sessions	Sessions Attended	Session # Absent	Sessions Late Partially Absent
Ry	13	12	0	0
Dn	5	10	5 & 7	9
St	9	12	0	0
Jn	13	12	0	4
Pl	1	11	6	0
Sc	13	12	0	5,7
Rb	17	9	10,11,12	0
Ty	13	11	1	3,5,7,8,11

Instrumentation

Two classes of instrumentation were utilized in gathering data from the group sessions.

Observer rating guides were utilized to capture moment to moment behavioural changes in the group as well as to rate the global variables of cohesion, therapeutic effectiveness, and empathy.

Group cohesion was rated through use of the Harvard Community Health Plan Group Cohesiveness Scale Version II ⁶⁸ (Soldz et al., 1987). This scale was specifically designed for use in rating videotaped group sessions. For practicality, only the Global Cohesiveness subscale was utilized to rate the moment-to-moment cohesiveness of the treatment group. This scale rates each dimension along a graduated nine-point continuum ranging from level 1 ('very slight' cohesiveness) to level 9 ('very strong' cohesiveness) with descriptors associated with each of the odd scale levels (1,3,5,7,9) (see Appendix B for the scale). Though initially designed for use in rating 30-minute videotaped segments, Budman, Demby, Feldstein and Redondo (1987) recommended that further research be conducted using the scale on a moment to moment basis. In the article describing the original scale, Budman et al. (1987) reported "encouraging" initial reliability ratings of .77 for Global Cohesion. ⁶⁹

⁶⁸ Though version I was initially recommended in my dissertation proposal, when I contacted the authors of the instrument to obtain permission for its use and to obtain further documentation, I learned that a second, improved version of the scale had been subsequently developed. In the accompanying documentation it was reported that version II had been designed due to difficulties experienced by new raters in learning the scale, a lack of sensitivity in the initial version in the lower rating ranges, conceptual overlap amongst subscales, and problems in interpreting the bipolar scale. Version II also offered the advantage of increased descriptive detail with each rating level. It was anticipated that such improvements would undoubtedly serve to increase the satisfactory inter-rater reliability achieved with the original version (originally reported from .68 to .85) of the scale.

⁶⁹ In the original publication of the scale, Budman et al. (1987) utilized only the Global Cohesion subscale. Subsequently, when using the full five-dimension scale Budman et al. (1989) found that the Group Cohesiveness Scale exhibited only one factor and concluded that most dimensions of the scale varied together. For definitional and methodological reasons, and time constraints, only the global cohesion subscale was used.

Empathy was rated through use of the Empathic Understanding in Interpersonal Processes Scale (Carkhuff, 1969). This subscale of the Scale for Measurement of Accurate Empathy (Truax & Carkhuff, 1967) is one of the most widely used validated process scales for the rating of empathy ever devised. This scale (see Appendix C) is a five-point graduated rating scale with ratings of verbal and behavioural empathy ranging from level one, where the responder is described as not attending to, or detracting from, another's expressions, to level five empathy, where the responder adds to and deepens the feeling and meaning of another's expressions. Though initially designed to rate taped therapist empathic responses in casework, the scale was readily adaptable, and has been previously used in rating empathy in treatment groups (e.g., Roe & Edwards, 1978).⁷⁰ Therapeutic effectiveness was rated through use of the Hill Interaction Matrix (Hill, 1965). This instrument (see Appendix D) is one of the few group process instruments measuring moment-to-moment properties of group interactions for which reliability (Rho coefficients: .85 to .96), validity, and normative data have been compiled.

Four classes of nonverbal behaviour were observed and measured over each of 12 sessions: lean, gaze, arm position, and leg position. Though the Investigator had some intuitive notions of various potential ratings schedules (e.g., arms crossed vs. arms at sides), several sources were examined for guidance respecting the creation of a valid rating scheme for member postures. First, the literature, particularly Mehrabian (1972), was helpful in creating an initial schedule of positions. For example, Mehrabian proposed the measurement of lean to be in 15-degree gradations from upright position. Second, the various postures displayed by group members were

⁷⁰ Roe and Edwards (1978) found in a factor analysis of both the Hill Interaction Matrix and the Accurate Empathy Scale that high loading on empathy and self-exploration indicated a dimension of group process not captured by the Hill Interaction Matrix, suggesting that these two scales are somewhat independent and do not measure the same phenomenon.

another helpful source for developing a typology of nonverbal behaviour. Sections of various sessions were sampled to develop an inventory of nonverbal behaviour involving arm, leg, lean and gaze position. Behaviour for each class was then organized on a continuum to create ordinal (arms, legs, gaze) or interval (lean) level measures of relative engagement (forward lean, gaze towards speaker) and accessibility (openness of legs and arms). Thus, a combination of intuition, practicality (there are only so many apparent positions), empirical literature, and observations resulted in the creation of rating scales for each of the four postural indicators. Empirically derived rating scales were tested with several taped sessions to gauge their validity and ability to capture the major types of nonverbal positions. Since pre-testing determined that 15-degree gradations were too fine for making consistently reliable ratings, 30-degree gradations were utilized (far back, back, upright, forward and far forward) for member lean. Similar refinements were applied to member gaze with ratings collapsed to five gradations. As with member lean, these gradations were arranged on a continuum of relative engagement: averted (looking down, eyes closed, eyes covered by hands), indirect (looking at group members other than the speaker or the receiver), direct/tilted (looking at either the speaker/receiver with head tilted to one side), towards receiver (looking directly at the person who is being spoken to or about in the group), and towards the speaker. Arm position was rated in terms of relative accessibility through use of seven gradations: crossed over chest, hands clasped over chest chin, asymmetry—one arm crossing chest, hands clasped or clenched in lap, both hands in lap, one hand in lap, and both arms at side. Similarly, leg position was also rated in terms of its relative openness on a five-point scale: legs crossed at knees, legs crossed at ankles, legs together, legs apart, legs far apart. A code book describing each variable is included in Appendix E.

The aforementioned four types of nonverbal behaviour were reduced to two aggregated measures hereafter labelled as engagement (representing the aggregate of lean and gaze values) and accessibility (representing the aggregate of arm and leg values) behaviour. Aggregation of individual nonverbal variables was not performed arbitrarily. Beyond the apparent face validity of

combining lean and gaze as components of an individual's relative 'engagement' in group interactions, and similarly combining leg and arm position as components of an individual's relative 'accessibility,' the creation of these variables was also informed by the literature. Several investigators have adopted similar regimes. Mehrabian (1972) was one of the first to explore the "accessibility" (p. 24) or openness of arm and leg positions.⁷¹ He also linked eye contact and distance (e.g., forward lean) as proxemic variables. Later Smith-Hanen (1977) also adopted the construct of accessibility in the study of client-therapist relationships. Further, Beebe et al. (1982) proposed an Infant Engagement Scale that included body orientation (forward/backward lean) and gaze as indices of engagement. Argyle (1988), in his summary of the literature, described four main signals indicative of affiliation or interpersonal attraction: proximity (including forward lean if seated), gaze or mutual gaze, and open arm and leg positions. Thus, in this inquiry, the aggregated behavioural variables of engagement and accessibility were adopted for the purposes of analysis.⁷²

In addition to the observer rating instrumentation, a sessional self-report was included to provide each member with an opportunity to report perceived levels of cohesion and empathy present during each session. A composite scale was created that included items from several earlier validated group process instruments. This instrument, entitled the Group Cohesion and Empathy Scale (see Appendix F), was a 20 item self-report Likert-type scale developed by the Principal Investigator. It contains the 12-item Group Climate Questionnaire (MacKenzie, 1981) designed to measure the group cohesiveness and interpersonal rapport. Eight additional items

⁷¹ Mehrabian (1972) adopted a similar system for coding arm and leg positions as proposed here. However, his system also incorporated the relative symmetry or asymmetry of each body part in the rating system. Gaze and lean were grouped under a class termed 'immediacy' (p. 192), while arm and leg positions were grouped under classes terms 'accessibility' (p. 24) and 'relaxation' (pp. 192-93).

⁷² The advantages and limitations of this approach will be discussed later in the Discussion section.

were added allowing each member to rate the group's relative cohesiveness,⁷³ their personal anxiety level,⁷⁴ and the level of empathy⁷⁵ they experienced in relation to other group members. This scale also offered an additional way of gauging the reliability of the observer-rated measures of group cohesion and empathy. All ratings and measurements were conducted on a continuous⁷⁶ basis over twelve group treatment sessions. All ratings and measurements were included for analysis. Sampling techniques were not applied to the data collected through ratings or measurement.

Procedures

Ethical Review

There were several stages in the ethical review process. First, the dissertation proposal, including copies of all information letters and consent forms, was submitted to the Faculty of Graduate Studies Ethics and Research Committee. Upon approval by the University's Ethics Committee (see attached authorization letter, Appendix G), the dissertation was submitted to the Hospital's Research Ethics Committee. The Hospital's Research Ethics Committee subsequently

⁷³ One item from the Group Attitude Scale (Evans & Jarvis, 1986) asking respondents to rate the relative 'unity' existing in the group was included, as was one item from Yalom (1995) referring to individual expectation of achieving their personal therapeutic goals. Both of these items attempt to gauge each member's relative attractiveness to the group.

⁷⁴ The Group Climate Scale is other focused, that is, it asks members to rate the overall cohesion, empathy and anxiety of members in the group. I thought it would be perhaps more valid to have members rate their own levels of anxiety in the group. For this reason, an item was added that changed the focus of the question in the Group Climate Questionnaire (G.C.Q.) from others to the respondent.

⁷⁵ As the G.C.Q. does not include items that rate the empathy present in a group session, three items were adapted from the Barrett-Lennard Relationship Inventory (BLRI) focusing on empathy experienced by the respondent for others, from other group members, and from the group worker(s). The BLRI and the aforementioned Carkuff scale are historically the two most widely used empathy scales utilized and have found to be reliable and valid in many empathy and counselling studies (Layton & Wykle, 1990).

⁷⁶ The term 'continuous' has different definitions depending upon the discipline in which it is used. In the case of this inquiry, all ratings and measurements were conducted on a statement-by-statement basis (the technical term is 'locution' see 'Coding and Rating' for a precise definition). Two exceptions to this data collection schedule were the Group Cohesion and Empathy Scale (administered as a sessional self-report instrument) and the HCHP Group Cohesiveness Scale, where ratings were completed for each minute of observation.

approved the research project without revisions or qualifications (see attached approval letter, Appendix H). Separate information letters (see Appendix I) and consent forms (see Appendix J) were prepared and later distributed to all clients and group workers. The Principal Investigator and the Hospital administration then kept copies of all signed consent forms on file.

Orientation Meeting

A series of regularly scheduled orientation meetings were held with groups of potential participants during the two-week assessment period before assignment of clients to a specific treatment group. At this session, an overview of the research project was presented and copies of the information letter were distributed. Clients were then asked to advise their nurse if they wished to participate in the study and later signed the consent forms. As a result, only those clients who had given their informed consent prior to assignment to a treatment group were included in the treatment group under study.

At the session prior to the commencement of video-taping group sessions, the Principal Investigator met with all participants near the end of a group session to review the procedures involved with video-taping and to answer any other questions or concerns by participants. At this point, final approval was given by all participants to proceed with taping the next day.

Video-recording

In total, 12 group treatment sessions were recorded over a three-week period. Treatment group sessions were held each morning for approximately one hour on Mondays through Thursdays. There were no group sessions held on Fridays through Sundays. The number and positioning of cameras had to be carefully considered. Two considerations influenced the

positioning of the cameras. Of primary concern were the needs of group members and the goal of being as least intrusive on the group as possible. For this reason, the fewest number of cameras necessary were used for recording purposes and each camera was positioned out of sight of the group members. A secondary consideration was to position the cameras in order to best capture the postures and nonverbal behaviour of group members seated in a circle near the centre of the room. Initially, it was thought that cameras could be positioned in an adjacent room and sessions recorded through a one-way mirror. However, a trial run (without group members present) revealed that the cameras needed to be positioned above group members to effectively capture their positioning. Consequently, sessions were recorded using two video cameras mounted in the upper corners of the group room. The cameras were thus out of the visual range of the group members while the group was in session. To improve the sound quality of audio recording, a microphone was mounted in the centre of the room on the ceiling above the group members to augment the recording capabilities of the microphones installed on each camera.

The use of two cameras created additional challenges with respect to recording. Two cameras produced two video signals that would be very difficult to synchronize if recorded on separate videotapes. Two tapes would also make switching between views very cumbersome and time consuming. Therefore, a way had to be found to integrate the two images onto one videotape to preserve a single time index for both images.

Two devices were available that would allow for such video integration. Screen splitters offered two or four high-resolution continuous video image displays (where the display would be divided into halves or quadrants). However, a trial run with a screen splitter detected a major flaw with this technology. Portions of the peripheral video image were lost or cut off in the process of splitting the screen. In addition, screen splitters did not allow for views to be switched

on playback. The view that is recorded with a screen splitter is the only view that could be replayed.

A video multiplexer offered many more advantages over the screen splitters. First, the multiplexer did not crop the image because, rather than simultaneously displaying each camera image, it rapidly alternated camera views at 1/30th of a second. Since the behaviour under study would never be expected to vary over such short time periods, this alternation of camera views was not seen as problematic. Second, by using an internal processor, the multiplexer allowed for various types of replays. One could choose a full-screen view from either camera angle or split the screen (with no image loss). Camera angles could be switched very quickly and one could zoom in on different portions of the image. Finally, use of a video multiplexer offered an additional security feature. Due to the rapid image alteration recorded on each tape, sessional recordings could only be viewed with a multiplexer set in playback mode. This meant that the identity of each member could not be ascertained without the use of a similar type of multiplexer. The only limitation of the multiplexer was that the resolution of the multiplexed image was of lower quality than that produced by the screen splitter. However, given that at full wide angle settings the cameras were barely able to capture the entire group, it was decided to accept a lower resolution over image loss, and thus, a video multiplexer was utilized in recording the group treatment sessions.

As mentioned earlier, two cameras were placed above the participants in the upper corners of the meeting room. Cabling extended from each camera into an adjoining room where it was connected to a video multiplexer and then the merged video signal was recorded on a conventional VHS-type videotape recorder. A monitor in the adjoining room allowed the Principal Investigator to watch and listen to the group during each session. A one-way mirror also

allowed for viewing of the group from the adjoining room. Group participants had previously agreed to allow nursing and social work students to observe most of the group sessions (though this was not a requirement of the study) as part of the normal routine of the teaching function of the Hospital. Though each participant was given the option to have the recording stopped or paused at any time if he felt uncomfortable with having certain parts of the group discussion recorded, no such requests occurred during the recording process. One notable event that was not recorded occurred during the sixth session. Here the primary therapist had pre-arranged with the group members to allow 15 minutes near the end of the session for a reflecting team to discuss their observations of the group. Members of the reflecting team included a social work practicum student, the primary worker, a co-worker, and the Principal Investigator.

At the end of each recording session, group members completed the 20-item Group Cohesion and Empathy Scale (requiring about 5 minutes) and sealed them in an envelope. The Principal Investigator did not examine responses by clients participating in the group until all the group sessions had ended. Client responses were recorded on a datasheet for further analysis. After collecting the envelope containing the sessional self-reports, the Principal Investigator, group workers, and other observers met for about 15 minutes to debrief what had been observed during each group session.

Each of the 12 hour-long group sessions was recorded onto standard VHS tape. Tapes, along with some of the recording equipment, were stored in a locked storage cabinet in the adjoining observation room. As agreed during the initial meeting with group members, an opportunity was given to group members to watch some of the tapes after the recording had ended. A debriefing session hosted by the Principal Investigator took place in the observation room once all of the

sessions had been recorded. Several group members selected and viewed portions of several sessions.

Coding and Rating

Each of the 12 one-hour group session tapes were rated and coded using the above-mentioned instrumentation. Several steps were required in coding and rating the videotapes. The Investigator had originally hoped to utilize an advanced behavioural analysis software package (Observer Video Pro version) and had gained access to specialized equipment at York University. However, one major problem emerged during initial trials of the software package. After rating a 10-minute segment of tape, it was found (despite assurances to the contrary in the software documentation) that the datasheets produced by the software system could not be readily exported to other statistical packages (e.g., SPSS, Excel) for further analysis. Consequently, another method of recording behavioural ratings was needed. The Investigator utilized a monitor, multiplexer, VCR, and notebook computer (with an Excel spreadsheet) to code nonverbal behaviour for each group participant for each segment. Although this approach was much more time-consuming than using the automated software system (requiring between 12 and 14 hours per hour of tape), it proved to be successful in producing a workable data set.

First, verbal utterances were segmented into locutions or sentences of approximately 20 to 40 seconds. Segmentation was often difficult, especially when group members spoke for very short or very long durations. Often when a group member spoke for a long time there were no readily discernible breaks between locutions. However, after several reviews of difficult segments, short pauses, breaths, or changes in topic allowed for segmentation of speaker locutions.

A rationale for the size of speaker segments was derived from Kendon (1972), who found several important relationships between the magnitude of nonverbal behaviour and the length of speech patterns. Kendon asserted that each speech unit has an equivalent unit of body motion, and that all are hierarchically ordered. He found that the larger the speech unit, the greater the difference in the form of movement and body parts involved. In other words, Kendon's work suggested that in order to measure fine motor movements, very small segments (less than one second) would be required. Consequently, a middle range for segment size was chosen, based upon Kendon's findings, that would best capture changes in the range of nonverbal behaviour measured.

Second, nonverbal behaviour (i.e., lean, gaze, leg and arm position) for each member was recorded on the spreadsheet. This was achieved by advancing the tape to near the end of each locution segment so that the immediate effect of each speaker's locution on member nonverbal behaviour would be captured. Gaze, leg and arm positions were quite easy to rate. However, given the different seating positions of each member and the different camera angles, lean position was somewhat more difficult to gauge. Transparencies and a protractor were used to more accurately estimate each member's postural lean.

Third, once all of the postures were measured for a particular session, global group variables of cohesion, empathy, and therapeutic effectiveness were rated through separate replays of each videotape. Cohesion was rated on a minute-to-minute basis, whereas empathy and therapeutic effectiveness rated for each locution.⁷⁷

⁷⁷ The use of a different metric for cohesion ratings was a product of instrument design. The various descriptors associated with the individual ratings on the HCHP Group Cohesiveness Scale could not be reliably used to rate cohesiveness on a locution-by-locution basis. For example, level 3 'Slight' cohesiveness was described as involving "predominantly individualistic interactions". Such a descriptor is clearly applicable to two or more locutions involving two or more group members.

Fourth, the nonverbal behavioural measurements and the ratings of the global group variables together formed a completed sessional data set. Each data set was later merged onto one datasheet to form a complete group data set that comprised 3,246 segments and over 124,000 separate data entries. In addition to the ratings and measurements, member sessional self-reports were also examined and entered on a datasheet following completion of all 12 group sessions.

Analysis Plan

Creation of Variables

A primary objective of data analysis was to examine the relationship between variables measured over time. In this inquiry, variables included the global group variables of empathy, cohesion, and therapeutic effectiveness. In addition, each member's individual body position (i.e., lean, gaze, arms, and legs) represented one variable. Further, aggregated variables for each member's body positions also represented variables. Finally, all variables were aggregated into one global variable for each member termed 'body.' Consequently, for each of the 3,246 segments a maximum of 73 variables were available for analysis. The other source of data was the sessional self-reports described above.

Each of the variables created also created a series of observations or ratings over time. In order to capture the relative behavioural congruence between group members, individual time series of body positions and aggregated variables were correlated over time. The procedure for cross-correlating time series differs from simple linear correlation in two important ways. First, a time series approach allows an investigator to determine the relative influence of one time series upon another at different points of time. Just as one of the partners in a dance must lead while the other follows, in time series analysis relationships between variables are expressed in terms of lead (where one series leads the change or influence on another) and lag (where one time series

follows one or more time periods behind the other). For example, if variable A leads variable B, and an increase in A occurs and is followed by an increase in B at one time period later, one would describe the relationship as a positive correlation where variable B follows A at lag 1. In this inquiry a lag of 1 would represent a lag of one locution or segment in the time series, which would range between approximately 5 seconds to 40 seconds of actual clock time. In sum, a time series approach to cross-correlation offers more information about the nature of the relationship between two variables than a simple correlational approach.

There is a second and more important reason why a time series approach is required. As Gottman (1979) has pointed out, the simple correlation of two time series is apt to produce spurious correlations. This is due to the fact that two time series that are initially proximate to one another may remain so, not because of the strength of their relationship with each other, but as an artefact of the influence of their own earlier behaviour upon their subsequent behaviour. This serial dependency is known in time series analysis as *autocorrelation*. To control for influence of autocorrelation, a time series must be prepared for analysis by employing a technique known as pre-whitening (Abraham & Ledolter, 1983; Chatfield, 1975; Gottman, 1981). Pre-whitening involves the estimation and removal of the autocorrelative process for each time series. What are left are the residuals of each of the original series that are then correlated with each other. Those correlations remaining between two time series represent an accurate estimation of their relative influence upon each other.

One challenge faced in data analysis was the large number of variables available for analysis. For each group member there were seven nonverbal behavioural variables available for analysis (i.e., lean, gaze, legs, arms, engagement, accessibility and body). In an effort to reduce the complexity of the analysis without sacrificing too much detailed information, diagnostic

procedures were conducted to identify a justifiable approach for data reduction. First, plots of each of the nonverbal behavioural variables were examined. In several instances, there were long spans of time (sometimes nearly over the entire session) where specific variables (e.g., lean or legs) did not change. Left unchanged these variables would produce spurious correlations since members who started in a similar position would remain highly correlated if they did not move during a session. Second, a principal component analysis was conducted to determine if any single nonverbal element was more explanatory or influential in relation to the variance in the overall data set. However, the analysis found that no single variable was significantly more influential than any of the others.

Consequently, the findings of both of these diagnostic approaches supported cross-correlational analysis between members utilizing the two aggregated variables of engagement and access. In addition to the above-mentioned advantages, such an approach seemed to offer the best compromise in helping to avoid the problem of producing spurious correlations associated with unchanging individual variables, while not sacrificing too much detail in relation to the description of member behaviour.

In order to assess behavioural congruence, the variables of accessibility and engagement for each group member were pre-whitened. Estimation procedures revealed that an AR 2 (a second order autoregressive process) process was the best fit for pre-whitening each of the time series. Once pre-whitened, each time series (two per person) was cross-correlated with every other time series for each of the 12 group sessions. In order to provide more detailed information about changes in patterns of behavioural congruence between group members, each session was divided into beginnings (representing the first 15 minutes), middles (approximately 30 minutes), and endings (the last 15 minutes).

A similar approach was followed in relation to interpersonal synchrony. Inasmuch as a major component of spectral analysis is utilized in the calculation of cross-correlations, and as spectral analysis is less robust or more sensitive to problems of nonstationarity and missing values, a cross-correlational approach using change in the variables of engagement and accessibility was adopted. Each time series was transformed into a series that indicated the presence of change or no change from the previous segment (change represented by a 1 and no change by a 0) and then similarly cross-correlated with each other.

Cross-correlational analysis was also performed with the global group variables of empathy, cohesion, and therapeutic effectiveness. As with behavioural congruence, each variable was pre-whitened utilizing an AR2 process and then cross-correlated with the others. In an attempt to examine the relationship between global group variables and nonverbal behaviour, a variable serving as an indice of group nonverbal behavioural variation was created. The standard deviation of engagement, accessibility, and body variables was calculated and cross-correlated with each of the global group variables. Such an analysis would serve to answer such questions as whether the rated levels of cohesion, empathy, and therapeutic effectiveness were related to the overall similarity (as measured by the standard deviation of engagement and accessibility, where lower standard deviational scores would indicate less variation and hence greater similarity) of member nonverbal behaviour.

Finally, one limitation associated with the bivariate approach was that it was not amenable to graphic illustration of the changing patterns of behavioural congruence and interpersonal synchrony existing in the group over time. What was needed was an approach that would show how the patterns of relationships in the group changed in response to critical or significant group

events. Fortunately, such a novel approach was identified, one which was well suited in both its application and terminology to analysis of relationships between group members.

Cluster analysis, an approach normally associated with marketing and survey research to identify grouping sharing similar characteristics in large populations, was creatively utilized to illustrate interpersonal coordination in the treatment group under study. Cluster analysis, unlike multidimensional scaling or LISREL, offers the additional advantage of being able to analyze high dimensional data like that generated in this inquiry. Cluster analysis seeks to separate a data set into groups or clusters through two major techniques (Everitt, 1974). Partitioning techniques split a data set into a predetermined number of groups, while hierarchical techniques create a tree-like structure or dendogram that may be composed of many different branches or sub-groupings. Since there was no way of knowing how many subgroupings existed in the group under study, a hierarchical approach was required. A central component of the hierarchical approach to cluster analysis is the calculation of a dissimilarity or distance⁷⁸ matrix. Similar to a distance chart on a road map, a dissimilarity matrix lists the relative distance or dissimilarity of each observation, or in this inquiry each member's nonverbal behaviour, from each other point. However, due to problems associated with the representation of the clusters in the dendograms,⁷⁹ the dissimilarity matrix was used to produce graphical displays.

⁷⁸ Both Kaufman and Rousseeuw (1990) and Everitt (1974) identify several commonly used methods of calculating the distance between points in multidimensional space. The most common form, and the one use in this analysis is Euclidean distance (or a straight line between points); others include Manhattan distance which calculates distance in a similar way to one found in walking between two addresses in a city.

⁷⁹ Utilizing the most robust hierarchical approach, agglomerative nesting (Kaufman & Rousseeuw, 1990), dendograms generated by this program did not accurately depict the similarities present in the dataset. In this approach, the mean of each branch or subgroup is compared to remaining points or observations. Remaining points are then added to each branch based upon their relative proximity to the branch or subgroup mean. The resultant displays may depict two points or members who are quite close to each other yet are placed in two different subgroups or branches based upon their relative positions to the branch or subgroup mean.

In this inquiry, each of the individual nonverbal behavioural variables, as well as their aggregated forms, were included for the purposes of cluster analysis. Euclidean distance was utilized as the measure for calculating the relative dissimilarity between members. An algorithm, known as agglomerative nesting⁸⁰ was utilized to generate the coefficients in the dissimilarity matrix, which were then used to create graphical displays that depicted the relative behavioural congruence of each member of the group. Finally, the use of cluster analysis to accurately represent interactional synchrony presented special challenges. Just as two members moving at a certain proportion during a segment did not necessarily mean that they were synchronous, the likelihood of synchronous movement by chance need to be taken into account.⁸¹

For analysis purposes, each session was broken up into approximately six 10- minute sections, allowing for analysis of the impact of critical events upon interpersonal coordination in the group. For cluster analysis, special provisions needed to be made for missing data, as the algorithm could not accommodate missing data. In the case of the calculation of behavioural congruence, where a member was absent for more than 25% of a ten-minute section, he or she was removed from the analysis for that segment. Where missing data occurred for less than 25% of the segments within a 10- minute section, these segments were removed from the analysis. For the calculation of interactional synchrony, zero values (signifying no change) were substituted for all missing values.

⁸⁰ In a thorough review and analysis of the strengths and limitations associated with various hierarchical approaches, Kaufman and Rousseeuw (1990) reported that the agglomerative nesting approach was the most robust clustering algorithm (based upon several criteria) available for analysis purposes.

⁸¹ The factor used represented the odds of synchronous movement minus the ratio of discordance between group members (the ratio of discordance was bc/ad ; where a = movement person 1, b = silence person 1, c = movement person 2, and d = silence person 2).

To graphically represent the relationships existing at different points in the life of the treatment group, one final step was required in the analysis process. Mean Euclidean distances were calculated for each 10- minute section. To produce a graphic display, not unlike a sociogram, thresholds were needed to depict strong, moderate, and weak as well as little or no relationship between member behaviour. Since there were no previous studies to draw guidance for such thresholds, it was decided that quartiles of each section's Euclidean distances would be used for creating thresholds. One artefact of this quartile approach would be the shifting of the thresholds with each graph such that there would be no standardization between graphs. However, despite what may be perceived as a more conservative strategy that would tend to show fewer relationships between group members, this quartile threshold strategy successfully displayed the ebb and flow of member relationships throughout the life of the group.

Reliability

The question of reliability, particularly in the field of nonverbal behavioural research, is a very complex matter. In the section below, I will briefly review some of the options provided by the literature for determining the reliability of behavioural observations. I will also describe the approach taken in this inquiry and describe the levels of reliability achieved with each type of instrument employed.

One of the trade-offs in protecting client confidentiality was the stipulation was no one other than the Investigator or the group workers would have access to the videotapes of the group sessions. This limited the number of persons available to rate portions of the videotape. Given the time constraints faced by the group workers, it was not feasible to have them rate both the nonverbal behaviours and the global group variables. Thus, two different approaches were taken

to determine the reliability of the nonverbal behavioural measurements and the global group variables.

Interobserver or interrater reliability measures the degree to which two or more observers obtain similar results when measuring the same behaviour at different times (Martin & Bateson, 1986). The reliability of ratings of cohesion, empathy, and therapeutic effectiveness was estimated by an interobserver approach. Intraobserver reliability measures the degree to which a single observer obtains similar results when rating the same behaviour on several occasions (Martin & Bateson, 1986). The reliability of the nonverbal behavioural ratings of leg, arm, lean, and gaze positions was measured through use of an intraobserver reliability approach. Unlike the interrater approach, one cannot make inferences about agreement between raters adopting an intraobserver approach. An intraobserver approach measures consistency as opposed to agreement. Such an approach may determine that behavioural ratings are consistent, but such ratings may be consistently wrong just as easily as they may be consistently accurate. However, though perhaps less persuasive in determining the credibility of the behavioural ratings, an intraobserver approach is certainly an improvement over no measurement of reliability at all. Moreover, given that the behavioural measurements are less subjective than those involving ratings of empathy or group cohesion, such an approach may be sufficient for our purposes here.

Ironically, there is little consensus in the literature on the type of statistic to be used in measuring reliability, and no universally accepted standard in the field of behavioural research. For example, in an exhaustive review of interrater reliability estimates in nonverbal behavioural research (see Table 7) Baesler and Burgoon (1987) found:

Table 7

Summary of Interrater Reliability of Nonverbal Behaviour by Study

Behaviour	No. of Studies Reported	Raters (Median)	Statistics	Reliability Range (Min:Max)	Reliability (Median)
Arm Position	5	2.5	Anova - 2 Pearson - 2	.81 : .99	.87
Leg Position	4	3.0	Pearson - 2 Anova - 1	.81 : .97	.92
Lean	6	2.0	Pearson - 2 Anova - 2 Kappa - 1	.44 : .91	.76
Gaze	32	2.0	Anova - 12 Pearson - 11 Percent Agreement - 8 Kappa - 2	.55 : .99	.90
Overall	47	2.25	Pearson - 17 Anova - 17 Percent Agreement - 8 Kappa - 3	.44 : .99	.88

Noteworthy in the above table is that most studies generally use only two raters and there is a wide range of reported reliability estimates. Also significant is the much lower median reliability for measurement of lean than for other behaviour. Clearly indicated from the studies is the predominance of two statistics for measuring reliability, Pearson r and analysis of variance techniques. However, though Baesler and Burgoon (1987) adopt the criterion of $r = .80$ as a standard for reliability measures, others, such as Martin and Bateson (1986), suggest a lower standard of $r = .70$.

The type of statistic selected also seems to play a major role in the credibility of the reliability measures. Suen and Ary (1989),⁸² who offer an excellent discussion of reliability in behavioural

⁸² Martin and Bateson (1986) and Baesler and Burgoon (1987) offer similar critiques of the use of Pearson's r in relation to reliability measurement.

research, have observed that there are some major limitations associated with the use of Pearson's r in reliability measurement. First, Pearson's r assumes that all observers are equivalent in terms of their training and skill in observing the behaviour under study (Suen & Ary, 1989). This Parallel Tests Assumption is a very restrictive requirement. Given the challenges imposed by such a requirement, use of the Pearson r may not be appropriate in many studies where the equivalence of observers cannot be obtained. Indeed, this inquiry is just such an example, as the design would not allow for two identical raters since the amount of experience and skill in rating nonverbal behaviour differed between the Investigator, who rated over 3,200 segments, and the group worker, who rated only 60 segments. Second, Pearson's r is greatly influenced by the number of raters being compared. For example, while an average Pearson's r of .50 between two raters translates into an effective reliability of $r = .67$, the same average correlation among four raters translates into an effective reliability of .80 (Baesler & Burgoon, 1987).

These limitations of the Pearson's r have led Suen and Ary (1989) to recommend the use of the intraclass correlation statistical approach.⁸³ This approach involves a two-way analysis of variance that decomposes variance into three sums of squares (i.e., between subjects, between observers, and error) that are divided by their respective degrees of freedom to yield their corresponding mean squares (Suen & Ary, 1989). At this point in the analysis, the intraclass correlation approach uses these mean squares to estimate the variance parameters for the three variance components. If the size of subject variance is relatively large when compared to the other components, then the scores are reliable. If the error variance is large in comparison to the

⁸³ Suen and Ary (1989) have identified two advantages that the intraclass correlation approach offers over Pearson's r . First, it does not require the Parallel Tests Assumption to be valid. Second, it can be used to measure both intraobserver and interrater reliability.

other components, then the ratings do not have sufficient intraobserver reliability. If the observer variance is large then there is a problematic level of bias among the observers.

Interrater Reliability

To reduce the fatigue and demands associated with nonverbal behavioural ratings (which was assumed to be a major disincentive to participation in this project), group workers were asked to rate only the global group variables of cohesion, empathy, and therapeutic effectiveness. Training materials (see Appendix K for a copy of the 'Therapist's Video Rating Guide) and a training session were provided for the group workers to prepare them to complete the ratings. For the purposes of interrater reliability testing (i.e., comparing the ratings of the Investigator with a group worker), 60 segments were randomly selected from the data set. Adjacent segments were included with each randomly selected segment allowing for the creation of 60 one-minute video clips from the 12 one-hour group recording. Each clip was numbered and recorded onto a separate tape for viewing by the group worker. The group worker noted his rating for each variable as well as who was speaking at the time of the rating.

Table 8 lists the reliability measures for each of the three global group variables of cohesion, empathy, and therapeutic effectiveness. In view of the above-mentioned controversy over the most valid approach to measuring reliability, both the Pearson r and the intraclass correlation coefficients are reported below.⁸⁴

⁸⁴ Though customarily treated as interval measures, both the cohesion and empathy measures may, if traditional definitions of measurement units are adopted, be viewed as ordinal level measures. Consequently, the Spearman Rho coefficient is also reported in Table 8.

Table 8

Interrater Reliability of Cohesion, Empathy, and Therapeutic Effectiveness Ratings

Variable	N	Intraclass	Pearson 'r'	Spearman Rho
Cohesion	60	.792	.670	.676
Empathy	60	.766	.622	.616
Therapeutic Effectiveness	60	.787	.672	----
Overall	180	.782	.655	----

As noted above, reliability measures for the intraclass correlation approach, arguably the most valid approach, greatly exceeded the $r = .7$ threshold and approached the 'gold' $r = .8$ standard of reliability. Again, given the limitations of the Pearson r for a small number of comparisons, it is not surprising that the Pearson r results were substantially lower than those for the intraclass correlation approach. Consistent with the above interpretation of the intraclass correlation approach, each of the two-way ANOVA tables for cohesion, empathy, and therapeutic effectiveness were non-significant ($F = .00$; $p = 1.0$). Indicative of interrater reliability, a large proportion of the variance occurred between subjects.⁸⁵

The less than perfect levels of reliability in ratings of cohesion, empathy, and therapeutic effectiveness are understandable, since the raters (Investigator and group worker) were not equivalent in terms of training, familiarity, and experience in utilizing the instruments. In addition, each rater may have also been influenced by their past experience in the actual group, given that each rater observed the group from a different standpoint. For example, the group worker was at times called upon to rate the empathy of his own statements, whereas the Investigator was always apart from the group. Other

⁸⁵ Variance accounted for by between subjects exceeded 80% for all variables (cohesion, 82.4%; empathy, 80.2%; therapeutic effectiveness, 82.2%)

differences may have arisen from the fact that the Investigator's ratings were influenced by having used the instruments over the entire course of the group (over 3,000 segments), whereas the group worker used the instruments over 60 segments. Finally, the use of the instruments involved subjective interpretation of both the descriptors and phenomena observed in the group. Clearly, given the limits of precision available in the use of such instruments, differences between raters can be expected to occur. Indeed, given all of the above threats to reliability, the results shown above are quite impressive.

Intraobserver Reliability

Intraobserver reliability was gauged through the random selection of 100 segments that included behavioural ratings for all participants present in the group during each segment. Once the particular segments were selected, the Investigator reviewed each taped segment and rated the nonverbal behaviour of each participant for a second time. A separate data sheet was utilized so that the Investigator did not see the original ratings while rating the segments for the second time.⁸⁶ Various estimates for intraobserver reliability are reported in Table 9.

⁸⁶ Indeed, since the original measurements occurred over a six-month period, it is very unlikely that the Investigator would have remembered the original ratings when rating participant nonverbal behaviour for the second time.

Table 9

Intraobserver Reliability Correlation Coefficients by Behaviour

Behaviour	N ⁸⁷	Intraclass	Pearson <i>r</i>	Spearman Rho
Lean	897	.843	.742	.663
Gaze	902	.839	.722	.692
Arms	902	.959	.922	.917
Legs	902	.956	.917	.938
Overall	3603	.899	.826	.803

As the above results indicate, the greater precision and less subjective nature of the nonverbal behavioural measures resulted in somewhat higher reliability coefficients. As was experienced by the Investigator, arm and leg positions were easier to observe and measure over time than were gaze or lean. Somewhat lower reliability for measuring lean was also consistent with those reported by other investigators in Table 7 above. However, in all cases the intraobserver reliability ratings exceeded the .7 level for the Pearson *r* and the .8 level for the Intraclass correlational approach. Indeed, the intraclass reliability levels achieved here exceeded the median reliability reported by other investigators for arm, legs, lean, and overall nonverbal measures. Only the reliability achieved for the measurement of gaze was less than the median levels reported by other investigators.⁸⁸

⁸⁷ Note: Given 10 participants and 100 segments, the maximum N for each behaviour would be 1000. However, maximum N was not reached due to various participants being absent from the group for different randomly selected segments. The sample size N for lean is slightly less than for the other behaviours. This is because for one session the lean for one participant was not observable as the participant moved her chair back out of camera range.

⁸⁸ Again it must be stressed here that we are comparing intraobserver reliability to other studies, of which the large majority are likely based upon interrater reliability measures. Thus comparisons between results obtained in this inquiry and those reported by others are tentative at best.

Self-Report Scales

One final alternative for gauging the reliability of observer ratings of the global group variables of cohesion, empathy, and therapeutic effectiveness involved comparison of observer ratings with related portions of the Group Cohesion and Empathy Scale. This process involved several steps. The reliability of the GCES must first be determined before comparing observer ratings with those of the GCES, as the Scale was a composite of portions of several validated instruments. One way to approach the question of the reliability of the GCES was to determine whether the items measuring the same construct covary together. Again, an intraclass approach involving the use of Cronbach's Alpha to determine the reliability of GCES was appropriate here. Second, once it was determined which of the items on the GCES moved together and rendered acceptable alpha coefficients, comparison with observer ratings would then proceed.

To determine the reliability of the GCES, the alpha coefficients of items measuring each construct were examined. Since several items were added, an analysis of whether the new items could be added to improve the alpha coefficients was also performed. Those items that improved the alpha coefficients for their respective construct were added for later comparison purposes; those that did not were excluded. Table 10 below summarizes the results of the reliability analysis of the Group Cohesion and Empathy Scale.

Table 10Reliability Analysis of the Group Cohesion and Empathy Scale

Construct	N	Alpha Original Items	Alpha Including New Items
Cohesion	24	.916	-----
Engagement	60	.939	-----
Cohesion & Engagement	84	-----	.951
Avoidance	60	.825	.910
Empathy	36	.936	-----

In Table 10, the first analysis was to determine if the two items (#13 group unity, #14 goal attainment) added to the GCES to measure group cohesion varied together. The alpha clearly indicates that these two items vary together above the standard .80 level. A similar test was performed on the Engagement subscale of the Group Climate Questionnaire that was incorporated in toto in the GCES. Again, the alpha level achieved exceeded the .8 level for the Engagement subscale items. Next was the question of whether inclusion of the two new cohesion items with the engagement scale would be acceptable. As noted, combining the two cohesion items with the Engagement subscale increased the overall alpha score to .95. As a result, each of these items were used together in further comparative analysis. The next question involved determining whether the new item (#18) measuring personal withdrawal varied with the avoidance subscale of the Group Climate Questionnaire. As the above table indicates, personal withdrawal did indeed vary with the avoidance subscale and thus was included in further analysis. The next issue explored involved the items added to measure empathy (self, worker, others). As Table 10 indicates, all three items varied very closely and were combined in later comparative analysis.

The final area explored in terms of interrater reliability involved comparing the constructs

included on the GCES with the Investigator's ratings of cohesion and empathy. In order to complete this analysis, sessional mean scores for both sets of ratings were compared. These sessional mean scores were correlated and found to have moderate to strong positive relationships (cohesion $r = .249$; empathy $r = .567$).⁸⁹

Summary

By way of summary, bivariate cross-correlational time series analysis and hierarchical cluster analysis was employed to examine the changing patterns of interpersonal coordination during each session. Bivariate cross-correlational time series analysis was also utilized to examine the relationship between the behavioural elements of interpersonal coordination and the changing group properties of empathy and cohesion. Group cohesion was also measured through use of observer ratings employing the Harvard Community Health Plan Group Cohesiveness Scale Version II, and member self-reports obtained from the administration of the Group Cohesion and Empathy scale that was specifically designed for use in this inquiry. Empathy was measured through use of the Empathic Understanding in Interpersonal Processes Scale, and member self-reports obtained from the administration of the Group Cohesion and Empathy scale. Therapeutic Effectiveness was measured through observer ratings using the Hill Interaction Matrix. Observer rated ratings of cohesion, empathy and therapeutic effectiveness reached

⁸⁹ Due to the small number of means scores compared ($N = 12$) only the correlation of empathy rated by members and the Investigator approached the .05 level of significance.

normative levels of interrater reliability, while observer rated measures of participant nonverbal behaviour reached similarly acceptable levels of intraobserver reliability.

CHAPTER IV: RESULTS

In this section, results from this inquiry will be presented for each session in chronological order. Within each sessional analysis, patterns of behavioural congruence and interactional synchrony will be explored through several steps.

First, a descriptive summary of critical events and interactions occurring during the session will be presented. Each critical event and interaction will be discussed in the order in which it occurred during the session. Second, the results of bivariate cross-correlational time series analysis will be presented to describe the couplings or relationships between members during the beginning, middle, and end stages of each session.⁹⁰ Given that there were 90 relationships existing to some degree within the group at any one time, for the sake of brevity only significant relationships will be reported.⁹¹ Third, each session was divided into six sections of approximately 10 minutes in duration. Cluster analysis plots depicting both behavioural congruence and interactional synchrony were generated and are presented for each of these sections. For both forms of analysis, special mention will be made of how critical events

⁹⁰ Strictly defined, the beginning and ending portions of the session each represent 25% of the locution segments recorded, while the middle portion represents 50% of the locution segments recorded for each session. For the sake of brevity and to reduce redundancy, for time series analysis only significant synchronous couplings were reported here.

⁹¹ For the purposes of time series cross-correlational analysis, a significant relationship was defined as one where the cross-correlation function substantially and repeatedly exceeded significance levels over low lags (plus or minus 5). This requirement for low lag relationships was based upon the assumption that the influence of changes in nonverbal behaviour by one member over another would occur over relatively short time periods. The five-lag limit in some cases may exceed 100 seconds in duration, a time period which is clearly long enough for members to adjust their postures in relation to each other. Time series plots (see Appendix L for an example) generate a dotted line to demarcate significance levels for each plot at the .05 level. Spikes are created that indicate the strength of relationship at each lag between the two variables under study. The statistical software used in time series analysis did not generate individual *p*-values.

described earlier may have influenced the patterns of relationships existing in the group. Finally, at the end of the sessional analysis, a brief summary of the time series plots for each of the observer-rated group variables (cohesion, empathy, and therapeutic effectiveness) will be offered.

Following the sessional analysis, an overview of all 12 group sessions will be offered that will examine changes over time, as well as the relationships between the aforementioned global group variables and indices. Also reported will be the presence or absence of relationships between various instruments that are designed to measure similar constructs. For example, observer ratings of cohesion will be compared to similar ratings for cohesion/engagement on the GCES and the computed standard deviations of nonverbal behaviour.

Session One

The first recorded session occurred on the second session of the week. Two participants, W2 and Ty, were absent during this session. On the previous day, Rb had shared some deeply emotional material that had an emotional impact on many members of the group.

Beginning

The session was opened by the worker (W1), who then enquired about the silence present in the group. W1 then asked the members to explore the impact of the issues discussed during the previous session. The remainder of the first 10 minutes of the session continued to focus on Rb, who expressed his appreciation of the support offered by the group members. As Rb described his struggles with seeking approval from others, W1 asked if Rb needed approval from the group. Rb responded by affirming the group's support, but added that he had felt put down by Ty. At this point, the group discussion moved to what appeared to be a 'safer' topic involving the members' external relationships with their fathers. P1 and Ry connected with Rb's personal struggle with his

father and shared similar experiences. The end of the first quarter of the session was reached when the worker empathically explored Rb's need for approval from his children.

Relating the content of group discussion with Table 11, as one would expect with an early session (especially for PI who was in his second session with this group), many of the relationships were found between the worker and other members. The worker may have been moving in response to the other members, perhaps in an effort to engage them in the group discussion. Nearly all of these relationships were positive. Noteworthy was the coupling developing between Ry and Dn, as well as the oppositional coupling between Sc and Rb. The disharmony between Rb and Sc would eventually erupt in verbal conflict later in this session.

Table 11
Session One (Beginning): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W1	PI	0 (.40)	Rb	W1	0 (.30), 2 (.25)	Dn	Ry	0 (.29), -1 (.32)
				St	Sc	0 (.42), 2 (.25)			
				Sc	Rb	1 (-.26), 2 (-.34)			
Accessibility				W1	Jn	1 (.31)			
				Ry	PI	1 (.32)			

Cluster analysis of behavioural congruence (see Figure 8) during the early portions of the session revealed a somewhat different picture, perhaps in part due to the fact that that all modes of observed nonverbal behaviour were included in the creation of the cluster plots. As with the time series analysis, PI figured prominently as the focal point of many relationships.

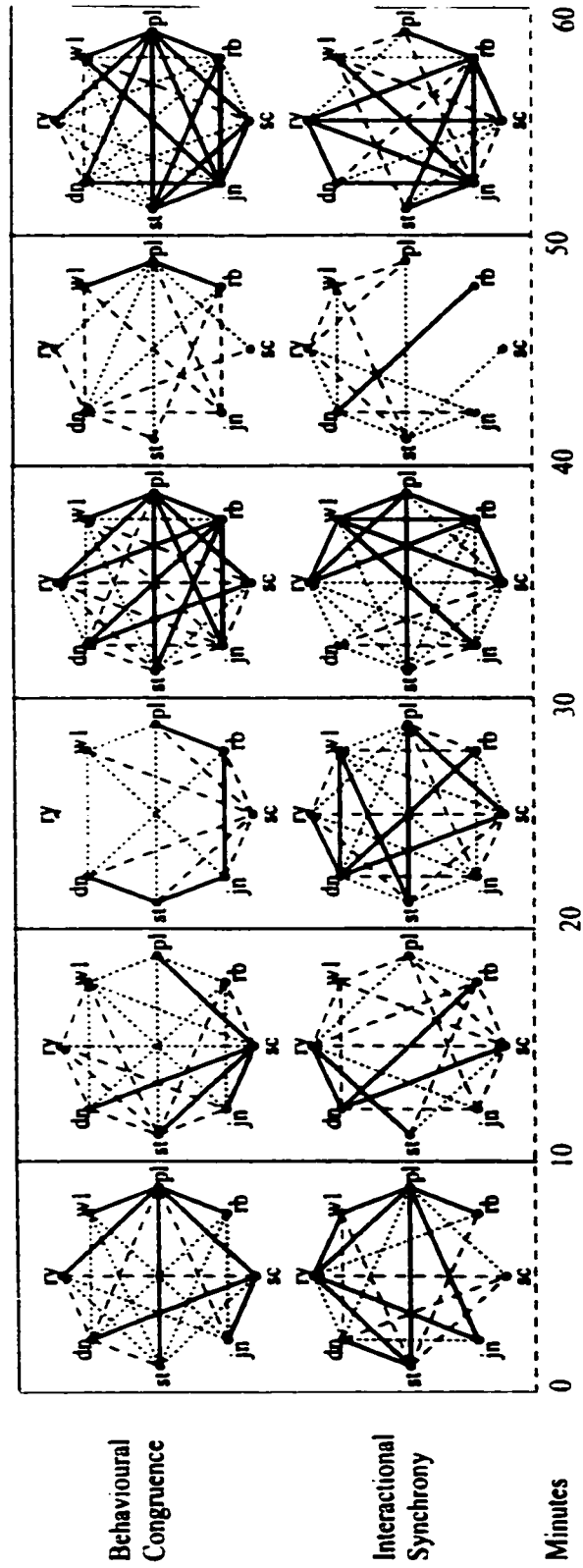


Figure 8. Session One: Cluster Analysis of Interpersonal Coordination (10-Minute Segments)

with strong couplings found between Pl and W1, Rb, Ry, Sc, and St. This was noteworthy in the sense that these members were also the most active participants during the beginning stages of the session. It is difficult to speculate as to why this pattern emerged at this point. One potential issue for additional exploration may have been the needs of Pl. As a relatively new member, Pl may have experienced a heightened sense of need to be included and accepted by the group. Other strong relationships were also detected between Pl, Sc, Jn, and Dn. During the second segment, this pattern shifted somewhat, with Sc, who was also quite ambivalent about being included in the group, becoming the focal point of strong relationships with Pl, Jn, St, and Dn. One might speculate that this result could be evidence of the group members' attempts to engage Sc in the group discussion.

The first 10-minute segment of cluster analysis (see Figure 8) focusing on interactional synchrony supported these findings and added some additional detail. As with behavioural congruence, Pl was a focal point of strong relationships with Rb, W1, St, Jn, and Ry. Other strong synchronous relationships occurred between Ry and W1, Ry and Jn, as well as St and Dn. During the second segment, Dn became the focal point of strong synchronous relationships with Rb, Sc, and Ry. A strong synchronous relationship also developed between St and Ry.

Middle

The middle portion of the session was characterized by two major shifts in focus that accompanied changes in the patterns of nonverbal relationships in the group. During the early portions of the middle stage of the session, Rb, Ry, and Jn were actively engaged in the discussion with W1 concerning the issues of self-esteem and their need for validation. The

interaction pattern remained largely dyadic with W1 engaging and probing each member's contributions to the discussion. As the group approached the middle of the session, issues of anger, hurt, and self-assertion emerged in the group. At this point, Dn became the focal point of discussion. Several members reacted negatively to Dn's story of powerlessness. Dn shared how he had been victimized by life and depression. As he continued to share his victimized position, several members, especially Pl and Sc, found Dn's continual victim stance to be increasingly intolerable. This pattern of Dn's story triggering anger and frustration in others in the group would continue to re-emerge until the end of session 11. At the end of the middle stage, Dn explored his need to smother others close to him, which again resulted in a confrontive response from Sc. As the session approached the 45-minute mark, Pl joined in the confrontation with Dn.

Unlike the beginning section, and perhaps resulting from the escalating tension over this period, time series analysis detected a dramatic reduction in the couplings between members during the middle segment of the session. The remaining couplings included Pl leading Dn and Sc, as well as Ry moving oppositely to W1. These findings were consistent with the predominant interactions, as Pl, Sc and Dn were the most active participants during this period.

Table 12

Session One (Middle): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	Dn	Pl	1 (.18), 2 (.24)	Pl	Sc	-3 (-.21)
Accessibility				Ry	W1	-4 (-.21), -5 (-.18)

Cluster analysis of behavioural congruence (see Figure 8) reflected similar results during the third time segment. Sc was the focal point for weaker relationships with all group members. However, the strongest relationships were primarily serial or chain-like in nature, with Dn connecting with St, St with Jn, Jn with Rb, and Rb with Pl. When the focus shifted to Dn, a dramatic change occurred with many strong triadic relationships arising between group members. Perhaps indicative of their shared affective responses, Dn was linked with Sc and Rb, while Sc was linked with Pl and Dn. Here also, Jn, St, and Ry were all strongly linked with Pl and Rb. However, another dramatic change occurred in the fifth segment. This segment illustrated the impact of the angry cathartic assault by Sc and Pl upon Dn. Suddenly, many of the strong relationships present in segment four dissolved, leaving only relationships between Pl, Rb, and W1.

Cluster analysis of synchronous relationships (see Figure 8) also reflected the various transitions that occurred during the middle portions of the session. The third segment, where three or four members were actively participating, shows the development of a greater number of synchronous relationships. Noteworthy at this point was Dn's synchronous relationship with four other members (W1, Ry, Rb, and Sc), while St was synchronously coupled with W1 and Pl. As we move to the fourth and fifth segments, and through the long 'tragic' soliloquy by Dn, the synchronous relationships shifted and then dissolved dramatically. Here W1 became the focal point for synchronous movement (linked to Pl, Rb, Sc, Jn, and Ry). As with behavioural congruence, the fifth segment was marked by the dissolution of nearly all the synchronous relationships. The remaining relationship existed between Rb and Dn, who each shared somewhat similar feelings during the session.

Ending

Perhaps the most significant interaction during the end portion of the session was an intervention by Jn, who has emerged as the 'emotional leader' in the group. Unlike the earlier angry assaults, and just as Shulman (1992) would have suggested, Jn presented an intervention that offered a balance of support and challenge to Dn. Jn first affirmed Dn's struggle and then challenged him to 'level' with the group, just as Rb had shared his deeper feelings during an earlier session. This reference to Rb prompted him to share his struggles with being vulnerable with others. Dn responded by reasserting his victimized position, and then shared some deeper fears of abandonment associated with becoming more emotionally vulnerable. The session ended with W1 attempting to explore some of these deeper feelings with Dn and other group members.

During the end portion of the session, time series analysis (see Table 13) revealed a rebuilding of relationships among group members. However, the relationships that were formed were quite different from those that existed before conflict had erupted. Again indicative of the interactions in the group during this time, W1 became more involved in the relationships in the group, coupling with both Ry and Sc in engagement behaviour, as well as leading St in terms of accessibility. Despite the confrontation between them, Dn and Sc coupled during the later stages of the session. Jn's empathic responsiveness also seemed to correlate with couplings with Pl and Sc in relation to accessibility behaviour. One may ask if Jn's following Pl and Sc represented an attempt to 'tune-in' to the emotional impact of their challenge of Dn?

Table 13

Session One (End): Time Series Analysis – Significant Cross-Correlations (CCF)
Between Group Members

Behaviour	Name	Couples with	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W1	Ry	0 (.29)	Rb	Sc	-1 (.27), -3 (.29)
	W1	Sc	0 (.37)	Jn	St	-2 (.28), -3 (.27)
	Dn	Sc	0 (.32)			
Accessibility	Ry	St	0 (.33)	St	W1	-1 (-.32)
				Sc	Jn	-1 (.25), -2 (.40)
				Pl	Jn	-2 (.41)

Consistent with the time series results, cluster analysis (see Figure 8) during the final segment revealed evidence of the rebuilding of the bonds that existed before the upheaval of the fifth segment. Though the pattern of relationships was similar, there were a few noteworthy differences between segments four and six. Though the demands for levelling and the vulnerability may have promoted stronger bonds between members, conspicuous too was the development of behavioural congruence between Dn and both Pl and Jn, as well as the failure of congruence to redevelop between Dn and Sc. Although the development of bonds between Jn and Dn may be explained by the underlying care and concern present in Jn's confrontation with Dn, a similar effect may also have been present in Pl's confrontation, since his last statement to Dn was in the form of a suggested strategy to help Dn deal with an interpersonal problem. Further supporting this interpretation was the fact that Sc's confrontation with Dn, though perhaps well intentioned, contained statements that were comprised of 'put-downs.' These statements seemed

to reflect Sc's own difficulty with accepting Dn's sense of powerlessness rather than responding from a sense of care and concern.

Sessional Relational Patterns

In light of the relative instability of couplings during the session, it is not surprising that the relationships during this session involved the worker, who followed three of the more active group members (see Table 14). As suggested in the above discussion relating to Jn, one may ask if this was indicative of the worker's effort to 'tune-in' and engage members of the group.

Table 14

Session One (All): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W1	Ry	0 (.21)	Sc	W1	0 (.14), -4 (.17)
Accessibility	W1	Dn	0 (.16)	Ry	W1	-5 (-.18)

Sessional Ratings of Cohesion, Empathy, and Therapeutic Effectiveness

Figure 9 also plots the changes in the three global variables during the session. There are several important patterns in these time plots. Mean empathy ratings (designated by the solid line) seemed to rise and remain rather consistent during the session (overall sessional mean empathy rating was 3.04; *SD* 0.85). Second, although there was a significant tendency for group cohesion to increase over time ($r = .301$; $p = .02$), it did not appear to increase in a simple linear fashion. Rather, indicative of the aforementioned description, group cohesion seemed to rise and fall like changes in sea tides (sessional mean cohesion was 4.03; *SD* 1.23). Third, therapeutic effectiveness (sessional mean therapeutic effectiveness was 11.29; *SD* 2.79) also seemed to increase early in the session and then declined towards the rather raucous fifth section. Finally,

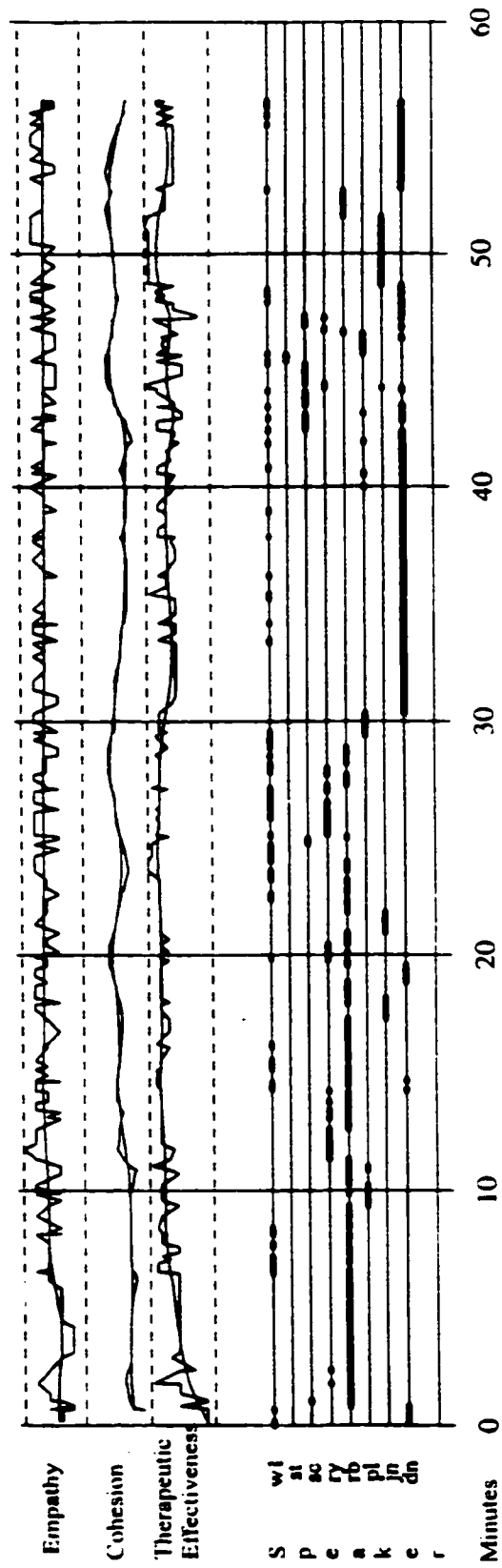


Figure 9. Session One: Empathy, Cohesion, and Therapeutic Effectiveness by Speaker (10-Minute Segments)

below the plot of the global variables lies the plot that displays the frequency of member speaking during the session. One will immediately note how Rb during the early stages, and Dn during the later stages, seemed to monopolize large portions of the session.

Session Two

Beginning

Session Two included all members in attendance except for W2. The session began with some of the group members chastizing the worker for arriving late. The group had earlier agreed to start five minutes early to allow time for completion of the self-report forms. Once the session began, the group returned to the theme of the need for approval, with Rb, as in the previous session, becoming the primary focus of the discussion. However, as members discussed aspects of this issue, the topic of self-esteem emerged, which led the group back to a discussion of victimization. As in the first session, this issue triggered participation by most of the members. Near the end of the beginning stage, and coincidentally the first segment of the cluster analysis, group members adopted opposing views in relation to victimization. Some described being a victim as a choice with specific rewards, while others disavowed any motivation for being a victim.

In terms of time series analysis, as with the first session, there appeared to be few significant couplings between members at this point (see Table 15). In relation to the engagement postures, the beginning section displayed positive couplings between W1 and Dn, while a negative relationship emerged between Jn and Ty. It would seem from these findings that Jn and Ty were essentially avoiding each other through their oppositional movement. Such a pattern may be explained by their different stances with respect to participation. Ty at this stage continued to be quite resistant to 'buying in' to the process, while Jn was optimistic on achieving substantial

therapeutic progress. Resuming a pattern established at the beginning of the first recorded session, the worker (W1) followed with St and Rb for accessibility postures.

Table 15

Session Two (Beginning): Time Series Analysis-Significant Cross-Correlations (CCF)
Between Group Members

Behaviour	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	Jn	Ty	3 (-.23), 4 (-.30)	Ty	Jn	-3 (-.26)
				Dn	W1	0 (.26), -2 (.30)
Accessibility	W1	St	2 (.27), 4 (.26)	St	W1	-2 (.22)
	W1	Rb	1 (.40)	Ty	W1	-2 (.39), -4 (.39)

Cluster analysis (see Figure 10) for behavioural congruence revealed a somewhat different pattern of postural relationships for the first section. Here Jn was the focal point of strong postural relationships with St, Rb, and W1. These results somewhat foreshadowed what was to follow in the middle portion of the session, and may accurately depict how Jn was moved by Rb's sharing about his previous abusive experiences.

The cluster diagrams depicting interactional synchrony were perhaps more representative of the interactions in the group during this session. Here there was a correspondence between the major participants and the synchronous relationships in the group. For example, Rb was the most frequent speaker during the first and second sections, and he was also coupled with others in strong relationships in the cluster diagrams.

Middle

As the middle portion began, the debate over the rewards of victimhood continued, and later culminated with a heated disagreement between Rb and Sc. Next, the group discussion shifted and deepened to explore the effects of various forms of childhood abuse. At approximately the 17th minute, Jn shared his frustration with group members speaking about abuse in what he termed as "generalities." This intervention in some ways challenged

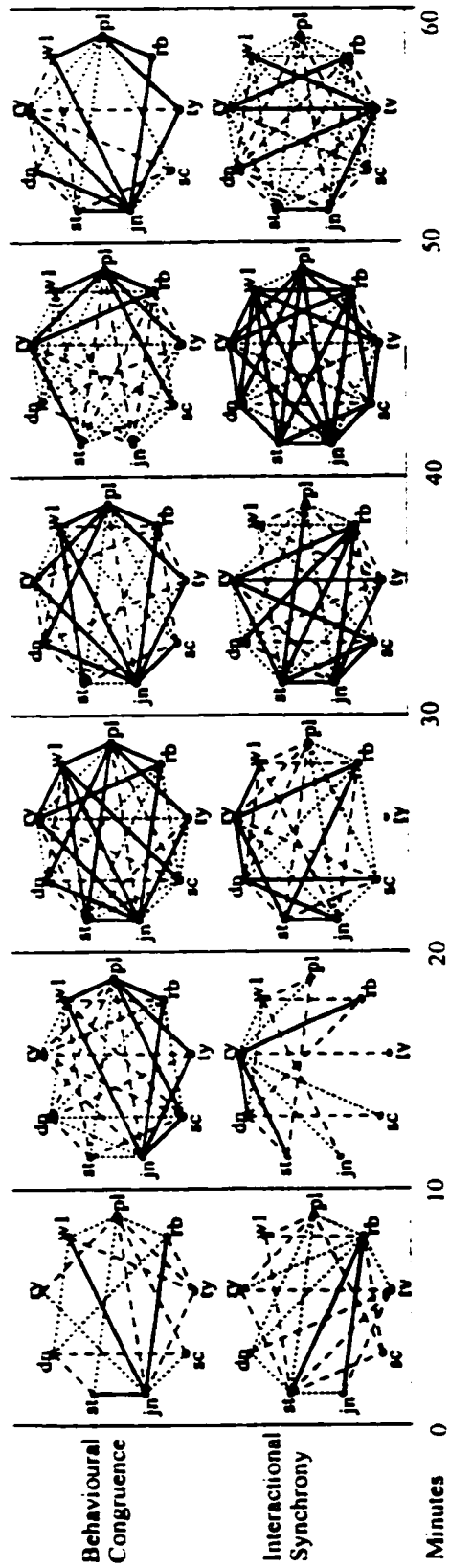


Figure 10. Session Two: Cluster Analysis of Interpersonal Coordination (10-Minute Segments)

members to personalize the discussion. It was followed by further elaboration about abuse, victimhood, and how victims were often never 'heard' in relation to their experience of abuse. At this point Ty shared that he had been abused, and then stated angrily that he would never choose to be a victim. As the group passed the 20th minute, Jn disclosed his experiences of abuse as a child. Jn's disclosure continued for several minutes and had a powerful effect upon the group. Near the 40-minute mark, many of the members affirmed the courage, leadership, and support Jn had demonstrated in the group. However, for the last 10-minute segment of the middle section, St and Ry shared how they were sometimes intimidated by Jn, and then Pl very emotionally shared his feelings of how he wished he could have been present for Jn to help prevent the abuse that he had experienced as a child. Pl then shared some of his feelings of sadness and loss associated with the abuse he had witnessed and experienced.

Table 16

Session Two (Middle): Time Series Analysis-Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W1	Jn	0 (.23)				Jn	St	0 (.23), -1 (.15)
		Dn	0 (.29)	St	Rb	0 (.21), 1 (.17)	Rb	St	0 (.21)
		St	0 (.23)	Sc	Pl	1 (.30)	Pl	Sc	-4 (.22)
		Dn	0 (.27)	Ty	Rb	0 (.27), 1 (.17)	Rb	Ty	0 (.27), -3 (.17)
						Pl	Ty	0 (.26), -4 (.20)	
Accessibility				Dn	St	2 (.20)	Ry	Sc	-4 (-.22)

Time series findings for the middle section revealed a dramatic increase in the number of significant couplings primarily in terms of synchronous engagement behaviour. The

results were also representative of the interactions within the group, with most couplings involving four of the five major focal participants (i.e., Jn, Dn, Rb, & Pl) during this section. Only Ry seemed to be left outside the group by virtue of his oppositional coupling with Sc. However, this finding may have been a function of his role as one who expressed difference in the group.⁹²

Cluster analysis of the middle four sections (see Figure 10) was also indicative of the interactions in the group. In terms of behavioural congruence, perhaps in response to Jn's challenge, there was a gradual increase of couplings between members during the second and third sections. Jn continued to be the focal point of couplings during the second, third, and fourth sections. However, as one examines the fifth section, one may detect the impact of difference shared with respect to Jn, and the influence of Pl's poignant sharing of his feelings with the group. Here, the links with Jn have dissolved and Pl became the focal point of couplings in the group (with Wl, Rb, Ty, Sc, and Ry).

The results for interactional synchrony also depict increasing density of synchronous couplings between members. In later sections, one notes the impact of Jn's interventions and sharing in the group. There were initially four, and later five, other members moving in resonance with him in the fourth and fifth sections. Could it be that Jn's challenge for members levelling with each other, and the heightened authenticity that emerged in the group, produced resonant affective couplings over the middle sections of the session? Certainly, the fifth cluster plot illustrated the greatest density in synchronous coupling achieved to this point in the group.

⁹² For example, Ry was the first to express how he felt intimidated by Jn.

Ending

During the ending portion of the session, Ry shared his story of abandonment as a child. Ry's story evoked an empathic response from PI in response to Ry's feelings of sadness and loss. During the final minutes, Ty and Sc both disavowed the earlier 'difference' shared by St and Ry concerning Jn, and then noted how other members should not be afraid of Jn. Each affirmed how much they admired Jn's strength and contributions to the group.

Table 17

Session Two (End): Time Series Analysis-Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	Dn	Sc	0 (.40)	St	Ty	0 (.39), 3 (.23)			
	Sc	Ty	0 (.30)	Dn	Ty	1 (.18), 2 (.13)			
Accessibility	Wl	Ty	0 (-.30)	Ry	Dn	3 (.33)	Jn	St	-1 (.39)
	Ry	Pl	0 (.28)						
	St	Rb	0 (.36)						

During the ending section (see Table 17) a marked decline occurred in the number of couplings from the middle section. Similar to the beginning section, there is also a balance of significant couplings in engagement and accessibility behaviour. Ry's sharing at this point was reflected in his strong couplings with Pl and Dn for accessibility behaviour. Also present, and indicative of their alliance in the group, was a strong positive engagement coupling between Ty and Sc. These findings may be indicative of their shared agreement with each other's position in valuing Jn's contributions to the group. Similarly noteworthy was the coupling of Pl and Ry, which may have been reflective of Pl's empathic connection with Ry in terms of their shared grief and loss issues.

The final cluster section (see Figure 10) positions Jn as the focal point of behavioural couplings, with strong relationships re-emerging between Jn and Ty, Rb, W1, Ry, Dn, and St. However, a somewhat different picture emerged in the cluster diagram that described interactional synchrony during this part of the session. Here strong resonant couplings were found between Ty and Dn, Ry, and W1. One is left to speculate if these results were representative of how Ty's sentiments concerning Jn resonated with others in the group.

Sessional Relational Patterns

During the second session, there was a marked increase in significant couplings. As Table 18 illustrates, significant relationships increased threefold from 4 (see Table 14) to 13 couplings.⁹³ Couplings involving engagement behaviour (9) greatly exceed those involving accessibility (4). As one might expect, couplings with the worker figured less prominently in the second session than in the first, as members increasingly engaged with each other. Although Rb, who had been the focus of attention during the early part of the session, was prominent in the pattern of sessional couplings, notably absent were significant couplings involving Jn and Ry, despite the fact that their stories made up a significant proportion of the discussion.

⁹³ However, it is important to note that given the large number of observations, much lower degrees of correlation become significant for the whole session as compared to portions of sessions.

Table 18

Session Two (All): Time Series Analysis-Significant Cross-Correlations (CCF)Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement				Dn	Rb	0 (.17), 2 (.14)	Dn	Wl	0 (.17), -2 (.15)
				St	Ty	0 (.19), 1 (.16)	Ty	St	0 (.19), -1 (.19)
				Dn	Pl	0 (.11), 2 (.15)			
				St	Rb	0 (.15), 1 (.12)			
				Sc	Pl	0 (.19), 1 (.17)			
				Ty	Rb	0 (.27), 1 (.11)	Rb	Ty	0 (.27), 3 (.12)
Accessibility				Dn	St	0 (.12), 2 (.18)	Rb	St	0 (.14), 3 (.13)
				St	Rb	0 (.14), 4 (.13)			
				Ry	Sc	4 (-15), 5 (-.12)			

Sessional Ratings of Cohesion, Empathy, and Therapeutic Effectiveness

Overall, Session Two was characterized by higher mean levels of empathy (3.19 vs. 3.04 in Session One) throughout the session, with apparently less variability than for Session One (standard deviations were .76 for session 2 and .85 for Session One). Mean levels of group cohesiveness ($r = .694$; $p < .000$) and therapeutic effectiveness ($r = .595$; $p < .000$) increased over time (see Figure 11). Group cohesiveness also seemed less subject to the ebb and flow pattern exhibited in Session One. The overall standard deviation increased from 1.23 in Session One to 1.33 in Session Two, which was indicative of more variability in cohesiveness over the course of the session. Mean group cohesiveness was also higher than that of Session One ($M = 4.78$ vs. M

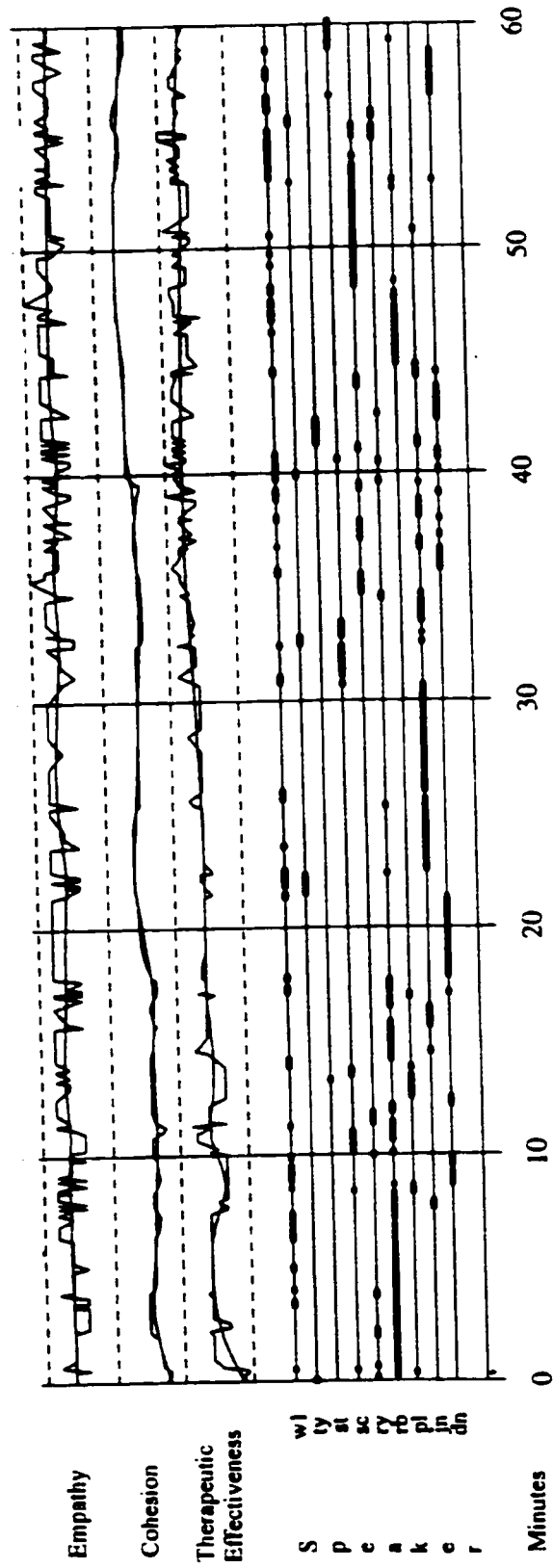


Figure 11. Session Two: Empathy, Cohesion, and Therapeutic Effectiveness by Speaker (10-Minute Segments)

= 4.07). In contrast, mean therapeutic effectiveness ratings decreased substantially from Session One (decreasing from $M = 11.29$ to $M = 9.75$)

Session Three

Beginning

All members except for the second worker (W2) and Ty were present for the beginning of the third session. The session began with W1 affirming the depth to which the group explored various issues the previous day. As members were beginning to pick up on the previous day's discussion, Ty arrived, and after some teasing from other members, Ty told Dn to "shut up." Dn discussed his relationship with his partner. After several minutes, with the focus on Dn's sense of victimization by his partner, W1 prompted him to explore the impact of Ty's remark.

Time series analysis (see Table 19) during the beginning portions of the session provided additional insight into the relationships present in the group. It was noteworthy that time series analysis, as in the beginning portions of previous sessions, again showed W1 as playing a prominent role in synchronous couplings. W1 coupled with Ry, Sc, and Rb. Also significant was the oppositional relationship between Jn and W1, and coupling between Dn and Rb, who mutually resonated with similar views and experiences of victimization. Also reflective of the discussion was the resonant relationship between St and Sc, as evidenced by Sc's affirmation of St's therapeutic progress. For the accessibility findings, a very different picture was provided, with only one resonant relationship found between Dn and Ty. One may ask if this early resonant coupling was an indication of Dn's and Ty's mutual ambivalence towards group involvement?

Table 19

Session Three (Beginning): Time Series Analysis- Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W1	Ry	0 (.33)				Jn	W1	-2 (-.41)
	W1	Sc	0 (.35)				Rb	W1	0 (.40), -3 (.24)
		Ry	St	0 (.40)					
		Dn	Rb	0 (.37)					
		St	Sc	0 (.33)					
		Rb	Pl	0 (.43)					
Accessibility				Dn	Ty	2 (.36)			

The first cluster section (see Figure 12) describing behavioural congruence was quite indicative of the early discussion as well. One notes the strong relationship between W1 and Dn and Rb, as well as strong relationships between Ty and Rb, Dn and St. As one moved to the second section, member postural couplings again shifted dramatically, with Pl becoming the focal point of couplings with Rb, Ty, Sc, Jn, St, and W1. Summary recordings of verbal interactions provide little explanation for this pattern, as Pl was silent for this entire portion save for one 15-second locution where he confronted Dn with the incongruent aspects of his statements. Since two of these members (St and Ty) also appeared to be following Pl during this period, one may ask if the group was nonverbally expressing their support of Pl confrontation of Dn?

The first cluster plot of this session (see Figure 12) describing patterns of interactional synchrony displayed multiple resonant couplings between various group members. One notes how Ry resonated with Sc, Pl, and Ty, while Pl resonated with Ry, Jn, and Ty. Sc resonated with Rb, Ry, and Dn, while, as described, Dn resonated with St. The impression that cluster analysis yields with respect to W1 was quite different than that given by the cross-correlational analysis, as W1 in the cluster plot did not appear to strongly resonate with anyone else in the group. As we move to the second section, a dramatic reduction of resonant relationships occurred. These

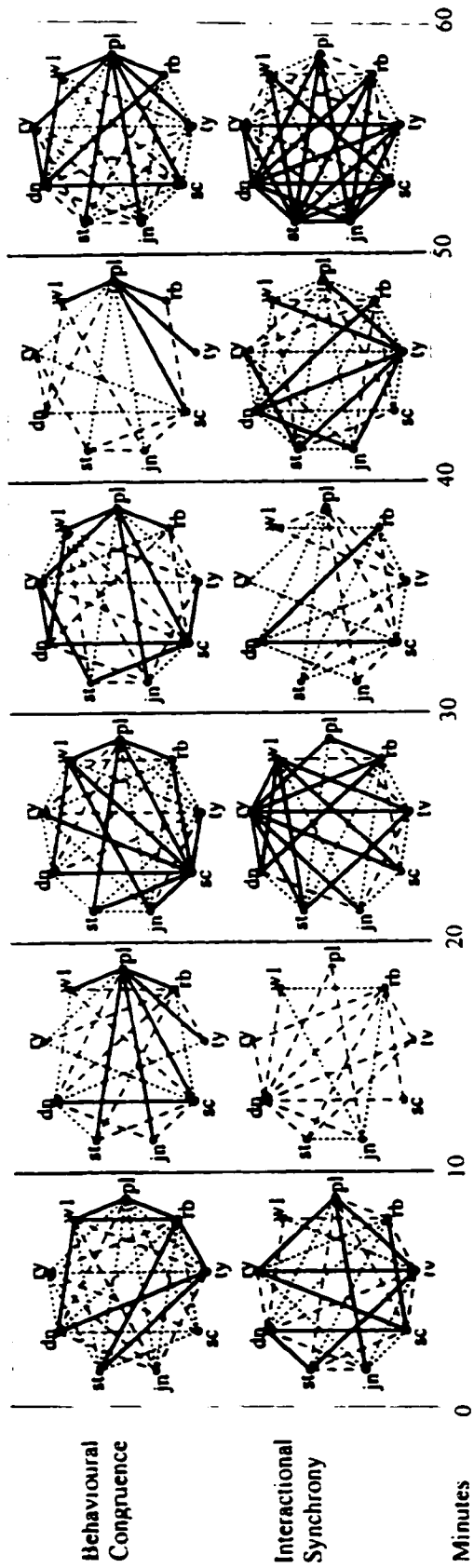


Figure 12. Session Three: Cluster Analysis of Interpersonal Coordination (10-Minute Segments)

findings clearly diverged from those found under the cross-correlational analysis. One is left to speculate as to whether the overall disruption of synchrony in the group was a result of the extended focus on Dn, or a defensive response to anxiety evoked by W1's attempts to increase the immediacy of group interactions by encouraging Dn to explore his feeling in relationship to Ty?

Middle

As the group moved into the middle 30-minute section of the session, Jn, perhaps inadvertently, intervened to defend Dn and confronted Ty concerning his abusive behaviour. The confrontation between Ty and Jn continued to approximately the 24th minute, where Dn, perhaps feeling supported in his stance, returned to describing his struggles in communicating with others. W1 at this point intervened and asked Dn how it felt that the group did not provide feedback for him when W1 had earlier requested feedback for Dn's statements. Dn responded somewhat ambivalently and, without directly addressing specific group members, he noted that it would have hurt him before but now it does not, as he was used to being victimized. This response triggered another cathartic assault by Pl, where he told Dn that if wanted to change he needed to speak directly to the group. Dn then acknowledged that he needed to learn how to communicate better. W1 continued to probe Dn by asking how he got back at others who abused him and how he asserted himself. Dn responded by stating that he did not wish to hurt anyone. This statement triggered a confrontive response from Jn, where he related a story about the arrogance of protecting others in the manner described by Dn. Ry later supported Jn's position as the group reached the middle of the session.

During the later portions of the middle section, Dn recognized his difficulty with self-assertion and explained that it was a result of the effects of abuse. The discussion became dyadic, with W1 probing Dn until he again asked how other members how they responded to verbal attacks. As this issue seemed to resonate with many of the other group members, several members then took turns describing how they responded to verbal criticism and confrontations.

Some noted how they tended to “turtle” or withdraw, while others noted how they would seek to retaliate. Dn then issued an indirect challenge to other members to open up to the group. Ty took this challenge as a personal insult and then confronted Dn. The middle section then concluded with W1 exploring members’ experiences about not being heard by others. This prompted St to share his experiences with dealing with personal attacks at home and in the workplace.

Time series findings during the middle section (see Table 20) revealed a modest increase in synchronous couplings, wherein the worker’s efforts to engage with other group members (i.e., Ry, Dn, St, and Jn) figured prominently. Also very interesting and indicative of alliances that were verbally expressed to this point was the strong behavioural (engagement) coupling of Ty and Pl, who had adopted a similar stance with respect to Dn’s story of victimization. Likewise, one notes an oppositional coupling between Jn and Pl, who adopted opposing stances with respect to Dn.

Table 20

Session Three (Middle): Time Series Analysis- Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W1	Dn	0 (.30)	W1	Ry	0 (.22), 3 (.17)	St	W1	0 (.27), -3 (.19)
	W1	Jn	0 (.37)				St	Ry	0 (.24), -3 (.20)
	Dn	St	0 (.30)						
	Ty	Pl	0 (.29)						
Accessibility	St	Sc	0 (.22)				Sc	Jn	0 (.25), -3 (.17)
	Jn	Pl	0 (-.17)						

Cluster analysis during this portion of the session (see Figure 12) situated Sc as a focal point for behavioural couplings in the group. As noted, even Dn maintained a strong behavioural

coupling with Sc. This constellation seems to reflect again the ambivalence the group had adopted with respect to Dn's statements of victimization and powerlessness. As noted, Pl and Sc were up to this point the only two members who most directly challenged Dn's statements and presentation of victimhood. However, further evidence supporting this interpretation was unavailable at this point, since Sc did not speak during this section. As the group moved to the next section, a marked reduction of the couplings with Sc took place.

In terms of interactional synchrony, the third cluster plot was certainly more consistent with many of the strong synchronous relationships found in cross-correlational analysis. As one moved to the fourth section, the synchrony prevalent in the group again decreased with resonant couplings only remaining between Dn and Rb and Sc. In the fifth section, Ty became the focal point of resonant couplings with Dn, Pl, St, Wl, and Jn, while Dn resonated with Rb and Jn. These findings again reflected the discussion occurring in the group over this time. For example, many of those who resonated with Ty also shared in his challenge of Dn, while one notes immediately how Dn's resonance with Rb and Jn was also reflective of how both Jn and Rb supported Dn during this portion of the session.

Ending

During the ending portion of the session, Sc affirmed the progress that he had seen in St over his tenure in the group. At this point, Wl, sensing that St's story may have touched Sc, explored parallels in Sc's experience and his ways of responding to others. This intervention prompted several members, including Ty, to also support Sc's exploration of his issues. Wl then connected Sc's sharing with the issue of mirroring early in life. This prompted Dn to declare that he, like St, carried a lot of hidden anger. Wl responded by acknowledging Dn's anger and then noted that Dn did not hide it well. Several others confronted Dn when he reasserted his powerlessness to deal with his own feelings. Sc then challenged Dn by observing that Dn was stuck and that he needed to release his anger. As the assault continued, Jn again intervened to balance the challenging of Dn with some words of support. Here Jn described Dn as "brave yet nervous." Emulating Jn's

strategy. Ty also offered criticism that was more constructive at this point. The session closed with a discussion of coping with parental rejection and disapproval.

Time series analysis of the ending portion (see Table 21) of the session was characterized by fewer significant relationships, with Pl continuing to couple with Ry and lead Jn in engagement behaviour. W1 continued to follow Ry during this period. Also notable was the disruption of the coupling between Dn and W1 that followed W1's challenge of Dn during the middle portion of the session.

Table 21

Session Three (End): Time Series Analysis- Significant Cross-Correlations (CCF)
Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	Ry	Pl	0 (.35)	W1	Ry	0 (.36), 1 (.25)	Pl	Jn	0 (.31), -2 (.24)
				Ry	Jn	0 (.35), 1 (.24)			
Accessibility	Jn	Rb	0 (.29)						

The findings for behavioural congruence via cluster analysis (see Figure 12) were also quite indicative, as one can immediately detect the couplings between Pl and Rb, Pl, Ty, W1 and Sc. These relationships were somewhat indicative of those who held similar views with respect to Dn's personal struggle. One exception to this pattern may have been Rb, who did not clearly side with others in the confrontation with Dn during the ending section. In terms of interactional synchrony, the final cluster plot of the session revealed a high degree of interactional synchrony present in the group as a whole. Perhaps indicative of the high levels of therapeutic effectiveness, as evidenced by the constructive confrontations and immediacy of this section, each member resonated with at least two other members (to a maximum of seven for Dn and St). Indeed, one is

also tempted to infer that aspects of the thematic content (e.g., anger, parental approval) may have resonated with most if not all of the group members.

Sessional Relational Patterns

Review of sessional synchronous couplings (see Table 22) reveals an increase in both the number and magnitude of interpersonal couplings in Session Three. One may readily discern a preponderance of couplings with engagement behaviour, with W1 again figuring prominently in the couplings (7 out of 15 pairings). Also evident for W1 is his continuing pattern of following other group members' movements (Ry, Sc). Ry and St also were prominent in terms of couplings in this session (4 each). However, despite being the focus of discussion during most of the early part of the session, Dn shared in half as many couplings (4) as Ry and St did.

Table 22

Session Three (All): Time Series Analysis- Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W1	Dn	0 (.21)	W1	Ry	0 (.28), 1 (.12)			
	W1	St	0 (.22)	W1	Sc	0 (.18), 2 (.13)	Sc	W1	0 (.18), -1 (.14)
	W1	Jn	0 (.30)	Rb	Pl	0 (.20), 3 (.18)			
	Ry	St	0 (.23)	Dn	St	0 (.16), 1 (.13)			
	W1	Rb	0 (.29)						
	Ry	Jn	0 (.26)						
	Ry	Pl	0 (.19)						
	Rb	Jn	0 (.20)						
	Ty	Pl	0 (.20)						
	Accessibility	St	Sc	0 (.23)					

Sessional Ratings of Cohesion, Empathy, and Therapeutic Effectiveness

During the third session (see Figure 13), although empathy gradually increased over time ($r = .194$; $p = .001$), overall mean sessional rated levels of empathy ($M = 3.03$; $SD = .77$) declined to levels resembling those of the first session ($M = 3.04$). Ratings of group cohesion also increased over the session ($r = .752$; $p < .000$) to yield a higher sessional mean than in the first session ($M = 4.44$), and less variation over the session than in earlier sessions ($SD = 1.12$). The most dramatic change in the globally rated variables occurred in therapeutic effectiveness, which increased over time ($r = .410$; $p = .014$) and remained high throughout the middle and ending portions of the session. This session was rated as more being more therapeutically effective than earlier sessions, reaching an overall mean rating of 11.71.

Session Four

Beginning

The fourth session occurred after a weekend break, which most members would spend their weekends at home with their families. All members, including W2, were present for the beginning of the session. The group began with a check-in from each member. The discussion in the check-in was oriented towards further exploration of the emotional impact of familial relationships. First, Jn shared his struggle with setting boundaries within a new relationship. Jn's check-in prompted Rb to share his struggles in his relationship with his son. Rb's contribution in turn prompted Ty to offer some support and encouragement to Rb. At the end of the beginning section, St shared a discussion he had had with his brother concerning their shared experience of childhood loss and abandonment.

The results of time series analysis (see Table 23) display some representative findings and others that were difficult to interpret in relation to the interactions prevalent in the group. Despite the fact that Ty did not speak a great deal during the beginning portion, a strong resonant coupling with W1 (engagement) was detected, where W1's movements seem to follow those of

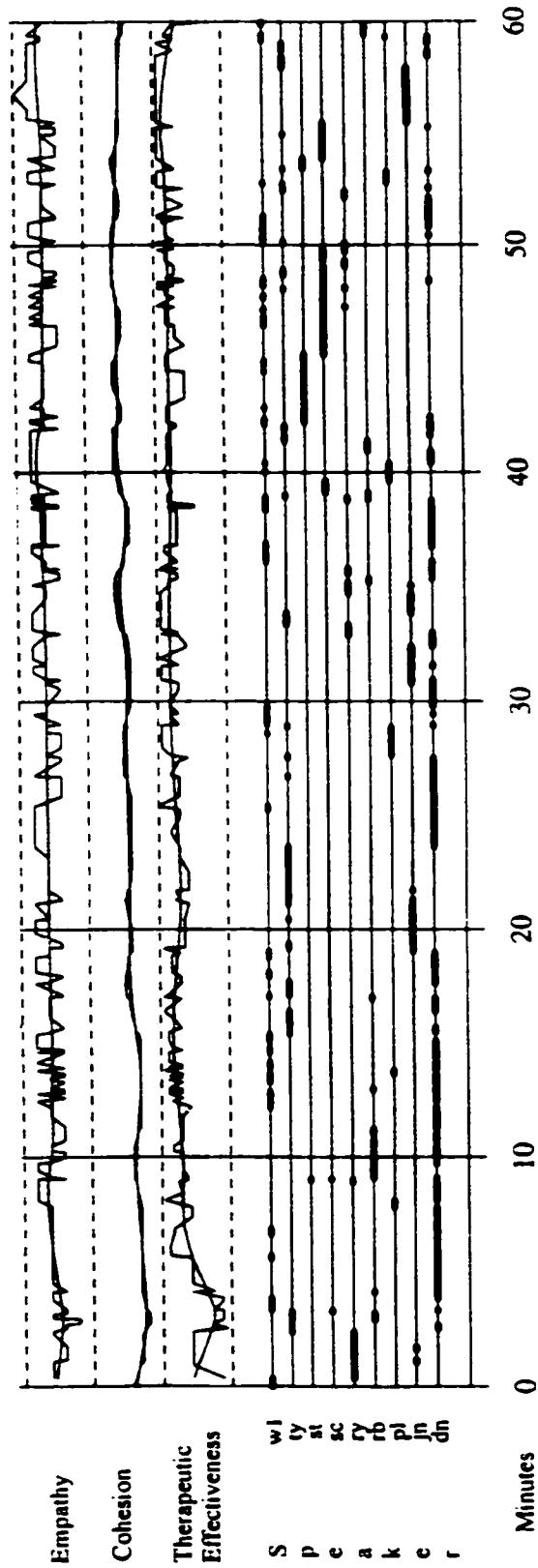


Figure 13. Session Three: Empathy, Cohesion, and Therapeutic Effectiveness by Speaker (10-Minute Segments)

Ty. Also preserved were the previously established couplings between Sc and Ty. Rb's early discussion seemed also to resonate with Sc, as did Pl's sharing for Jn. W2 also seemed to be moving synchronously with both Jn and Pl during the beginning of the session.

Table 23

Session Four (Beginning): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W2	Jn	0 (.35)	W1	Ty	0 (.33), 2 (.25)	Ty	W1	0 (.33), -3 (.35)
				W2	Pl	1 (-.35), 4 (-.40)	Pl	Jn	0 (.35), -1 (.25)
Accessibility	W1	Ry	0 (.33)	Sc	Rb	0 (.40), 2 (.25)			
	Sc	Ty	0 (.30)						

A similar pattern was also emerged for interactional synchrony in the cluster plots (see Figure 14) for the first section. Here W2 was the focal point for resonant couplings with Pl, Ty, Sc, Jn, and St. Given that this was W2's first session in attendance, consistent with Kendon's (1982) notions⁹⁴, one is left to speculate as to whether synchronous movement was an attempt by W2 to form connections with group members? The cluster plots also displayed Jn and St as the focal points of symmetrical member couplings with Ry, W1, Rb, and Ty. Moving to the second plot, there appeared a prominent shift in the pattern of couplings, with St becoming the focal point for couplings with all other members except for Sc. It would seem that St's sharing of issues relating to his current relationships and childhood experiences may have resonated for other group members. Ry also seemed to have coupled with many other members at this point (Rb, Ty, Sc, Jn and St).

⁹⁴ Responding to findings by LaFrance and Broadbent (1976), Kendon speculated that postural mirroring may be less important once familiarity has developed in an interpersonal situation or relationship.

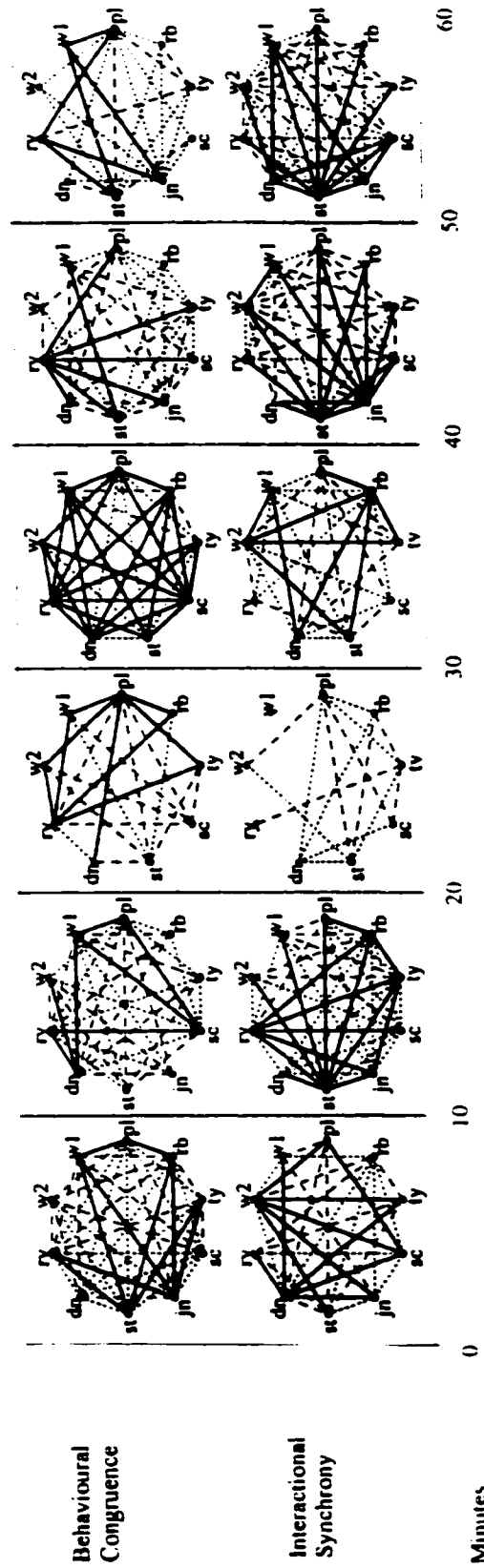


Figure 14. Session Four: Cluster Analysis of Interpersonal Coordination (10-Minute Segments)

The first cluster plot for behavioural congruence portrayed a somewhat different pattern of relationships. There were strong relationships found between St and Ry, W1, Rb, and Ty. A strong behavioural congruence was also found between Jn and W1. As we move to the second cluster plot, like the convergence of storm clouds, the group continued shifting towards a constellation of behaviour that would ultimately reflect the conflict that was to arrive later. Here we note how Sc formed strong behavioural couplings with Ry, W1 and Pl, while Dn coupled with Ry, W2, and W1.

Middle

As the group moved into the middle 30 minutes of the session, the check-in continued with Pl describing his relationship with his wife, including the impact of depression on their relationship. Then Sc took his turn and noted that he had started a new relationship, which prompted some curiosity by Dn. At this point, Jn's pager sounded and he abruptly left the session. The discussion next shifted to Sc describing a conflict between himself and another patient in the hospital. Sc expressed his anger and frustration over the conflict at this point. This issue clearly resonated for Ty, who then assisted Sc to more accurately describe what had occurred over the weekend. At this point, Dn intervened to provide a more balanced assessment of conflict. As the session approached its mid-point, Ty expressed hostility towards the other patient who had challenged his authority in the institution. Ty continued to check-in and shared progress in his relationship with partner and relatives. At this point Jn rejoined the session after a 12-minute absence. After noting a reported change in Ty's behaviour with his family, W1 attempted to affirm Ty's work with his family. However, continuing his oppositional stand towards W1, Ty rebuked W1's assessment of his personal growth. As the middle portion ended, Ty continued to resist W1's affirmations. The discussion then shifted back to the conflict that had occurred in the external therapeutic community.

Table 24

Session Four (Middle): Time Series Analysis - Significant Cross-correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W1	St	0 (.26)	Rb	St	3 (-.23)	St	Rb	-1 (.25), -2 (.16)
		Jn	Ty	0 (.26)					
Accessibility	W2	Sc	0 (.22)	W2	Jn	1 (.26), 4 (.30)			
					Sc	Rb	0 (.23), 2 (.20)		

As the group moved into the middle section, time series analysis (see Table 24) showed a decline in interpersonal couplings. St continued to be somewhat prominent in couplings with W1 and Rb, and Rb moved oppositely to St. Also, Jn coupled with Ty's movements, as did Sc in relation to Rb during this portion of the session.

The cluster plots for the middle section were also informative (see Figure 14). In the cluster plots describing interactional synchrony, one may discern the impact of Sc's raising the issue of the existing conflict among the residents. All strong resonant couplings dissolved during this period. One is only left with questions as to what could have precipitated this phenomenon. Was this a response to fear, anxiety, or other negative feelings? Was Jn's rather abrupt departure in some way also influential in shattering resonant couplings? Could this also be described as a chaotic region in which turbulence ruptured the previously established structure of relationships? As Ty checked-in and described the conflict during the fourth cluster plot, some of the couplings were re-established; however, the pattern differed from the earlier structure. The fifth plot may have answered some of the above questions. When Jn returned to the session, he developed

strong resonant couplings with all other members. Despite the fact that Ty was at this point engaged in discussion with W1, the group's resonant couplings were all focused on Jn. One may ask if the couplings reflected concern and/or curiosity among group members relating to Jn's abrupt departure from the session?

In relation to behavioural congruence, Sc's check-in seemed to be associated with his decoupling with other members. There also ensued the establishment of postural couplings between Ry and W2, W1, Rb, and Ty. Pl also became the focal point of couplings with W1, Ry, Dn, Rb, and Ty. As Ty checked in, one could immediately discern a dramatic increase of postural couplings in the group. It is noteworthy that Ty coupled only with Sc, Dn, and Ry; while Ry and Sc were coupled with virtually all other members of the group. It may also be significant that Ry supported the community member who was in conflict with Sc and Ty.

Ending

As the group moved into the final stages of the session, Ty continued to describe the impact of the conflict in the community. Ry responded by attempting to apologize for interrupting Sc at a community meeting. Similar to his response to W1's attempts to affirm him, Ty refused to accept Ry's apology. Further, Sc inferred that Ry was fortunate that Sc was in a good mood when they engaged in a discussion over the conflict. At this point, Dn attempted somewhat unsuccessfully to mediate the conflict. Ty then accused Ry of causing him to lose face in the therapeutic community and asked that Ry make amends by apologizing to Ty before a general community meeting. Sc affirmed Ry and acknowledged that he was not to blame for the conflict in the community, reducing tension in the group. As the session ended, Jn startled the group by explaining that he left the room because his ex-wife had temporarily misplaced his son. His disclosure then prompted expression of concern and support from others in the group.

Table 25

Session Four (End): Time Series Analysis - Significant Cross-Correlations
(CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)
Engagement	Dn	Rb	0 (.29)
	Ty	Rb	0 (.28)
	Rb	Pl	0 (.29)
Accessibility	Wl	Sc	0 (.30)
	Ry	Dn	0 (.40)

The results of time series analysis displayed two noteworthy characteristics. First, note how there are no significant leading following relationships present in the end section. Also discernible was the development of a strong coupling between Ry and Dn. Here Ry coupled with Dn's movements, perhaps as a result of his support of Dn's attempts to mediate or in an alliance against Ty and Sc. During the ending portion of the session, in terms of engagement behaviour, Rb became a focal point in the time series (followed by Dn and Ty). For accessibility behaviour, Wl coupled with Sc, and Ry strongly coupled with Dn. Given the confrontation that ensued between Ty and Ry, could it be that Dn's earlier attempts to mediate the conflict resonated with Ry?

The cluster plots for behavioural congruence (see Figure 14) were informative to the extent that one may have noted the rather dramatic decoupling of Sc and Ty after the 30-minute mark as they discuss their anger and frustration over the conflict. Also significant were the strong relationships focused on Ry, who during this last section attempted to apologize to Ty and then s was publicly humiliated by Ty and Sc. One is left to question whether other members supported the stance that Ty and Sc adopted with respect to the conflict and their rebuke of Ry. For interactional synchrony the cluster plot displays a somewhat different picture. St was again the focal point of synchronous couplings during the last plot. Since St did not speak during this

period, it is difficult to interpret these findings. Also prominent during the later sections was the decoupling of Ty from the group. For both plots 5 and 6, Ty was coupled only with St.

Sessional Relational Patterns

For the session as a whole, one will note a decline in interpersonal couplings from the previous session (from 15 in the third session to 10 in the fourth). Also noteworthy was the shift in the pattern of couplings from predominantly involving engagement behaviour to accessibility behaviour. Indeed, this would be the only session where such a pattern occurred. While W1 remained prominent in following several other members, Ry, Jn, Pl, St and Rb were far less engaged in the couplings during this session than for the third.

Table 26

Session Four (All): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W1	Sc	0 (.23)	Dn	Jn	4 (.25)	Jn	Dn	-2 (-.15)
	W1	Pl	0 (.23)						
Accessibility	Dn	Sc	0 (.17)	W1	Ry	0 (.14), 3 (.14)			
		Ty	0 (.16)	W1	Sc	4 (.13), 5 (.20)			
				W2	Jn	1 (.13), 3 (.22)			
				Sc	Rb	0 (.22), 2 (.18)			

Sessional Ratings of Cohesion, Empathy, and Therapeutic Effectiveness

Examining the global group variables for the session (see Figure 15), there were precipitous declines for all rated variables (empathy, $M = 2.66$; cohesion, $M = 3.63$; therapeutic effectiveness, $M = 9.69$) in comparison to the previous session (empathy, $M = 3.03$; cohesion, $M = 4.44$; therapeutic effect, $M = 11.71$). The overall dispersion of empathy and cohesion ratings was lower than earlier sessions ($SD = .63$ and $SD = .78$ respectively). One may ask if these findings were simply a product of the weekend break or the turn-taking pattern of the Monday morning check-

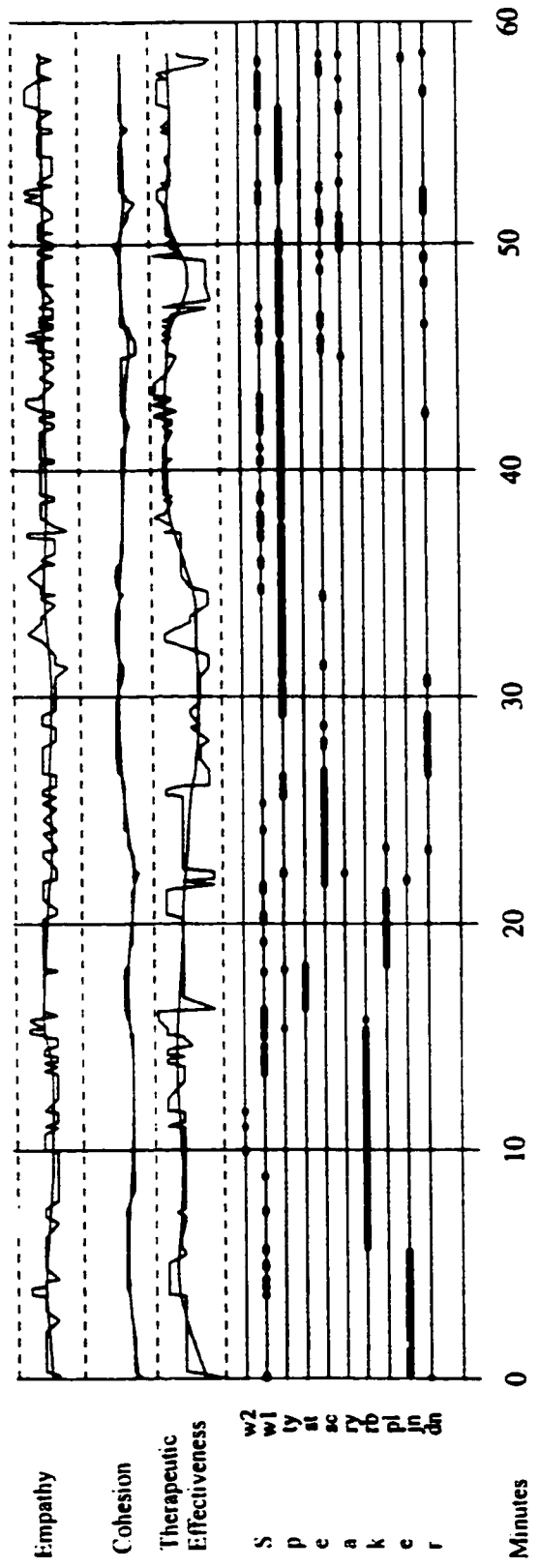


Figure 15. Session Four: Empathy, Cohesion, and Therapeutic Effectiveness by Speaker (10-Minute Segments)

in, or were the disruptions occurring in the group (i.e., Jn's absence, Ty and Sc conflict) also a factor in inhibiting redevelopment of bonds after the weekend break? Were all of these factors influential in producing these results? Some light is shed on these questions when one looks at the sessional trends in each variable. With the exception of therapeutic effectiveness (which increased marginally over the session $r = .149$; $p = .014$), both cohesion and empathy broke with an earlier pattern of generally increasing over time. One would surmise that if the weekend break was the most influential factor, there would continue to be a trend towards increased values of empathy and cohesion over time. Sessions Eight and Twelve (which also followed weekend breaks) may also offer some insights into this question.

Session Five

Beginning

Session Five began with Sc, Ty, and Dn absent. Ty arrived after 9 minutes had elapsed in the session, while Sc arrived after about 30 minutes. Dn was absent for the entire session. As is common at the beginning of most group sessions when members are absent, discussion in the group focused on the missing members. Ry and others expressed concern over Sc, who apparently was absent from the hospital overnight. A little later the discussion shifted to Rb and his relationship with his son. Sensing the decline in immediacy with the discussion focused on relationships outside of the group, W1 then attempted to have Rb describe his feelings about the conflict that occurred during the previous session. At this point Rb responded by describing his dislike for Sc's expression of hostility towards others in the hospital. Just as Rb shared his concerns, Ty entered the session. Ty's arrival resulted in Rb declining to elaborate further on his concerns about Ty's ally, Sc. At the ten-minute mark, to continue the exploration of conflict in the group, W1 then affirmed Ry's courage to disturb the status quo in the group. Not unexpectedly, Ry refused to accept W1's affirmation and shared his guilt and shame over cutting off Ty in the community meeting. Ty then clarified the issues that led up to conflict at the community meeting. Ty and several others explored the conflict over the format of the Hospital's

discharge party. Then W1 again tried to refocus the group by asking Ry to explain why he had intervened to cut off Ty's criticism of another community member. At this point Ry again resumed a self-effacing position and noted how he was often intolerant of others when they displayed behaviour he disliked about himself. Then St rather courageously intervened and explained that he shared Ry's concerns about the conflict. At the 20-minute mark, sensing the underlying import of the issue, W1 attempted to have members describe the impact of the community conflict upon the group. When W1 asked Ty if it was okay to disagree, Ty became angry, but then acknowledged that disagreement was acceptable. W1 then shifted his attention to the impact of the conflict upon Ry, who then shared that he felt unsafe in the group.

Table 27

Session Five (Beginning): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W1	Ry	0 (.36)	St	Jn	0 (.29), 5 (.26)			
	W1	St	0 (.39)						
Accessibility	St	Rb	0 (.41)	St	Ty	2 (.23), 4 (.20)	Ty	Ry	0 (-.20), -4 (.24)

Time series analysis displayed a balanced coupling regime with an equal number of engagement and accessibility couplings. Clearly indicative of interactions occurring at this time, the strong couplings between W1 and two members who challenged the status quo (Ry and St) should be noted. Also noteworthy is the negative or oppositional coupling between Ry and Ty, who were experiencing a disavowed conflict. A very strong coupling also developed in accessibility behaviour between St and Rb.

As Figure 16 illustrates, in the first two cluster plots one may discern the salience of the aforementioned conflict upon the group at this point. Here there was little congruence or synchrony present in the first section, where Rb described his extra-group relationships, but as W1 successfully refocused the discussion towards relationships between members, there was a dramatic increase in interpersonal coordination. Also present in the second plot were some interesting interpersonal relationships. Note here how Ry seemed to be behaviourally congruent with Ty, as Ty described the conflict, and yet less synchronous with him than with others in the group. One may be tempted to ask, if these differences in behavioural congruence and synchrony were a product of Ry's own internal conflict with respect to his need for acceptance by Ty and his opposing position with respect to the conflict.

Middle

As the group entered the middle portion of the session, the discussion returned to concerns about Sc's absence from the session. Ry's guilt-ridden attempt to assume responsibility for Sc's absence was subsequently challenged by Jn. W1 continued at this point to explore emotional impact and meaning of conflict for Ry. Once Sc arrived and checked in to the session, Ty expressed concern for Ry, and implored him to stop beating himself up over his guilt. Ty's softening of his stance towards Ry was followed by Rb's observation that the whole community was split over the conflict. Rb's statement, like Ry's intervention, served to challenge Ty and Sc's views that everyone in the Hospital supported them except for one misguided community member. At this point Ty repeatedly shared his strong disagreement with Rb's opinion, again defended his position in conflict, and further explained the circumstances from his perspective. As the group reached the 40-minute mark, W1 again intervened to encourage members to examine how the group was collectively dealing with conflict. At this point, Rb criticized Sc's name-calling of the community member he supported. Jn then intervened in support of Sc, and

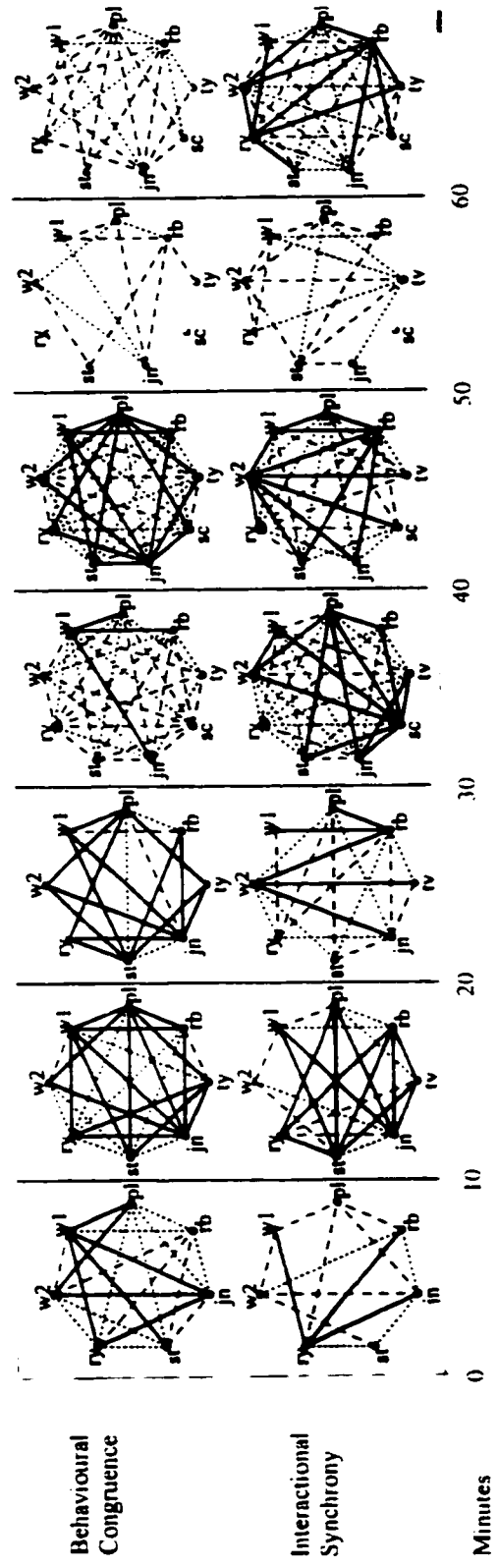


Figure 16. Session Five: Cluster Analysis of Interpersonal Coordination (10-Minute Segments)

attempted to respond to W1's request by sharing his feelings about how he had experienced the conflict. He also shared how he felt the group was less than helpful when members spoke in generalities rather than sharing their deeper feelings.

As the group reached the 50-minute mark, and in response to Jn's challenge to have members level with each other, St risked disagreeing with Ty's position concerning the conflict. W1 then acknowledged that there was indeed conflict in the group. Consistent with his earlier stance, Ty disavowed the conflict but was willing to concede, after some probing by W1, that a disagreement existed between group members. Ry responded by disavowing his conflict with Ty, and tried to rationalize his behaviour as a product of projecting his self-loathing onto Ty. Here Sc entered the fray to share his anger over the conflict and his frustration over the other community member's behaviour. After some prompting by W1, Ry acknowledged that he felt threatened by Sc during the previous session. Sc tried at first to avoid this issue and then deflected attention to his conflict with a community member outside the group. W1 then intervened to prompt Sc to respond to what Ry had shared about him. Sc then denied threatening Ry, and received support in his position from Ty, Pl, and Jn. In a shift from his earlier self-effacing stance, Ry, though attempting to minimize the threat, continued to affirm his experience of Sc's behaviour.

Table 28

Session Five (Middle): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W1	Sc	0 (.25)						
	W2	Sc	0 (.21)						
Accessibility	W1	Ry	0 (.20)	W1	St	0 (.20), 2 (.16)	St	Ry	0 (.20), -5 (.19)
				Ry	Sc	0 (.14), 1 (.19)	Sc	Ry	0 (.15), -1 (.16)
				Sc	Pl	1 (.21)			

Time series analysis of the middle section revealed some important changes from the earlier portions of the session. Most noteworthy was a disruption in the oppositional coupling between Ry and Ty, and the development of strong, positive couplings between Ry and both Sc and W1. These couplings were certainly reflective of the discussion during this portion of the session. Ry's coupling with W1 may have reflected a continuation of the bond established earlier in the session, while his coupling with Sc may have been an artefact of his concern and sense of responsibility for Sc.

The third cluster plot (see Figure 16) was marked by a noticeable shift that occurred in Ry's behaviour. Notice how, after St affirmed Ry's position, Ry's behavioural congruence shifted from a coupling with Ty to one with St; yet the synchrony between Ry and St was disrupted. The fourth section displayed a marked decline in behavioural congruent couplings.

Perhaps indicative of the crumbling solidarity in the group, synchrony similarly declined strikingly in the third plot. Perhaps indicative of member concern, synchronous couplings with all group members save for Ry coincided with Sc's arrival. During the fifth section, one may notice the impact of Jn's levelling behaviour upon group interactions. Jn became the focus of behavioural couplings with nearly all other group members (except P1), while W2, perhaps for the reasons mentioned above, synchronously coupled with all other members except P1. Perhaps more significant was the reduction in synchronous couplings with Sc once he began sharing his frustration and anger towards a client in the community. As was evident in the discussion and the previous session, group members were less than unanimous in their support of Sc and Ty over the conflict.

Ending

As the group entered the closing portion of the session, W1 continued to probe the impact of the conflict present in the group. First, W1 helped Ry explore his feelings relating to his experience of negation by the group. Ry's acknowledgement of these feelings triggered another round of denials and disavowals by Ty, Sc, and Jn. As the group passed the 60-minute mark, Ty

defended Sc by angrily challenging Ry's views. Ty asked Ry at this point if he actually thought that Sc would physically threaten him. However, unlike his earlier self-effacing stance, Ry responded assertively to Ty. Next, W1 attempted to help Ty and Ry explore the meaning of their confrontation. Ty responded by disavowing the conflict and dismissing both its meaning and importance. In response to Ty's challenge of his interpretation of the situation, W1 responded by asserting that he was just reflecting his observations to the group. As the group neared the end of the session, both Ty and Ry then processed what had just occurred between them in the group, with Ty continuing to minimize the significance of the confrontation. Ty then accused W1 of trying to instigate an artificial conflict. W1 responded by explaining that his intentions were to help each member to step outside of themselves to examine their own behaviour. The discussion then returned to Ry's apology for cutting off Ty at the community meeting. Here, Ty again reiterated that Ry did not have to apologize so often, and Ry reaffirmed his right to say he was sorry whenever he felt it was appropriate. The session ended with W1, perhaps inadvertently, supporting Ry by saying "sorry" that he had to close the session.

Findings for time series analysis were again somewhat difficult to interpret based on the discussion between members. This portion was marked by a disruption in the coupling between Ry and W1. Couplings were maintained between W1 and both Sc and St. New couplings also emerged between Jn and both Sc and St.

Table 29

Session Five (End): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W1	St	0 (.37)	St	Jn	0 (.27), 2 (.20)			
	W2	St	0 (.31)						
	W1	Sc	0 (.33)						
	W2	Sc	0 (.41)						
	St	Sc	0 (.42)						
	Jn	Sc	0 (.34)						
Accessibility							W2	W1	-2 (.30), -5 (.20)
							Pl	St	-2 (.30)

For cluster analysis, the transition from the fifth to the sixth section (see Figure 16) was marked by the transition from order into a turbulent, chaotic pattern. Here, perhaps heralded by St's breaking ranks with the group, there was a complete disruption of all couplings present in the group. It is also noteworthy that all members participated in this portion of the session and that interactions were generally shorter and more frequent. In the final section (see Figure 16), again indicative of the shattering of group structural relationships, there continued to be no significant behavioural couplings present in the group; however, there were some very understandable synchronous couplings present here. Note how Ry and Ty moved together, perhaps indicative of their engagement in confrontation at this point. Also noteworthy were the couplings between Ry and three others (St, W1, and Rb). Again these couplings may have signified empathy or identification with the stance adopted by Ry in relation to Ty. W1's coupling with Ry was particularly interesting given his final statement that offered tacit support of Ry's position in the conflict.

Sessional Relational Patterns

As indicated in Table 30 below, there was a marked increase of significant couplings between group members during Session Five that paralleled those of the third session. These couplings appeared to be somewhat weaker in magnitude than those in some of the earlier sessions. This session also marked the return to the familiar pattern of a preponderance of engagement behavioural (13) couplings over those involving accessibility behaviour (2). While W1 and Sc remained prominent in relation to their couplings during this session, St entered into the greatest number of couplings during this session (8 in total), offering a balance of leading and following others. Examination of his coupling patterns revealed a style of following the more assertive members (e.g., Ty, Jn) and leading the others (e.g., W2, Ry). There did not seem to a relationship between St's participation in the discussion and his increased number of couplings.

Table 30
Session Five (All): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W1	St	0 (.26)	St	Jn	0 (.19), 1 (.11)	St	W2	0 (.16), -3 (.13)
	W1	Jn	0 (.15)	Jn	Sc	0 (.18), 3 (.11)	Jn	St	0 (.19), -4 (.13)
	W1	Sc	0 (.23)	St	Ty	0 (.15), 1 (.11)	Sc	Jn	0 (.18), -2 (.11)
	W2	Sc	0 (.23)	Ry	St	0 (.13), 1 (.12)	Ty	Ry	0 (.13), -4 (.14)
	St	Sc	0 (.15)						
Accessibility	W1	St	0 (.18)						
	St	Rb	0 (.18)						

Sessional Ratings of Cohesion, Empathy, and Therapeutic Effectiveness

As indicated in Figure 17, periods of relative stability for observer-rated empathy and cohesion measures were disrupted at points coinciding with the eruption of confrontation and

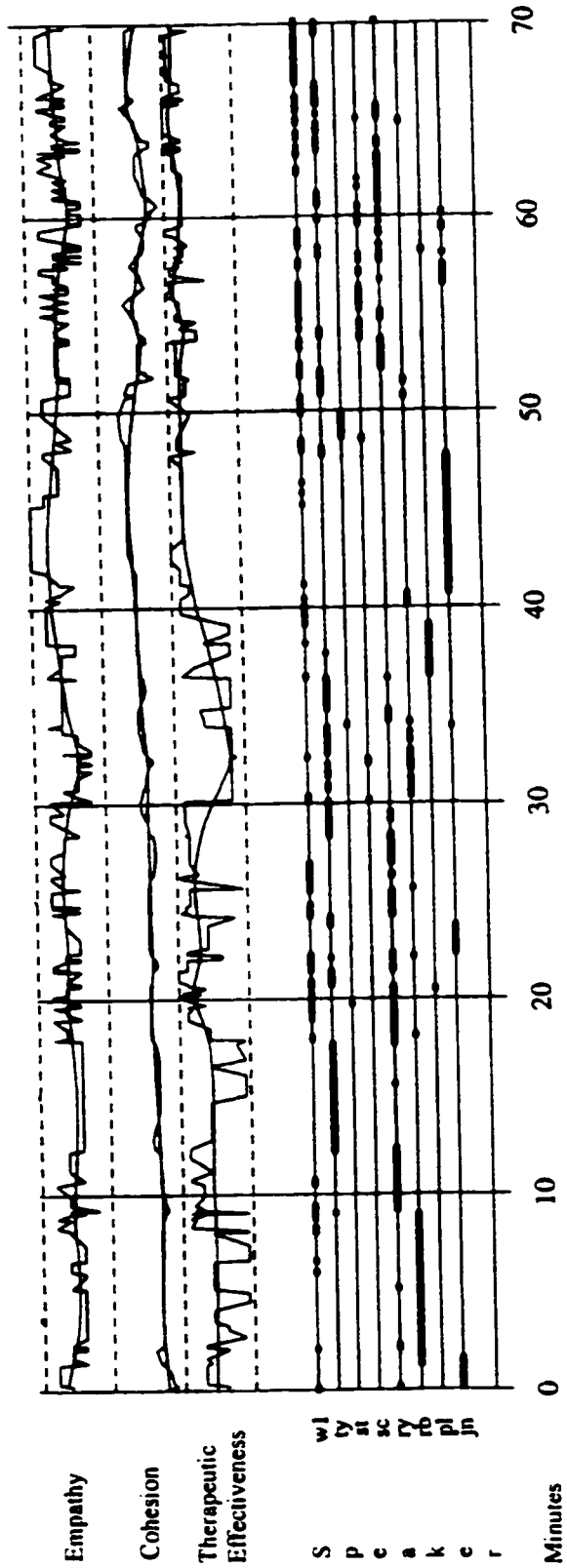


Figure 17. Session Five: Empathy, Cohesion, and Therapeutic Effectiveness by Speaker (10-Minute Segments)

conflict in the group. The apparent increase of conflict in the group may have contributed to the absence of significant increases for empathy and cohesion over time. On the other hand, observer ratings of therapeutic effectiveness demonstrated a general upward trend during the session ($r = .461; p < .000$). This finding may have been a function of the design of the instrument, as the H.I.M. appears to assign higher values to interactions characterized by confrontation and interpersonal immediacy. All three global group variables were particularly unstable during the later stages of the session. Interaction patterns also seemed to vary with the relative stability of the group over time. Periods of instability were characterized by shorter and more frequent interactions, more stable periods were characterized by longer statements and lesser participation among group members. Mean levels of empathy (increasing from $M = 2.66$ to $M = 2.76$) and cohesion (increasing from $M = 3.63$ to $M = 3.86$) for this session were marginally higher than the previous session. Mean levels of therapeutic effectiveness, perhaps due to the confrontive nature of member interactions, were substantially greater than the previous session ($M = 11.11$ vs. $M = 9.69$). Also indicative of the aforementioned instability in the group, variability for all three globally observed variables was greater than levels found during the previous session.⁹⁵ This was particularly true for ratings of therapeutic effectiveness that increased from a standard deviation of 3.55 in Session Four 4 to 4.35 during this session.

Session 6

Beginning

With the sixth session, the group reached the midpoint of the sessions explored here. Two participants, P1 and W2, were absent for the entire session. The session began with Dn explaining his absence from the previous session. He then criticized W1 for challenging his decision to miss

⁹⁵ As noted in Figure 17, standard deviations for empathy increased from .63 to .90, for cohesion from .78 to 1.19, and for therapeutic effectiveness from 3.55 to 4.35.

the session. W1 responded by observing that he was trying to help Dn change his pattern of behaviour. Much of the discussion during the early portion of the session involved Dn and Sc. After Dn shared his reasons for missing the previous session, W1 helped Sc to explore the meaning of his conflict with Ry during the previous session. After Sc shared how he valued his relationship with Ry, Dn attempted to reflect his understanding of Sc's feelings and situation. Jn noted here that he would like the discussion to move on as he had something he needed to share with the group. As W1 continued to process the conflict, Sc requested feedback from other group members about whether he should feel guilty for his behaviour. While Jn refused to provide feedback for Sc, Dn continued to respond supportively to him. The discussion between Sc, Dn, and W1 continued in this fashion into the early moments of the middle section.

The time series findings were again indicative of the interactions in the group. Note the impact of the early moments of the session in terms of the engagement coupling between W1 and Dn. Here W1 continued his tendency, as he did with Sc for accessibility behaviour, to follow different members of the group as he explored various issues with them. Also evident was the impact of the later discussion between Jn and Sc.

Table 31

Session Six (Beginning): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement				W1	Dn	2 (.33), 3 (.30)	Sc	Jn	0 (.35), -2 (.30)
	Accessibility	Ry	St	0 (.31)	W1	Sc	1 (.32)	Sc	W1
W2					St	3 (.40)	Rb	W2	-4 (.50)
Ty					Rb	0 (.30), 2 (.30)	Rb	Ty	0 (.30), -3 (.33)

In the first cluster plot (see Figure 18) there appears to be a rather egalitarian and dense distribution of behavioural couplings among the participants. Dn, who was the focus of attention concerning his previous absence, was also the focal point of five behavioural couplings. Jn, who spoke very little during this segment, was also a focal point. Wl, who actively facilitated the process in the opening minutes, coupled only with Dn and Jn. However, in relation to synchronous movement, it was noteworthy that Wl and Ty did not strongly couple with any other group members. Dn, consistent with his position in respect to the community conflict, coupled with Rb, with whom he shared similar views. As we move to the second cluster plot, Sc's explanation for his behaviour resulted in a breakdown of his behavioural couplings with others. There was also a prominent pattern of synchronous movement focused on Ry during this period. Ry seemed to be moving synchronously with all those who spoke during this segment.

Middle

During the middle section, Jn shared his story with the group. For approximately 18 minutes, Jn shared his story of abuse, suicidal behaviour, and shame. His poignant story had a profound impact upon the group. As the group reached the middle of the session, Wl asked the other members if any portion of Jn's story had meaning for them. Dn began by sharing his feelings of shame and experience of abuse and Ry then responded by affirming Jn. However, the group member most affected by Jn's story was Ty. Ty seemed at this point to identify Jn with his son. He then shared his guilt about his relationship with his son. Next Sc shared his guilt over his abandonment of his children, but he also affirmed Jn's capabilities as a father and person. Ty continued at this point to share his guilt, pain, and sense of loss of the relationship with his son. Jn's story clearly resonated with Ty, apparently diminishing his defensiveness and enabling him

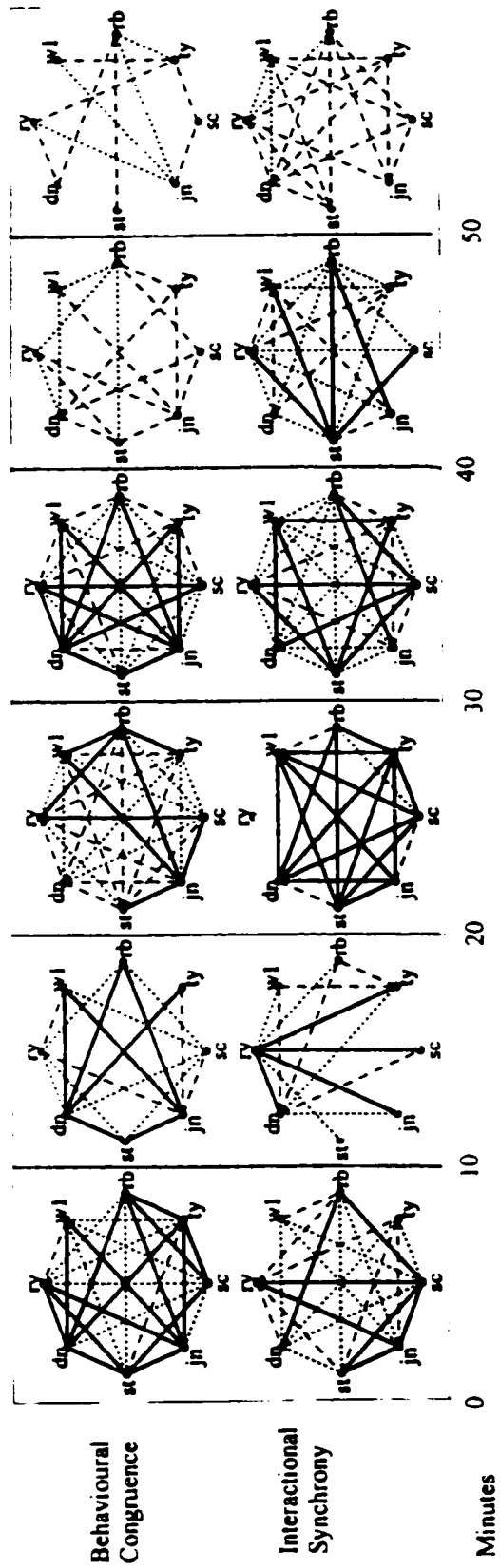


Figure 18. Session Six: Cluster Analysis of Interpersonal Coordination (10-Minute Segments)

to express his deeper feelings. Rb, too, noted how Jn's story touched his heart. Next, W1 again reached for feedback from the group. When Dn responded with words devoid of authentic feelings, Ty, sensing the empathic break with Jn, challenged Dn to level with the group. Jn then asked for feedback concerning the self-hatred that he had described in himself. Two members (Ry and Rb) responded to his question by sharing that they could relate to Jn's self-loathing but not his self-abuse.

Time series analysis revealed a similar number of couplings from the beginning portion. A number of reciprocal couplings were retained, including Jn and Sc as well as W1 and Sc. Noteworthy was the impact of Jn's sharing his story at this point, which may have resulted in his new couplings with Dn and Ty. His coupling with Ty was particularly reflective of the emotional resonance that occurred between them during this portion of the session. These findings reinforce the notion that couplings involving synchronous movements of arms and legs may gauge emotional resonance. Finally, one will also note the loss of the coupling between W1 and Dn during this period.

Table 32
Session Six (Middle): Time Series Analysis - Significant Cross-Correlations (CCF) Between
Group Members

Behaviour	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W1	Ry	3 (.25)	Ry	W1	0 (.25), -2 (.24)
	Dn	Jn	0 (.22), 2 (.25)			
	Dn	Sc	0 (.26), 3 (.20)			
	Jn	Sc	0 (.21), 1 (.25)			
	W1	Sc	1 (.33), 2 (.24)			
Accessibility	W1	St	4 (.27), 5 (.28)	Ty	Ry	-1 (.32)
				Ty	Jn	-2 (.25)

In terms of cluster analysis, one may observe the dramatic and enigmatic impact of Jn's sharing his story with the group during the middle three segments (see Figure 18). The third plot displayed strong behavioural couplings between Jn and four others (Sc, Rb, Wl, and St). However, even stronger relationships were found in relation to interactional synchrony, where all of the participants engaged in strong synchronous relationships with three or more other members. This finding may again suggest how interactional synchrony was heightened by group discussion that had a meaningful emotional impact. In the fourth cluster plot, a similar pattern of behavioural congruence and interactional synchrony was evident. For behavioural congruence, Ty's coupling with Jn may have been indicative of how deeply he connected with Jn's story. Indeed, Jn behaviourally coupled with all other members, with the exception of Sc and Dn, both of whom had trouble expressing authentic feelings. One is left to ask whether the depth of Jn's sharing was threatening to these two members. A slightly less dense pattern occurred for interactional synchrony. Notable here were the couplings between Wl, Ty, and Dn, who interacted the most frequently during this period. The strong interactional coupling between Wl and Ty here may have been indicative of the important shift that occurred in Ty's stance towards participation. The fifth plot illustrates a disruption of the previous couplings: no strong behavioural couplings were present here, and synchronous couplings were somewhat diminished. Here St was the focal point of synchronous couplings that involved all other members with the exception of Dn, Ty, and Jn. These findings were difficult to understand since these three members all happened to be the most emotionally engaged at this time.⁹⁶

⁹⁶ Recall that Ty challenged Dn to share his feelings directly in response to Jn's story.

Ending

As the group moved into ending section after about 50 minutes, W1 attempted to intervene with a narrative-oriented question designed to help Jn externalize his experience of abuse. Jn, still deeply immersed in his feelings, perceived this cognitively focused intervention as an empathic rupture, and responded angrily and dismissively to W1's question. At this point Ty intervened and refocused the discussion back to Jn's feelings associated with abuse. W1 then helped Ty explore the meaning of his feelings and his relationship with his father. As the session approached the 60-minute mark, W1 explored with Jn what he had hoped would come from disclosing his story to the group. Jn replied that he was not concerned about the impact of his story on the group. Again, despite another attempt by W1 to help Jn recognize the value of externalizing his experience of abuse, Jn remained equivocal about this issue. Sc voiced his support for Jn and stressed the importance of releasing his demons. As the group ended, W1 and Dn both affirmed Jn's courage for remaining in the group and sharing his story.

Time series findings were difficult to interpret on an individual basis; however, one global pattern may be important. Perhaps due to the empathic rupture that occurred at this point, the absence of any couplings between W1 and Jn was noticeable. Indeed, what appears to have occurred were couplings between Ty and other group members (i.e., St, Sc, W2, & Rb). Since all group members, save for Rb, were coupled with Ty at this point, one may speculate that they may have resonated to a greater degree with Ty's response to Jn vis-à-vis that of W1.

Table 33

Session Six (End): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)
Engagement	St	Sc	0 (.30)			
	St	Ty	0 (.50)			
	Sc	Ty	0 (.50)			
Accessibility	W2	Ty	0 (.40)	Ty	Rb	1 (-.31)
	Ry	Sc	0 (.40)			

The disintegration of couplings (see Figure 18) continued to increase into the final cluster plot, where there were no strong couplings remaining in terms of behavioural congruence or interactional synchrony. These findings were difficult to interpret at this point. Several explanations may be posed here. As noted above, the empathic rupture between W1 and Jn may have played a role. One may also ask if group members were so introspective at this point that they disengaged from each other. Another potential contributory factor may have been the difficulty that some members experienced in relating to Jn's description of his self-abusive behaviour.

Sessional Relational Patterns

The number and magnitude of sessional couplings increased from those of the previous session (19 in Session Six compared with 15 in Session Five). In general, the pattern of couplings reflected the levels of participation by group members. W1, Ry, Ty, Sc, and Jn experienced more couplings than others did. As with earlier sessions, Dn's participation did not result in the development of couplings. In fact, there were no significant couplings between Dn and other

members. Also prominent was the decrease in couplings involving St (from 8 to 3), and an increase involving Ty leading other members (from 2 to 6). W1 continued his style of following other members during the session.

Table 34

Session Six (All): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)		
Engagement	W1	Rb	0 (.21)	W1	Ry	0 (.17), 3 (.15)	Ry	W1	0 (.17), -2 (.19)		
		St	0 (.22)		Jn	0 (.18), 1 (.15)	Sc		St	0 (.23), 1 (.15)	
	Sc	Ty	0 (.23)	W1	Sc	1 (.18), 2 (.18)	Ty	Ry	Jn	0 (.25), -1 (.13)	
					Ry	0 (.17), 5 (.25)					
					Jn	0 (.25), 2 (.12)					
					Jn	Sc	0 (.22), 1 (.14)	Sc	Jn	0 (.22), -1 (.16)	
										Ty	Jn
Accessibility	W2	Ty	0 (.18)	W1	St	4 (.17), 5 (.15)	W2	W1	-2 (.18)		
					Ty	Ry			1 (.20), 5 (.20)	Sc	W1

Sessional Ratings of Cohesion, Empathy, and Therapeutic Effectiveness

The trends for the globally rated variables (see Figure 19) were greatly influenced by Jn's self-disclosure during the session. Group cohesion appeared to be particularly sensitive to the impact of Jn's self-disclosure, as the graph depicted a major increase following Jn's uninterrupted address to the group. While empathy remained rather flat, trends for therapeutic effectiveness ($r = .317$; $p < .000$) and cohesion ($r = .669$; $p < .000$) generally increased over time. Mean values for all observer-rated global variables were marginally higher for Session Six (increasing from $M = 2.76$ to $M = 3.10$ for empathy, from $M = 11.11$ to $M = 11.99$ for therapeutic effectiveness,

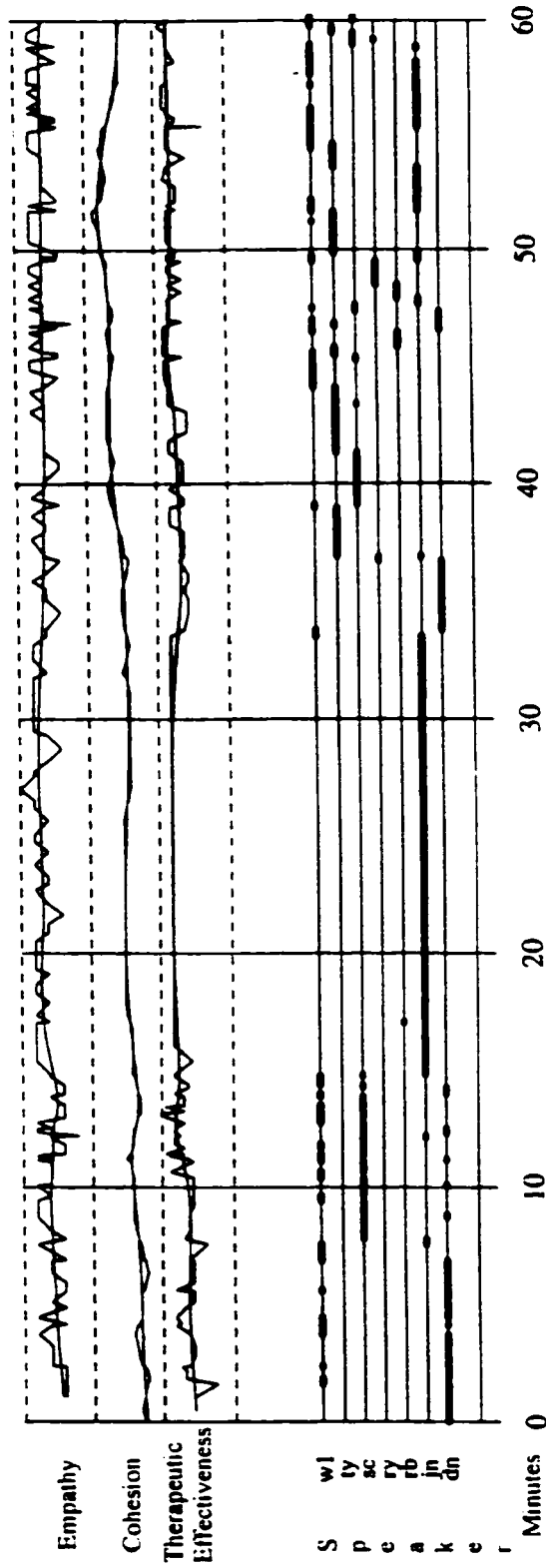


Figure 19. Session Six: Empathy, Cohesion, and Therapeutic Effectiveness by Speaker (10-Minute Segments)

and from $M = 3.86$ to $M = 4.98$ for cohesion) and exceeded mean values for the group.⁹⁷

Variability for each variable was greater both before and after Jn's soliloquy; however, sessional variability for empathy and therapeutic effectiveness decreased from the previous session (empathy from $SD = .90$ to $SD = .81$; therapeutic effectiveness from $SD = 4.35$ to $SD = 1.86$) while the variability in cohesion increased marginally from the previous session (from $SD = 1.19$ to $SD = 1.57$).

Session Seven

Beginning

Session Seven began with all members present save for Dn, who was absent for the entire session. This session differed from the others due to a break that occurred after approximately 40-minutes. At this point, a short break took place and a Reflection Team was convened, comprising of the two workers (W1 and W2), a student, and the Principal Investigator. The Reflection Team discussed their observations of the previous sessions. After the reflection session, which lasted for approximately 12 minutes, the group members returned to the meeting room and the session resumed for a brief period of 10 minutes during which group members discussed their interpretation of the Reflection Team's comments.

The first two minutes of the session involved W1 briefly describing the procedure for the reflection portion of the session. Next, members discussed Dn's absence from the session. Later, St shared his childhood experiences of abuse, neglect, grief, loss, and abandonment. St's sharing continued for approximately 14 minutes. The remainder of the beginning portion of the session involved three members asking questions and clarifying the meaning of the events described by

⁹⁷ Mean values for all twelve sessions were as follows: empathy ($M = 2.91$; S.D. = .81), therapeutic effectiveness ($M = 11.18$; S.D. = 3.26), and cohesion ($M = 4.48$; S.D. = 1.45).

St. Sc observed how his experiences paralleled those of St. Rb responded by affirming both St and his wife's commitment to their relationship. Jn closed the beginning portion by affirming St's honesty and openness.

Time series analysis revealed a pattern of couplings that were somewhat indicative of the discussion. In Table 35, the findings revealed that Ry followed St for both engagement and accessibility behaviour. Interesting as well was the negative or oppositional relationship between Ry and Jn for accessibility behaviour. A very strong synchronous coupling was found between Jn and Ty for engagement behaviour at this point. However, given that Jn and Ry seldom spoke during this period, it is difficult to interpret this finding.

Table 35

Session Seven (Beginning): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	Jn	Ty	0 (.54)				St	Ry	0 (.33), -1 (.30)
Accessibility	Sc	Rb	0 (.30)	W1	W2	2 (.30), 3 (.40)	W2	W1	-2 (.30)
				Ry	St	2 (.24), 5 (.40)			
				Ry	Jn	1 (-.33)			

In relation to cluster analysis (see Figure 20), the first two segments also displayed the impact of St's self-disclosures. Note, especially during the first plot, how strongly coupled nearly all of the members were with each other. Examining the first and second behavioural congruence plots, one may readily observe how St was a focal point for couplings with at first five (Sc, Rb, W1, W2, and Ry), and then six other members (Jn, Sc, Ty, Rb, W1, W2, and Ry). It is also interesting to note how St did not behaviourally couple with Pl, who had been challenged by Jn for his statements to St. In relation to interpersonal synchrony, a dense pattern of couplings in the

first plot may have been indicative of the emotional resonance created by St's story. In the second plot, Ry became the focal point for synchronous couplings. However, Ry's limited sharing over this time precluded further interpretation of his synchronous couplings with others.

Middle

The middle portion of the session began with Sc affirming some the qualities he valued in St, and then Ty, clearly resonating with St's description of his marital problems, shared his commonalities with St's experiences. As the session approached the 30-minute mark, Ry attempted to remove some of the guilt and responsibility from St by stressing the responsibility of both St and his family for making his marriage successful. W1 at this point intervened to assist Ry to explore what aspects of St's story he could relate to more directly. As the group approached the middle of the session, Sc shared how he had moved on with his life after the breakdown of his marriage. Pl then shared how he related to St's experiences. Then Pl shared how he felt that St was lucky his wife continued to support him and his family was still there for him. Ry then observed how he felt that wealth was less important than family relationships. Pl then expressed disagreement with Ry's statement. W1 continued to facilitate Pl's exploration of his commonalities with St. He then described how his wife was supportive of his efforts to recover. After about 35 minutes, the mood and climate in the group dramatically changed. Jn challenged Pl to explain his statements to St relating to how St was lucky his family still supported him. At this point Pl denied any intention to threaten St. Sc continued to share his desire to let go of the past. Before adjourning the session for the reflection team discussion, Ty continued to ask supportive questions of St and affirm his efforts to make a new start in his life.

Time series analysis (see Table 36) revealed a number of interesting patterns. First, note the impact of Ty's empathic response to St's story. Both Jn and Sc follow Ty's behaviour during this period. Several members (Jn, Rb, and W1) also follow PI during this part of the session.

Table 36

Session Seven (Middle): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W1	Ry	0 (.26)	Jn	Sc	2 (.26), 4 (.25)	Sc	Jn	-1 (.25)
	Sc	Ty	0 (.27)	Jn	Ty	1 (.22), 3 (.24)	Ty	Jn	-2 (.22)
	Sc	Rb	0 (.30)	W1	PI	1 (.30), 2 (.20)			
Accessibility	Sc	Rb	0 (.30)	Sc	Ty	0 (.20), 3 (.22)	Ty	Sc	0 (.20), -5 (.22)
				Rb	PI	1 (-.21)	PI	Rb	-4 (.30)
				Jn	PI	5 (.30)			

In terms of cluster analysis (see Figure 20), the remainder of the session was characterized by a dramatic decrease in interpersonal couplings. In the third plot, PI became a focal point for behavioural and synchronous couplings. His silence over this period was not informative. In the fourth plot, all behavioural couplings were disrupted. This finding may in part be explained by Jn's confrontation of PI during this period. However, despite disrupting all behavioural couplings, Jn's confrontation seemed to resonate with many of the members and brought about a dramatic shift in the prevailing pattern of synchronous couplings. Note how Jn resonated with Ry, W1, Sc, and Rb. PI, on the other hand, has lost all of his resonant couplings with five other members.

Ending

After the reflection session, which affirmed the courage and efforts of each member, the rather chaotic quality of the later portions of the earlier discussion reappeared. As the group

reconvened. Rb shared his envy of the relationships that the others enjoyed. At this point, Sc intervened to offer support and sympathy for Rb's sense of loneliness. Rb responded with very angry and aggressive words to protect his right to speak. Sc, disturbed and angered by Rb's response, left the session at this point. For the next few minutes, the group processed this interaction. Various members offered feedback to Rb concerning his response to Sc. Rb's interaction with Sc continued to preoccupy group members. Few members responded when W1 asked for feedback about the reflection session. During the remaining minutes Rb continued to process his conflict with Sc. W1 responded by encouraging Rb to explore his conflict with Sc when Sc returned to the group.

The time series findings in Table 37 clearly illustrate the impact of the reflection session and interpersonal conflict upon couplings in the group. Indeed, the ending section bears little resemblance to the middle portion of the session. Prominent here were couplings involving each of the workers and St that accounted for most of the relationships. The workers' prominence was predictable during this period, as the post-reflection portion involved a debriefing process in which the worker asked members to share their response to the observations offered by the Reflection Team. Also noteworthy was the dramatic shift in the pattern of couplings. During this period note how the preponderance of couplings involve synchronous accessibility behavioural couplings (e.g., arms and legs). Could this pattern be indicative of the group's reluctance to engage with the task identified by the worker? Were the majority of members present resonating to some other issue, for example the conflict that resulted in Sc's premature departure from the session?

Table 37
Session Seven (End): Time Series Analysis - Significant Cross-Correlations (CCF) Between
Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)			
Engagement	W1	St	0 (.43)									
	Ry	St	0 (.58)									
Accessibility	W2	Ry	0 (.63)	Ry	St	2 (.38), 4 (.40)	Pl	W1	-1 (.40)			
					St	0 (.39), 2 (.36)						
				W2	Ty	2 (.50)				Ty	W2	-1 (.39)
				St	Pl	2 (.50), 5 (.37)				Pl	St	-1 (.40)
				St	Ty	2 (.38), 5 (.40)						

For cluster analysis (see Figure 20), as the group entered the aforementioned chaotic phases of the fifth and sixth plots, a more dramatic decline in couplings was evident. Not surprisingly, given the prominence of his story during this session, St remained coupled with others in terms of synchronous movements in the fifth plot; however, in the sixth virtually all couplings dissolved. Two potential interpretations seem cogent for this decoupling phenomenon. First was the break for the Reflection session. This disruption in the flow of the session may have been responsible in part for parallel disruptions of member couplings. However, given the decline in couplings preceding the actual break, and the previous tendency for the group to decouple during periods of angry confrontation, one may ask if the confrontation between Sc and Rb may have been more influential in producing such effects.

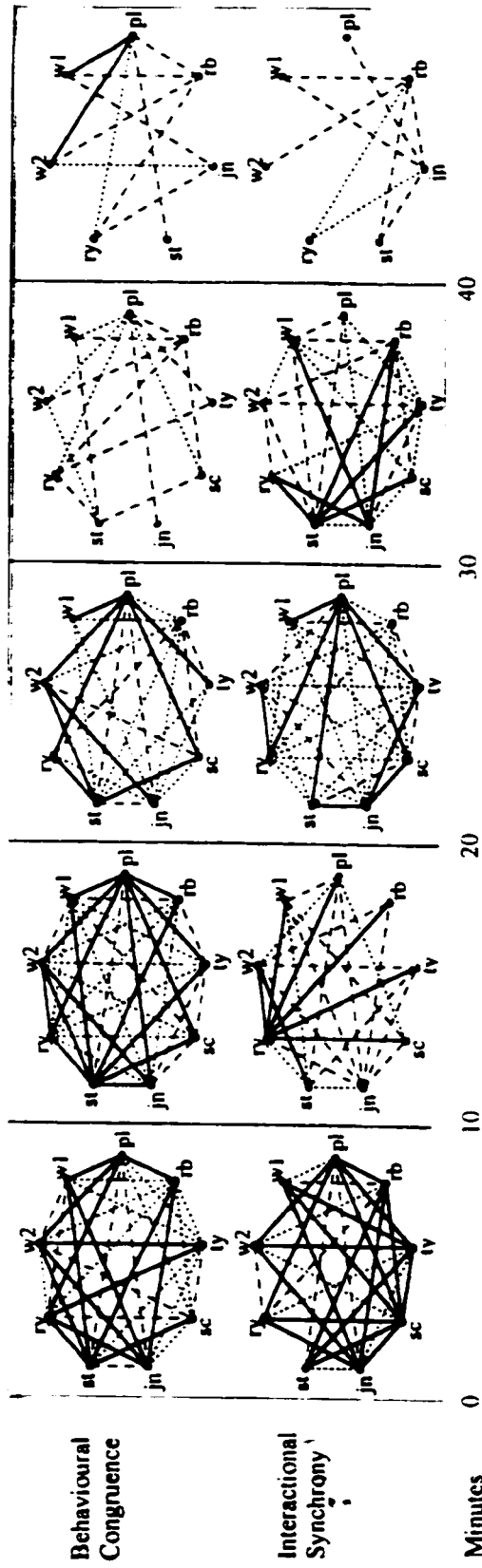


Figure 20. Session Seven: Cluster Analysis of Interpersonal Coordination (10-Minute Segments)

Sessional Relational Patterns

Relational patterns for the seventh session, as depicted in Table 38, showed a marked decline in couplings from the previous session (10 from 19). As noted above, the disruption of the session wrought by conflict and the reflection session may have played a role in this decline. Prominent in the pattern couplings for time series analysis were the roles played by W1 and Ty. W1 continued to couple with Ry and St, while several members resonated with Ty, who apparently continued to serve as a leader for the group.

Table 38

Session Seven (All): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W1	Ry	0 (.19)	Jn	Ty	0 (.23), 1 (.14)	Ty	Jn	0 (.23), -2 (.14)
	W1	St	0 (.19)						
	Ry	St	0 (.26)						
	Ry	Ty	0 (.22)						
	St	Ty	0 (.22)						
Accessibility	Sc	Rb	0 (.26)	W1	W2	3 (.21)			
				Rb	Pl	0 (.15), 2 (.15)			

Sessional Ratings of Cohesion, Empathy, and Therapeutic Effectiveness

The observer-rated group variables for Session Seven (see Figure 21) followed a similar pattern to the sixth session. Session Seven contained a long, poignant soliloquy by one member. This intervention resulted in very stable patterns for each of the variables during the period where the member addressed the group. However, during the later portion of the session the observer-rated variables displayed an unstable pattern. Therapeutic effectiveness was particularly subject to

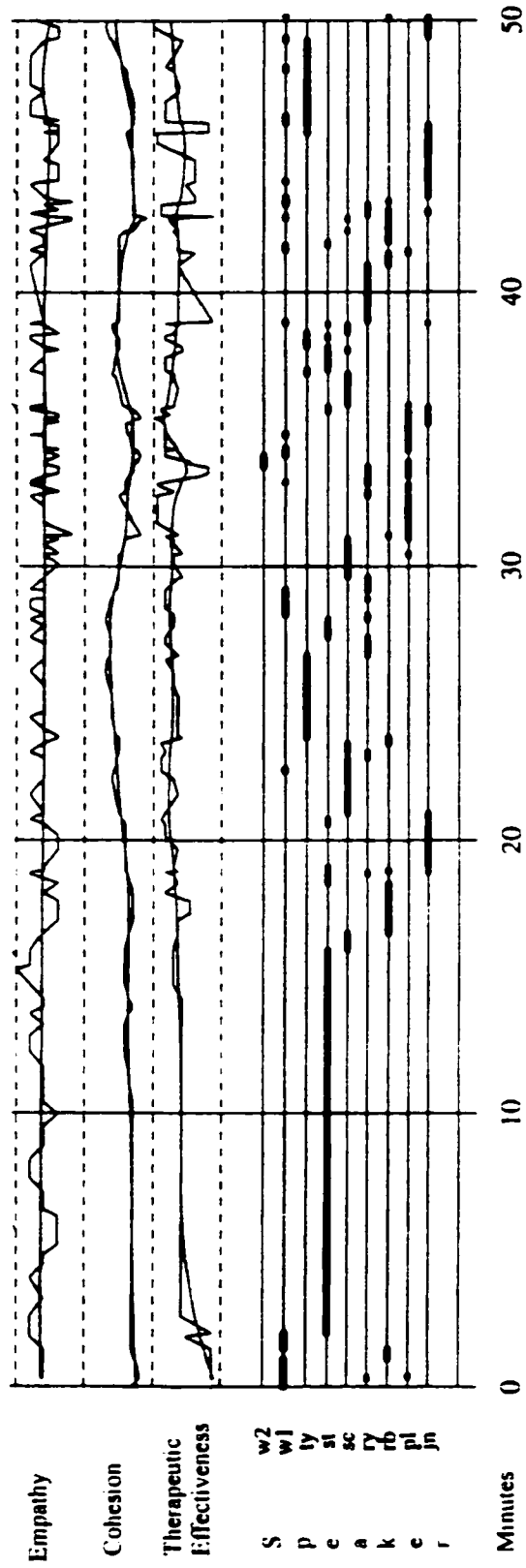


Figure 21. Session Seven: Empathy, Cohesion, and Therapeutic Effectiveness by Speaker (10-Minute Segments)

instability during the late stages. Unlike previous sessions, empathy actually decreased over time ($r = -.134, p = .06$), as did cohesion ($r = .200, p = .08$) and therapeutic effectiveness ($r = .195, p = .10$). Overall, mean levels for all observer rated variables decreased from the previous session (empathy decreased from $M = 3.10$ to $M = 2.99$; therapeutic effectiveness decreased from $M = 11.99$ to $M = 10.28$; and cohesion decreased from $M = 4.98$ to $M = 4.00$). Variability also decreased for both empathy and cohesion (empathy decreased from $SD = .81$ to $SD = .77$; cohesion decreased from $SD = 1.57$ to $SD = 1.34$), while variability increased for therapeutic effectiveness (from $SD = 1.86$ to $SD = 3.40$).

Session Eight

Beginning

Session Eight was the first session at the beginning of the third week of recording. As on other Monday morning sessions, members each checked into the group by providing highlights of their weekend and listing some of the issues they would like to work on during the upcoming week (Ty arrived a few minutes late). After an opening invitation by W1, Ry reflected about the previous week's sessions. Signaling the emergence of termination issues in the group, Ry shared his concerns about how time was running out in the group. Rb, who was to leave at the end of this week, also raised termination issues, and identified some of the issues he wished to address. After about five minutes, St shared that he had reached a reconciliation with his son. St's disclosure triggered a heartfelt congratulatory response from both Ty and Sc. Next, Dn, in sharp contrast to St, shared his disappointment over not receiving adequate attention and affection from his partner during his weekend visit. Next, Ty shared his feelings of shame associated with his relationship with his partner. After Ty, Sc then shared having a happy weekend and his desire to share his happiness with the group. Sc had started a new relationship, prompting several others to inquire about the identity of Sc's new friend.

Time series analysis produced the results displayed in Table 39 that were indicative of a check-in type of process. Note how the workers were prominent in many of the relationships involving engagement behaviour. One may also note here how Dn and Jn continued to share a strong positive coupling. St's accessibility couplings were also indicative of his relationship with both Sc and Ty, who were visibly enthused by his story of reconciliation with family.

Table 39

Session Eight (Beginning): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)
Engagement	W1	W2	0 (.36)			
	W1	Ry	0 (.40)			
	W2	Ry	0 (.35)			
	W1	Sc	0 (.35)			
	Ry	Jn	0 (.44)			
	Dn	Jn	0 (.40)			
Accessibility	Dn	Rb	0 (.30)	St	Sc	0 (.27).
	St	Ty	0 (.30)			1 (.28)

Session Eight also offered dramatic evidence (see Figure 22) of the phase transitions in member coping behaviour in response to differentially intolerable affective content. During the early portions of the session, there was an increase of coupling in both dimensions up to the fourth cluster plot. In the first plot, there were limited postural couplings, with St and Pl experiencing the greatest number of couplings (three and four respectively). Also noteworthy was the pattern of Dn serving as a focal point of synchronous couplings with all other members.

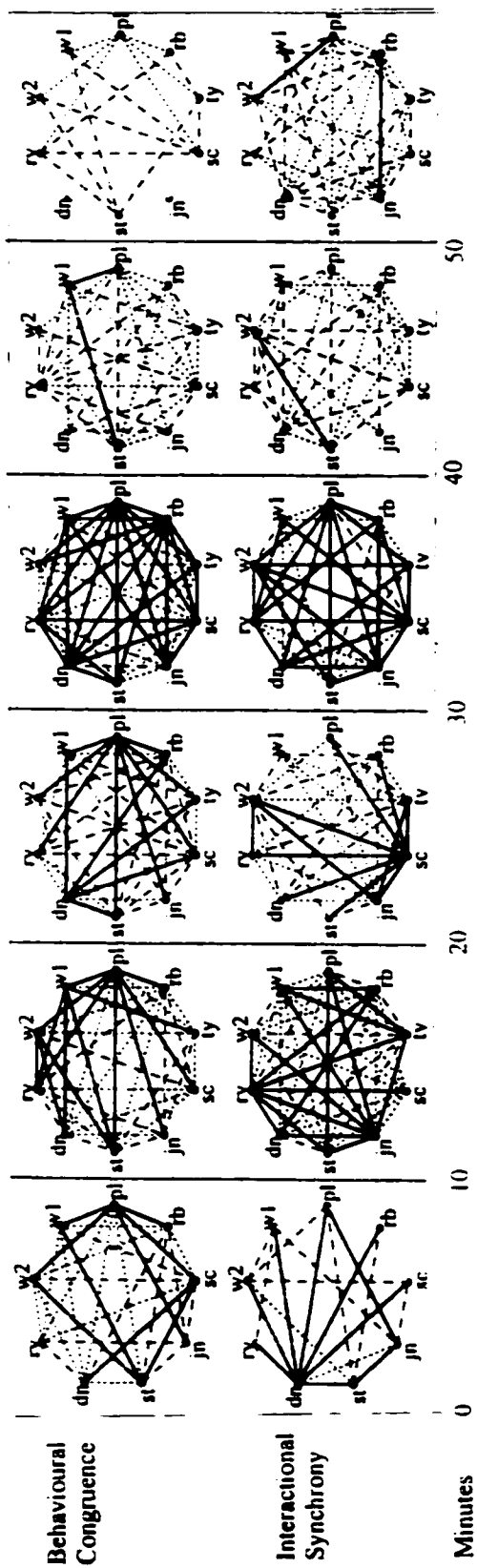


Figure 22. Session Eight: Cluster Analysis of Interpersonal Coordination (10-Minute Segments)

except for Jn. In the second plot, P1 coupled with seven other members as he began his check-in, just as Jn and Ry synchronously coupled with seven other members.

Middle

The middle portion of the session began with two members checking into the group. P1 observed that he could relate to Ry's statements, and then shared his progress in dealing with his anger by describing an incident that occurred over the weekend. W1 then affirmed P1's efforts to find constructive ways to deal with his anger in the face of life's challenges. Finally, Jn shared his sadness over the potential loss of custody of his son and his struggle with sexual addiction. He affirmed his need to change his behaviour in order to relieve his feelings of self-loathing. Once all the check-ins were completed, Dn began to share his upset over how he was treated by the nursing staff. He felt that the nursing staff, which insisted that he must go with the other patients on a morning walk, had triggered his anxiety. Dn's resumption of his victim stance prompted involvement from W1, W2 and Ty. W1 challenged Dn at this point to identify examples when his anxiety overwhelmed him and other times when he was able to function normally. Dn responded defensively at this point and then chided W1 for his insensitivity.

Time series analysis (see Table 40) displayed a marked increase in couplings over the middle portion of the session. W1's prominence in the engagement findings here was understandable as the check-in period continued during most of this portion of the session. This was particularly evident with W1's coupling with Dn for both engagement and accessibility behaviour.

Table 40

Session Eight (Middle): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)	
Engagement	W1	Jn	0 (.37)	W1	Ry	0 (.27), 5 (.25)	Ry	W1	0 (.27), -2 (.19)	
					Dn	0 (.27), 1 (.26)	Ty	W1	0 (.30), -1 (.25)	
	Ry	Ty	0 (.30)	W1	St	0 (.30), 2 (.20)	St	Dn	0 (.35), -1 (.21)	
					Ty	Pl	0 (.23), 1 (.20)	Ty	Jn	0 (.20), -2 (.35)
								Ty	Sc	0 (.20), -3 (.25)
	Accessibility	Ry	Ty	0 (.24)	W1	Dn	3 (-.30)	Dn	W1	-2 (-.21)
St		Rb	0 (.22)	Jn	Rb	2 (.23), 4 (.22)	Dn	W2	0 (.20), -3 (.23)	
Rb		Pl	0 (.22)	Ty	Rb	2 (.24)				

Cluster analysis (see Figure 22) provided more detail in terms of the impact of the check-in as well as both Jn's and Dn's interactions during the middle part of the session. As Pl continued his check-in into the third plot, his couplings increased to number eight, with Dn as the only member remaining uncoupled with him. In the fourth cluster plot, one may readily detect the impact of Jn's authentic sharing with the group. The couplings were quite dense at this point. However, in the fifth cluster plot a precipitous decline occurred in the relatively dense pattern of couplings. This decline coincided with the end of the check-in and Dn's sharing of his struggle with the nursing staff. At this point, the group clearly did not wish to behaviourally engage nor did it resonate with Dn's continued story of victimization.

Ending

Just after the 50th minute, Ty supported Dn in his attack on W1, perhaps hoping to have Dn assert himself and release some anger. As the group entered the closing phase, W1 continued to engage with Dn. W1 attempted to help Dn 'externalize' his anxiety. They agreed that Dn's illness had a lot of power. At this point, W1 noticed Jn's nonverbal response and asked Jn to share what he had experienced. Here, Jn intervened with a series of pointed questions aimed at helping Dn to accept the choices he had made and his experience of anger. Dn acknowledged his anger, but when W1 attempted to have Dn acknowledge that he was responding to his anger rather than his fears, Dn responded with confusion. As the group approached the 60-minute mark, P1 joined with W1 in confronting Dn. He affirmed that he would be angry like Dn, but that he was tired of hearing Dn's litany of woes. Ty then offered that Dn expected too much from his partner. As the session ended, W1 checked out Rb and Sc to see if there were any residual issues from their conflict during the previous session. Both members acknowledged that they had resolved their differences.

Time series analysis (see Table 41) revealed approximately a 50% decline in the number of synchronous couplings during the ending of the session. The workers and Ty were the most prominent in terms of synchronous couplings. Only Ry seemed to resonate with Dn at this point in the session, and no one connected with P1.

Table 41

Session Eight (End): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W1	Sc	0 (.40)	W1	W2	1 (.21), 2 (.20)			
	W1	Rb	0 (.40)						
	W2	Ty	0 (.40)						
	Dn	St	0 (.33)						
	Ry	Ty	0 (.40)						
Accessibility				W1	W2	0 (.30), 3 (.30)			
				Ry	Dn	2 (.33), 4 (.25)			
				W1	Ty	3 (.30)	Ty	W1	-4 (.50)

Looking at the cluster analysis (see Figure 22), nearly all of the couplings disappeared in the fifth cluster plot. Dn's "litany" of woe, as Pl described it, may not have been acceptable or tolerable to many members in the group. Thus, the group's atmosphere shifted from an affirming and warm climate to one of intolerance and frustration. This shift brought about the temporary disruption of affective bonds between group members. One is also left to wonder if the anxiety, underlying and evoked by the expression of powerlessness, may have played a critical role in the destabilization of the group and the rupture of interpersonal bonds.

Sessional Relational Patterns

Perhaps as a function of the very dense couplings developing over the middle portion of the session, Session Eight (see Table 42) produced the greatest number of interpersonal couplings (29) during the life of the group. It was reflective of one major group relational pattern that emerged in the group. W1 was prominent in terms of his following nearly all other members, with the exception of Rb. However, Session Eight also confirmed the dominance of Ty as a leader who was followed in one of the forms of behaviour by all others present during the session. Finally,

despite their disavowal of the conflict. Rb and Sc did not couple with each other during the session.

Table 42

Session Eight (All): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W1	Ry	0 (.30)	W1	W2	0 (.19), 2 (.13)	Ty	Jn	0 (.12), -2 (.27)
	W1	St	0 (.26)	W1	Dn	0 (.16), 1 (.18)	Ty	Sc	0 (.22), -2 (.13)
	W1	Jn	0 (.26)	W1	Sc	0 (.26), 2 (.15)	Ty	Ry	0 (.31), -3 (.13)
	W1	Ty	0 (.30)	Dn	St	0 (.30), 5 (.20)	St	Dn	0 (.30), -1 (.19)
	W1	Pl	0 (.23)	St	Ty	0 (.16), 3 (.14)			
	Dn	Jn	0 (.25)	Ty	Pl	0 (.18), 1 (.15)	Pl	Ty	0 (.18), -2 (.15)
	W2	Ty	0 (.22)	Ry	Rb	0 (.15), 2 (.13)	Rb	Ry	0 (.15), -2 (.15)
				Ty	Rb	0 (.16), 5 (.21)	Rb	Ty	0 (.16), -5 (.18)
Accessibility	W1	W2	0 (.17)	W1	Dn	3 (-.23)	St	Dn	-2 (-.15)
	Rb	Pl	0 (.20)	St	Ty	0 (.16), 3 (.12)	Ty	Dn	0 (.14), -4 (.13)
				Jn	Rb	2 (.18), 4 (.13)			

Sessional Ratings of Cohesion, Empathy, and Therapeutic Effectiveness

The long check-ins by each member promoted a stable pattern for each of the observer-rated group variables (see Figure 23). However, when the check-in ended and conflict emerged with Dn, an unstable pattern developed in the variables during the later stages. Overall, mean levels of

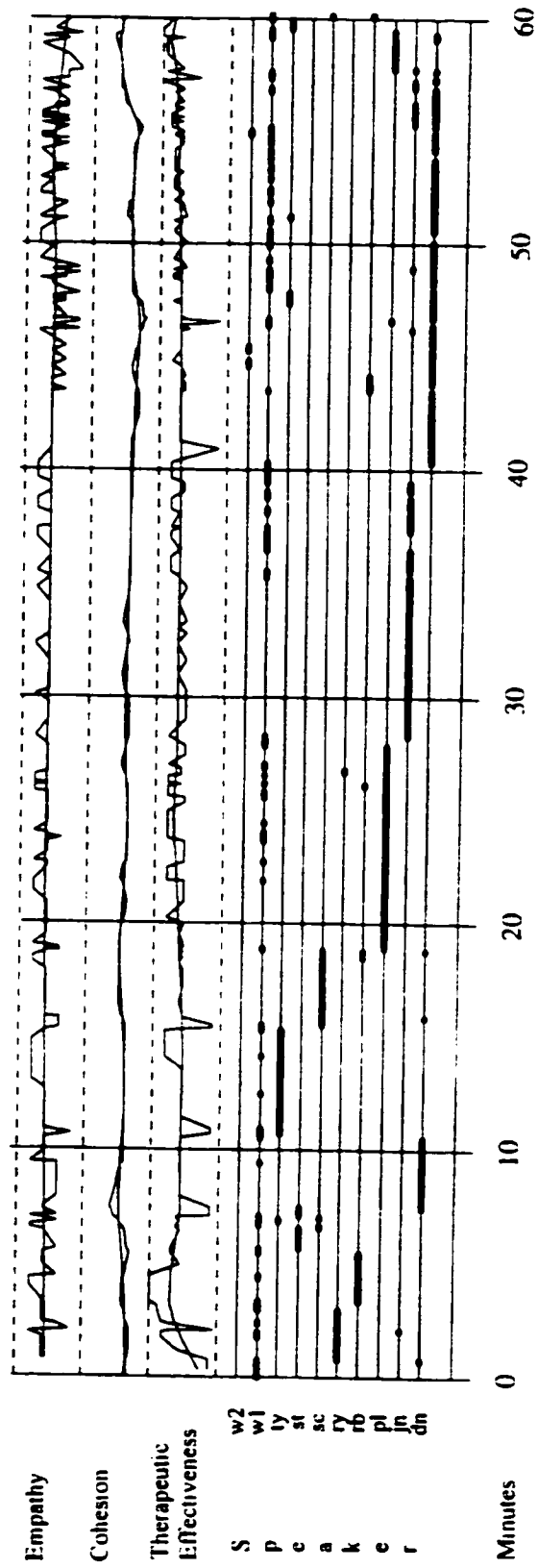


Figure 23. Session Eight: Empathy, Cohesion, and Therapeutic Effectiveness by Speaker (10-Minute Segments)

each variable remained similar to those of the previous session (cohesion and therapeutic effectiveness increased marginally from the seventh session), while variability decreased for therapeutic effectiveness (from $SD = 3.40$ to $SD = 2.86$) and cohesion (from $SD = 1.34$ to $SD = .96$). Similar to the previous session, empathy decreased over time ($r = -.140, p = .024$), while cohesion ($r = .331, p = .008$) and therapeutic effectiveness ($r = .445, p < .000$) increased during the session.

Session Nine

Beginning

The ninth session followed a similar, albeit less dramatic, pattern to that found in Session Eight. During the beginning and middle portions, Rb and Sc were the primary foci of attention and discussion, while Dn suffered in silence. All members arrived on time and attended this session. This was the last session that Rb attended, as he was due to be discharged from the Hospital. Consequently, considerable attention focused on Rb, his progress in the group, and the translation of his learning to relationships outside of the Hospital.

In the beginning, W1 raised the issue of the conflict from the previous week. Initially, Rb responded defensively by disavowing his recollection of the conflict. Rb then proceeded to acknowledge that he might have scared some of the members with his aggressive behaviour. W1 then assisted Rb to explore his experience of the conflict. Next, W1 prompted Sc to share his perspective on the conflict. Sc disavowed being hurt by the conflict, and attributed his upset and departure from the group to being part of his pattern for dealing with conflict. W1 then shifted his attention back to Rb and encouraged him to acknowledge that he had adopted a non-victimized position during his conflict with Sc. Consistent with prior responses relating to interpersonal

conflict. Rb again disavowed the importance and authenticity of the conflict. Sc later responded by affirming the therapeutic progress achieved by Rb, particularly his growth in self-assertion.

As for the time series findings displayed in Table 43, compared with the density of couplings in the previous session, the beginning of the ninth session seemed rather muted. Both Sc and Rb coupled with others (St and Ty respectively).

Table 43

Session Nine (Beginning): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	St	Sc	0 (.42)	W1	Ry	3 (.27)	Ry	W1	0 (.25), -2 (.30)
	Jn	Ty	0 (.38)						
Accessibility	Ty	Rb	0 (.30)	Ry	Dn	5 (.22)	Dn	Ry	4 (.28), 5 (.29)
							St	Dn	0 (.30), 4 (.27)

The first cluster plot (see Figure 24) depicted Rb as posturally congruent with Dn, St, and Jn, while Sc was notably isolated from couplings with all other group members. In relation to synchronous couplings, Sc coupled with Jn and Ry, while Rb, along with W1, were isolated from the group. One might conjecture about the relationship between synchrony and empathy here. Recalling the discussion, Sc was more supportive and empathic than Rb at this point, whereas Rb was more circumspect and at times defensive. One might ask if Sc's empathic responsiveness may have been associated with his resonant synchronous couplings, while Rb's behavioural congruence with Dn displayed their mutual affiliation and relationship to others in the group.

The second plot was enigmatic, particularly in relation to behavioural congruence. Unlike previous sessions, there was no apparent conflict present in the group, save for some residual

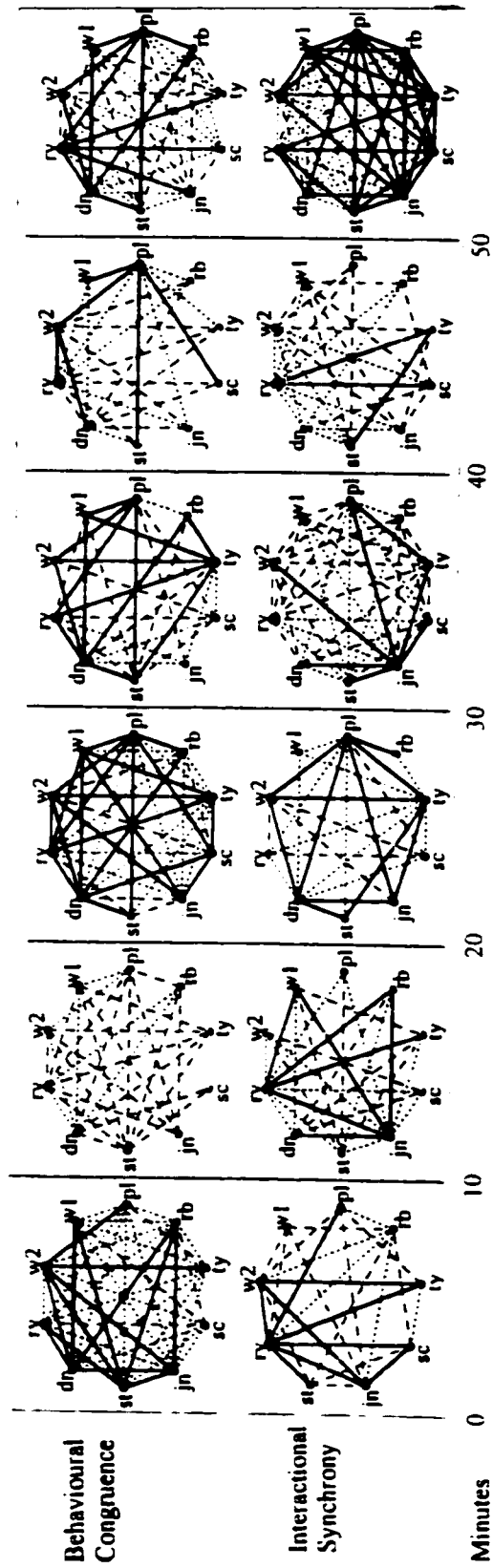


Figure 24. Session Nine: Cluster Analysis of Interpersonal Coordination (10-Minute Segments)

tension relating to the previous conflict. Yet, all of the behavioural couplings were ruptured here. One potential explanation may be the, forgive the pun, incongruent communication present in the group at this time. Despite the fact that there were feelings of resentment and hurt present among the protagonists, these were largely disavowed. One might ask if such incongruent communication may have been reflected in the breakdown of behavioural couplings, in the sense that group members spoke words of harmony, but their behaviour reflected disharmony.

Middle

As the middle portion of the group began, Ty also affirmed Rb for his assertiveness and some of the other changes he had observed in Rb at the discharge party. W1 then observed that Rb was not a victim at the party either. Ty continue to affirm Rb and question if Rb would be willing to continue to behave the same way when he left the hospital. This prompted Rb to explore his relationship with his children and his fears of rejection. Then, Jn briefly shared his observations of Rb, and asked Rb if he could accept his worthiness. He later shared his experience of the conflict, and the impact that Rb's raising his voice had had on his comfort level in the group. Rb acknowledged the impact of his shouting, and responded to the affirmation provided by Jn. Then, after some probing by W1, Rb acknowledged that he was hurt when others did not listen to him. He also shared his grief over the breakdown of his marriage. W1 then asked Rb if he could have empathy for himself, and Rb responded that he often did not have empathy for himself. W1 continued to dialogue with Rb for several minutes. Jn then acknowledged the importance of being able to laugh with others and at one's self. Jn and Sc then related several practical jokes they had experienced while in the hospital. Ty, Sc, and Rb then discussed with W1 the impact of abuse and the insecurity that each experienced in relation to the opinions of others. When W1 then asked Rb to choose which reality he would prefer to live in, Rb responded poignantly with his desire to have the freedom for self-expression as he had experienced at the

party, in other words, to be a dancer. The climate in the group continued to lighten during this time, with several members jovially sharing quips about dancing. However, PI's emphatic suggestion to Rb to tell his father that he wanted to be the dancer resulted in a rather noncommittal response from Rb.

Unlike many of the previous sessions, time series findings for the middle portion (see Table 44) reveal more couplings involving accessibility rather than engagement behaviour. One may ask if the relaxation and 'light-heartedness' of this portion of the session, may have allowed members to move more freely, as each resonated to the humour and supportive climate evident in the discussion. The workers, Ty and Dn were particularly prominent in the pattern of couplings here. Indeed, the couplings were generally reflective of participation in the session, with the notable exception of Dn, who was silent during this period. Two members (Dn and Ty) coupled with Rb during the period where other members acknowledged Rb's accomplishments.

Table 44

Session 9 (Middle): Time Series Analysis - Significant Cross-correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W1	W2	0 (.26)				Ty	Jn	0 (.27), -5 (.20)
	Dn	Rb	0 (.20)						
Accessibility	W1	Dn	0 (.20)	W2	Dn	0 (.23), 4 (.28)			
	W2	St	0 (.26)	Dn	Sc	0 (.16), 3 (.17)	Sc	Dn	-4 (.28)
	W2	Sc	0 (.23)	Ty	PI	3 (.17), 5 (.25)	PI	Ty	-3 (.20)
	Ty	Rb	0 (.22)						

In relation to cluster analysis (see Figure 24), during the middle portion of the session, perhaps arising from with the reduction of defensiveness, there was a dramatic increase of behavioural congruence within the group. Rb reconnected with Dn and established a relationship with Pl. All other members were coupled with at least two other members in the third plot. Synchronous coupling seemed to focus on Pl, despite the fact that he was quiet during this period. In the fourth plot, there was a slight reduction in the behavioural couplings present in the group, with both Jn and Sc becoming decoupled during this period. Also notable was the establishment of a behavioural coupling between Rb and Ty, perhaps indicative of the conciliatory and supportive tone evident in their interactions during this period. In relation to synchronous couplings, there was a focus on Jn, who shared the importance of humour and self-acceptance in the relationships among group members. It would seem that Rb did not resonate with this point made by Jn. The fifth plot appeared to display a transition from the earlier focus on Rb to the woes of Dn. Here again there is clear evidence of the impact of Dn's victim stance in reducing the behavioural and synchronous couplings.

Ending

As the group moved into the ending portion, Ty and Rb discussed the effects of abuse and whether they could leave them behind. As this discussion became more abstract, Jn intervened and demanded that Dn start talking about his problems. Dn then shared that he was angry with Wl, and then complained that he had set himself up by asking for feedback from others. Jn affirmed at this point that he was happy that Dn could express his anger. Then Dn shifted to complaints about his partner and her need to go shopping rather than staying at home with him when he went home for the weekend. Ty then shared that he also felt rejected when others did not give him the things he wanted. Here, Dn retorted that he did not expect to be treated like a child. As tension again increased in the group, Ty challenged Dn to re-evaluate his expectations of

others. Dn continued at this point to deny Ty's point of view. Joining the fray, Pl asserted that Dn's partner was trying to live her life and was doing her best to accommodate him. In response, Dn emphatically stated that he just wanted to be loved. W1 then pointed out the two sides of Dn's position, his need to be loved and his anger if his expectations were not met. Jn affirmed the impact and power of Dn's statement. W1 ended the session, as Ty, with the support of Sc and Pl, continued in his efforts to have Dn see things his way.

Time series findings (see Table 45) were rather enigmatic in relation to interpreting the impact of verbal interactions. It was noteworthy that Dn decoupled from all other members at this point. It was also interesting that both Pl and Ty, who had challenged Dn, were followed by other members (W1, St and Ry). Also revealing was Jn's oppositional coupling with Ty, which may have been indicative of his disagreement with Ty's stance with respect to his challenge of Dn.

Table 45

Session 9 (End): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W1	Pl	0 (.38)	W1	St	0 (.40), 3 (.25)	Ty	St	-3 (-.40)
					Jn	0 (.32), 1 (.25)			
	St	Pl	0 (.41)	St	Ty	0 (.33), 1 (.25)			
Accessibility	W2	Jn	0 (.33)	Ry	Pl	2 (.30), 5 (.30)	Jn	Ry	-2 (.37)
					Ty	4 (-.30)			
	St	Jn	0 (.32)	Jn	Ty				

However, as we move to the final cluster plot (see Figure 24) a different pattern emerged.

Noteworthy were Dn's behavioural couplings with those who had not challenged his victim stance. Also prominent was the density of synchronous couplings present here. It was if the whole group was caught up in the resonant contagion of the confrontation involving Ty, Pl and Dn.

Sessional Relational Patterns

The ninth session (see Table 46) represented a return to a number of couplings (15) similar to those of other sessions. Prominent in this session were a number of couplings involving Rb, who was attending his final session in the group. Also conspicuous were the large number of couplings involving St. It is noteworthy that St said very little during this session, yet he may have participated nonverbally by following the movements of others (i.e., Jn, Sc, Ty, and Rb) who spoke more frequently.

Table 46

Session Nine (All): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W1	W2	0 (.17)	W1	PI	0 (.13), 1 (.15)			
	W1	St	0 (.16)	St	Ty	0 (.17), 1 (.13)			
	W2	Rb	0 (.16)						
	St	Jn	0 (.18)						
	St	Sc	0 (.20)						
	St	Rb	0 (.17)						
	Jn	Ty	0 (.22)						
	Jn	Rb	0 (.17)						
Accessibility	W1	W2	0 (.15)	Dn	Sc	0 (.19), 3 (.18)	Ty	Dn	-4 (.19)
	Ty	Rb	0 (.20)	Dn	St	0 (.12), 2 (.14)			

Sessional Ratings of Cohesion, Empathy, and Therapeutic Effectiveness

Patterns of observer-rated group variables (see Figure 25) changed somewhat from previous sessions. For example, unlike earlier sessions there were no general increases in rated levels of empathy or therapeutic effectiveness over time, while cohesion increased marginally ($r = .209, p = .092$) during the session. Mean rated levels of empathy ($M = 2.92$) marginally

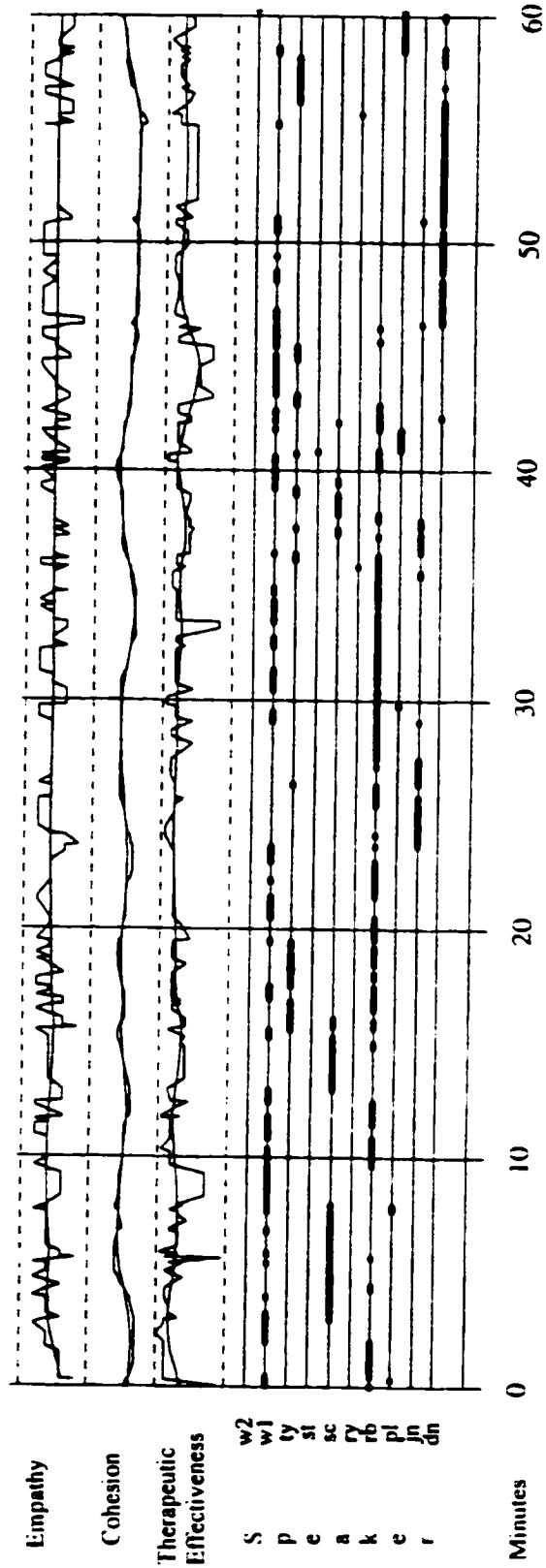


Figure 25. Session Nine: Empathy, Cohesion, and Therapeutic Effectiveness by Speaker (10-Minute Segments)

decreased from the eighth session, while ratings for therapeutic effectiveness ($M = 11.81$) and cohesion ($M = 5.09$) exhibited marginal increases. Variability was generally homogeneous during the session, with marginal decreases in variability for empathy ($SD = .79$) and therapeutic effectiveness ($SD = 2.61$), and a marginal increase in variability for cohesion ($SD = 1.09$).

Session Ten

Beginning

Session Ten began with all members present except for Rb, who had terminated from the group. W1 opened the discussion by reminding the group of Rb's departure. Then Ry challenged W1 for arriving later than had been agreed. After this issue was sorted out, W1 checked with each member to confirm his planned departure date. Next, W1 prompted group members to again reflect upon the group and their interpersonal relationships. Several members attempted to evade this invitation by trying to tell jokes. However, W1 persisted, and then Ry asked Dn why he had to be the centre of attention. In response, Dn denied his need for attention, and defended his position in relation to his partner. As Ry continued to question Dn, Dn responded by deflecting responsibility and attributing his problems to his illness. After Dn reasserted his victim position in his relationships with others, Ty asked if any member present had a violin to accompany Dn's tale of woe. After Dn responded by criticizing Ty's insensitivity, Ty more vociferously challenged Dn to express his anger. Pl entered the fray at this point and repeated his earlier words that described Dn's story as a "litany" of victimhood.

Time series analysis in Table 47 revealed some explainable relational findings. Ry's perhaps inadvertent challenge of Dn paralleled Ty's stance with respect to Dn's complaints. Note here how Ty leads Ry, as he does Dn in engagement couplings. For accessibility behaviour, we see the return of the ongoing coupling between Sc and Ty, who have been allies throughout the group. One other notable coupling was the one between W1 and Pl. As will be explained later, it was

interesting that the only member that W1 coupled with at this point was Pl. who adopted a confrontational position with respect to Dn's story.

Table 47

Session Ten (Beginning): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement							Ty	Ry	0 (.29), -1 (.36)
				St	Sc	1 (.36), 2 (.26)	Dn	Ty	-1 (.28), -4 (.38)
Accessibility	W2	Jn	0 (.30)	W2	Ry	3 (.32)			
	W1	Pl	0 (.30)	Ry	Dn	3 (.33)			
		St	0 (-.25)	Jn	Ty	3 (.27)	Ty	Jn	-1 (.43), -3 (.24)
				Sc	Ty	0 (.43), 3 (.28)			

In terms of cluster analysis (see Figure 26), the first plot offered some important behavioural couplings. For example, Pl coupled with W1, Ry, Ty, and Sc, each of whom confronted Dn's during the session. Here, too, W1 coupled with Dn (who may have been seeking protection), St, and Jn. Perhaps indicative of an unprecedented resonance created by Dn's interactions, a densely coupled synchronous structure now emerged over time. Rather than decoupling as they had in earlier sessions, members increased their synchronous couplings in response to Dn's disclosures. As frustration continued to build towards confrontations by Ty and Pl, one notes a very informative arrangement in both of the second plots. In behavioural terms, an interesting triad developed between W1, Ty, and Dn. Here Dn remained coupled with W1, who was also coupled with Ty and Pl. One may ask if this organization reflected the emotional dynamics present in the group at this point, in that Dn was engaged with W1, while W1 tacitly supported Ty's and then

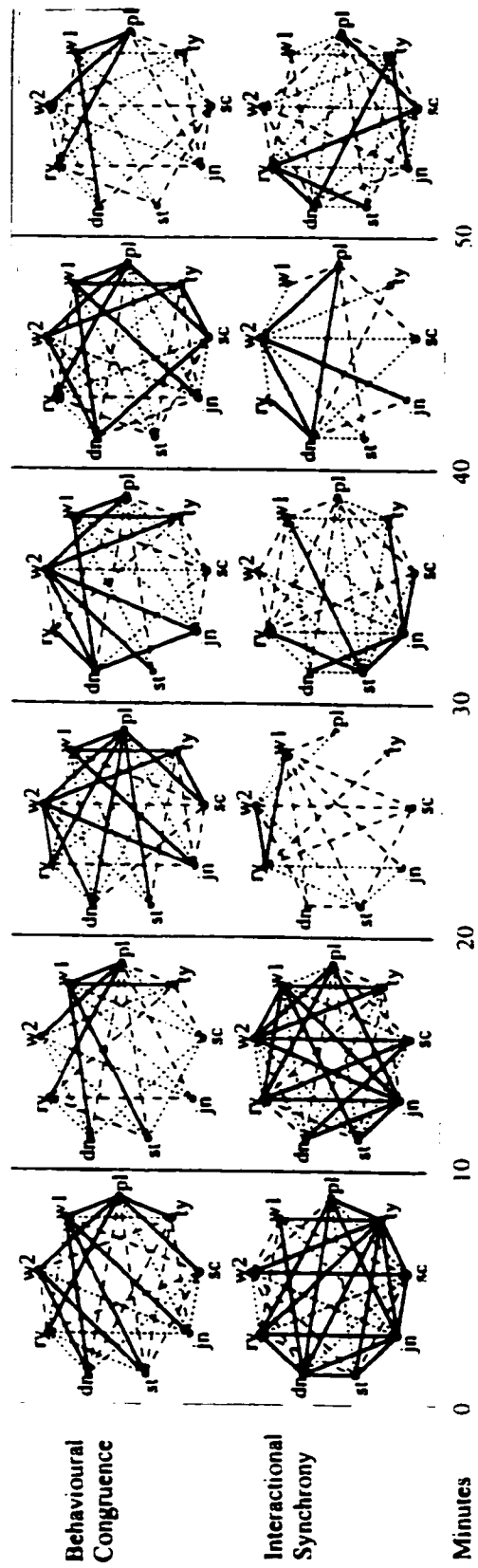


Figure 26. Session Ten: Cluster Analysis of Interpersonal Coordination (10-Minute Segments)

PI's confrontation of Dn. Also informative was the decoupling of synchronous bonds here. For example, the shattering of strong synchronous couplings between Dn and Ty, Pl, and W1 followed confrontations with Dn.

Middle

As the group continued into the middle portion of the session, Ry and Pl continued to discuss their responses to neglect as children and adults. Ty attempted at this point to have the group agree that Dn needed to be the centre of attention. As Ry and Pl continued to talk, the discussion shifted to the need for validation. At this point, Ty attempted to acknowledge Dn's need for validation. When he acknowledged that Dn was loveable, Dn rejected the affirmation, and resentfully stated that he did not need validation from the group. Dn, now visibly angry, continued to criticize Ty's style of communication, and then challenged Ty to leave the group. Sc then intervened in support of Ty, and challenged Dn and his need to escape the truth. W2 tried to have Dn acknowledge that the group was providing an honest evaluation of his behaviour. Then St disclosed his feelings of being unlovable and how such feelings had adversely affected his relationships. Next, Sc criticized Dn for whining to the group after he had again attempted to explain his needs. As Dn and Sc begin to exchange heated words, W1 intervened to offer a summary statement that affirmed how others were frustrated with Dn. This again triggered a defensive response from Dn that culminated in a confrontation with Pl over the inconsistencies in Dn's position and statements. W1 then asked Dn to provide feedback about what he understood the group was attempting to say to him. As Dn summarized a series of negative labels, he looked towards Ty, who then erupted angrily out of a sense of being blamed by Dn. The conflict continued for several more minutes, culminating in Ty attempting to count each member who supported his opinions regarding Dn. Jn then intervened to offer a different perspective that affirmed Dn's efforts and work in the group. Next, Ry complained that his voice had been misappropriated by other members of the group and disavowed his support of their position. Dn

then shared that he appreciated Jn's kind words. Sc then angrily asked Dn if he thought the group just wanted to abuse him or if he felt they cared about him. In response, Dn reiterated his agreement with Jn. Wl then tried again to summarize the discussion, and asked Dn what the feedback felt like. Dn denied the helpfulness of the comments directed towards him and asserted that others in the group were rude and abusive. Wl then reiterated that members were feeling frustrated with Dn. As the middle portion ended, Wl directly expressed frustration with Dn after Dn shared new details of losses he had experienced in his life.

Time series findings in Table 48 were particularly informative during this period. In terms of engagement behaviour, one may immediately note the coupling between Ry and Dn that was quite indicative of Ry's support of Dn at this point. Similarly representative was the continuation of the coupling between Ty and Pl, who shared similar responses with respect to challenging Dn. Paradoxically, there were also couplings between Ry and both Sc and Ty, who engaged in challenging Dn. More paradoxically was the coupling between Dn and Ty. Indeed, during this period Ry, Dn, and Ty were the most prominent members in terms of synchronous couplings, which was quite indicative of their participation during this portion of the session.

Table 48

Session Ten (Middle): Time Series Analysis – Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	Ry	Dn	0 (.22)	Ry	St	0 (.23), 2 (.19)	Ty	Ry	0 (.22), -1 (.17)
	Dn	St	0 (.28)	Ry	Sc	0 (.22), 5 (.17)	Ty	St	0 (.35), -1 (.20)
	Dn	Ty	0 (.21)						
	Ty	Pl	0 (.38)						
Accessibility	Dn	St	0 (.28)	Wl	St	1 (.21) 2 (.20)			
				Dn	Ty	5 (.17)			

In terms of cluster analysis (see Figure 26), Pl, who had become more introspective during the later moments of the previous plot, behaviourally recoupled with Dn. While Ty continued to be coupled with Wl, Jn, who admitted to having disengaged from the group over the course of the session, was again recoupled with Wl. However, nearly all of the resonant synchronous couplings eroded during this rather turbulent segment. Given the conflict prevalent during this time, it is understandable that as the resonance or empathic quality of the group diminished so too did the synchronous interpersonal couplings. In the fourth plot, a most significant shift coincided with Jn's intervention in support of Dn. Differences between the two plots demonstrated some interesting artefacts of the nature of behavioural and synchronous couplings. Note how Dn coupled with Jn here in the behavioural plot, and yet Jn engaged in synchronous couplings with Dn, Ty, and Sc. One may be tempted to speculate as whether each of the opposing factions resonated with Jn's empathic response or with the issues he raised. The fifth plot also depicted a conflicted pattern of relationships. Dn's confrontation with Wl was associated with a behavioural coupling, yet perhaps because of the empathic rupture between them, there were no synchronous couplings. The converse seemed to have occurred between Ry and Dn, where Ry's emotional support for Dn was associated with a synchronous coupling, yet they did not couple in terms of behavioural congruence. Wl and Ty continued their behavioural coupling, as did Ty with Sc, however, Sc and Ty also became isolated in relation to resonant synchronous couplings with other group members. Could it be that the attack on Dn had lost its resonance with other members of the group?

Ending

As the ending portion began, Wl again solicited feedback from the group. Sc responded by sharing that although he could relate to Dn's position, he had progressed beyond such views. Sc's devaluation of Dn's perspective prompted Wl to correct Sc for his evaluation of Dn. As Sc tried to further explain himself, Ty apologized for his earlier hurtful remarks. Ty's softening of his

criticism of Dn seemed to enable Dn to hear him, for in contrast to his earlier stance, Dn accepted his apology. W1 then intervened with a remarkable intervention, where he pointed out that Dn's resistance to change was paralleled by Ty's rigid response to Dn. Ty responded with a thoughtful silence and then accepted W1's feedback. W1 then attempted to summarize the group's feedback and again noted how the group was frustrated with Dn. Dn again responded angrily while W1 continued to confront Dn with pointed questions. At this point, Jn intervened to share his observations of the interactions in the group, and noted how criticism, blame, and abuse were never helpful for a person who was depressed. W1 then explored what Jn had experienced during the session. As the group neared the end of the session, Jn acknowledged that he was at first uninterested, desiring to share some other pressing personal issues, and then became frustrated by the group's resistance to hearing Dn's feelings. In frustration, Ty later declared that the group was wasting its time trying to help Dn. P1 then shared that he felt Dn was stuck and that his feedback was intended to try to help Dn achieve some therapeutic progress. Dn's more conciliatory response to P1 was then pre-empted by a dispute between Ry and Jn. Ry expressed concern that Jn felt bored in the group. Jn then responded angrily, denying that he had used such words. W1 at this point attempted to clarify Jn's role in the group by asking him to let the group know if he lost touch with the group and needed to share something in the future. W1 then closed the group session by summarizing some of the feelings associated with depression and conflict explored during the session.

Finally, in relation to time series analysis, the spreading of the conflict and antagonism in the group may have contributed to the disruption of interpersonal coordination. Findings (see Table 49) reveal a 50% reduction in synchronous couplings. Here, Dn clearly disengaged from the group at the end of the session, as had Jn sometime earlier in the session.

Table 49

Session Ten (End): Time Series Analysis – Significant Cross-Correlations (CCF)
Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)
Engagement	W1	Ry	0 (.37)			
	St	Ty	0 (.39)			
	St	Pl	0 (.52)			
Accessibility	W1	W2	0 (.30)	Ry	Ty	1 (.33)

As for cluster analysis (see Figure 26), the sixth plot depicted the preservation of some of the relationships developed in the earlier plots. One new significant relationship was Ty's synchronous coupling with Jn and Dn. This coupling coincided with his supportive tone and his willingness to accept responsibility for his actions. On the other hand, less willing to examine his own behaviour was Sc, who was not included in this synchronous subgroup.

Sessional Relational Patterns

In this session (as indicated in Figure 26), group members progressively decoupled over time. Synchronous couplings especially diminished from an early dense pattern to relatively few couplings in the later plots. In terms of overall sessional couplings (see Table 50), the tenth session produced a number of couplings similar to that found in most other sessions (14 in total). However, individual sessional relationships were atypical in some respects. First, W1 was conspicuous in his reduced involvement in group discussion and interpersonal couplings during this session. Group members clearly engaged with each other and the worker seemed to have moved to a peripheral position. However, other facets of the relational pattern were reflective of longstanding relationships. The couplings between Ty, Pl and Sc were indicative of their thematic

alliance vis-à-vis Dn. Ry and Dn continued their roles of following others, as Ty and Pl maintained their roles as leading others both in group interactions and nonverbal behaviour. However, for the first time since the second session, Jn did not enjoy any significant couplings for the overall session. Again, this may have been reflective of his stated lack of interest in the session.

Table 50

Session Ten (All): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	Wl	St	0 (.15)	Dn	Sc	0 (.16), 5 (.12)	Dn	Ry	0 (.14), -1 (.12)
	Ry	St	0 (.17)				St	Dn	0 (.20), -1 (.12)
	Ry	Pl	0 (.20)				Ty	Ry	0 (.21), -1 (.17)
	St	Pl	0 (.22)				Ty	St	0 (.32), -1 (.14)
	Sc	Ty	0 (.17)						
	Ty	Pl	0 (.29)						
Accessibility	Wl	Sc	0 (.19)						
	Dn	Pl	0 (.19)						
	Sc	Ty	0 (.29)						

Sessional Ratings of Cohesion, Empathy, and Therapeutic Effectiveness

As may be anticipated in light of its confrontational tone, the tenth session (see Figure 27) produced higher mean levels of therapeutic effectiveness ($M = 12.21$) and cohesion ($M = 5.25$), and marginally lower mean levels of empathy ($M = 2.65$). Lower mean levels of empathy were similarly explainable in light of the conflict between Dn, Ty, and Sc during much of the session. However, perhaps somewhat surprisingly, trends for observer-rated empathy ($r = .105, p = .079$), therapeutic effectiveness ($r = .485, p < .000$), and cohesion ($r = .625, p < .000$) actually

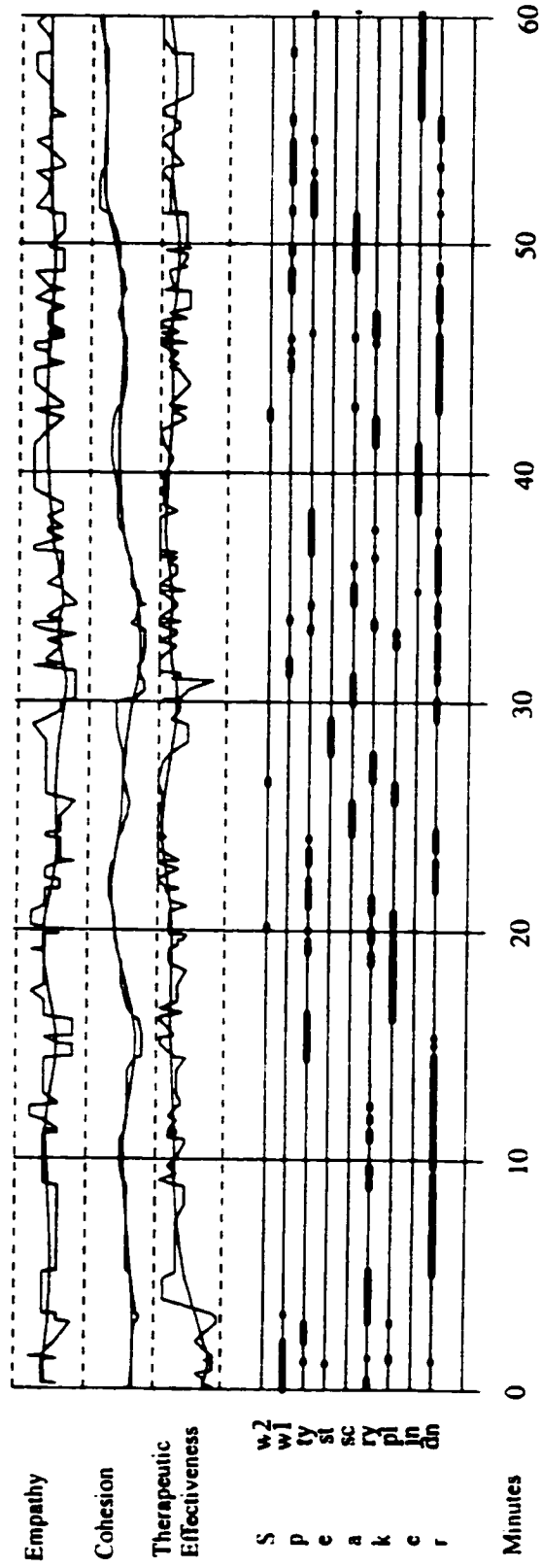


Figure 27. Session Ten: Empathy, Cohesion, and Therapeutic Effectiveness by Speaker (10-Minute Segments)

increased over time. Unlike earlier sessions, characterized by longer, less frequent, and equally distributed interactions, the tenth session, particularly during the middle and ending portions, involved shorter, more frequent and more widely distributed interactions. Variability also increased in ratings for empathy (from $SD = .79$ to $SD = .82$), therapeutic effectiveness (from $SD = 2.61$ to $SD = 3.62$), and cohesion (from $SD = 1.09$ to $SD = 2.05$). One is left to wonder if at this point in the group's development it may have been able to tolerate more intense interpersonal conflicts. Indeed, the group's ability to mediate more intense affectively based conflict may be an indication of its transition into a stage of intimacy.

Session Eleven

Beginning

Session Eleven was the final session for the week and was attended by all remaining members. W1 opened the session by attempting to engage group members in processing the personal meaning of the conflict in the previous session in relation to their style of relating, the effects of depression, and the functioning of group as a whole. However, only P1 was willing to respond to W1's attempts to engage group members during the first 11 minutes of the session. At first, P1 spoke in generalities without mentioning any other member or any contentious issues. Later, after W1 asked members to name the "silence" prevalent in the group, P1 quite accurately summed up the silence in the group as avoidance. It seemed during the early stages of the session that members were caught in an approach-avoidance conflict. However, as W1 persisted with various attempts to engage group members, the ice, so to speak, was broken. Ty spoke first, summarizing what his intentions were in the previous session with respect to Dn. Then St quite diplomatically summed up his experience, and that of many other group members, in noting that he had tried to both support Dn and confront him. As the beginning portion ended, Ty again

asserted that if several members offered Dn the same message, then Dn should regard the feedback he was given as valid.

The results of time series analysis revealed in Table 51 were indicative of the avoidance behaviour shared in the group. Avoidance behaviour may especially account for the limited number of couplings with W1. However, those couplings that did reach significance were quite strong. There was also evidence of Dn continuing to be locked in conflict with Ty, as they continue to share synchronous engagement behavioural couplings but not couplings involving accessibility behaviour.

Table 51
Session Eleven (Beginning): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W2	Ry	0 (.36)						
	Dn	St	0 (.45)						
	St	Sc	0 (.40)						
	Dn	Ty	0 (.40)						
Accessibility				W1	St	2 (.33), 3 (.33)	St	W1	-3 (.30) -4 (.32)
				St	Ty	3 (.40)	Sc	W1	-2 (.43) -4 (.44)
				Jn	Pl	5 (.58)	Sc	Jn	-5 (.42)

The first cluster plot (see Figure 28) displayed a remarkable density of behavioural and synchronous couplings, despite the fact that the group was attempting to avoid further discussion of the conflict. Note how Dn was behaviourally coupled with most of the other group members, even those who had confronted him, yet he was completely isolated in terms of resonant couplings. This first plot again provided startling evidence of Dn's position with respect to the group. One may ask whether these findings were graphic evidence of a scapegoating relationship

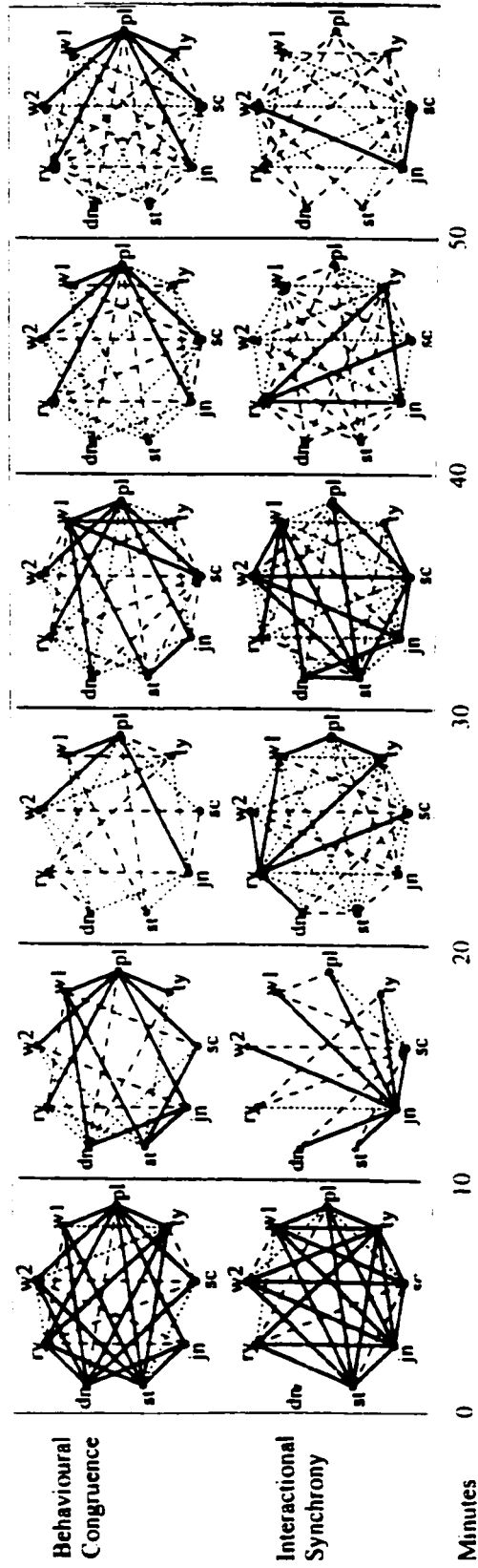


Figure 28. Session Eleven: Cluster Analysis of Interpersonal Coordination (10-Minute Segments)

in this group at this time, that is, a relationship where the group appeared to be highly engaged or fused, yet the affect or issue represented by one member resulted in his decoupling from the group. The dramatic clarity of these relationships, in the absence of verbal interaction, also suggested that the group was finding nonverbal ways of expressing the conflict at this time.

Middle

As the middle portion began, W1 continued to skilfully use summary statements to encourage group members to elaborate on their experience. Sc then uncharacteristically offered his reflections on how he had been triggered by the previous day's discussion and noted parallels between how he related to Dn and how he had been treated as a child. Then he explained how Dn responded as he used to do when he felt sorry for himself. W1 continued to dialogue and explore issues with Sc for several minutes, and then shifted to exploring the confrontation between Jn and Ry at the end of the previous session. Ry and Jn seemed rather confused about the conflict, but Ry noted how he raised the issue out of care and concern for Jn. Next, Ry confronted Dn for thanking Jn for his supportive words but not acknowledging Ry's affirmations. Dn again deflected this criticism by referring to how he was incapacitated by his illness. Ry then returned to Jn and again shared his concern for him. At the 40-minute mark, Sc again asked Dn if he heard or valued anything that was said to him during the previous session. Dn responded by angrily declaring that all that the group, save for Jn, had accomplished was to re-traumatize him. As the middle portion of the group ended, W1 asked Dn if he valued the group's stand against the effects of abuse. Dn responded that he did not need the group to help or trigger him to express his anger. This empathic rupture was further widened by W1's interpretation that Dn was framing his response from the effects of abuse.

Time series analysis yielded the results in Table 52 that were representative of the interactions in the group. Note how W1 engaged with both Dn and Sc just as he did in facilitating their exploration. Likewise, Ry also engaged with Jn, as did Dn with Sc. However, Jn moved oppositely to Sc's accessibility behaviour, perhaps indicative of a negative reaction to Sc's expression of hostile and rejecting feelings towards Dn.

Table 52

Session Eleven (Middle): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W1	Dn	0 (.29)	Ry	Jn	0 (.25), 3 (.25)	Pl	W1	0 (.24), -4 (.23)
	W1	Sc	0 (.28)						
	Dn	Sc	0 (.30)						
Accessibility	Jn	Sc	0 (-.26)	St	Ty	0 (.29), 4 (.32)	Pl	W2	0 (.22), -2 (.30)
	Jn	Pl	0 (.30)	W2	Pl	0 (.22), 4 (.18)			

In terms of cluster analysis (see Figure 28), the second plot revealed patterns similar to those of the previous session. Dn was behaviourally coupled with his protectors W1 and Jn, while Sc and Ty were coupled with their ally Pl. Continuing to represent the role of emotional leader, Jn was synchronously coupled with all other members, save for Ry, with whom he had been in conflict during the later portion of the previous session. In the third plot, which coincided with Sc's processing of the conflict, it was significant that no other group member appeared to behaviourally couple with Sc or later with Ry as he ambivalently shared his experience. However, Ry coupled synchronously with W1, Sc and Ty, W2, and Dn. The fourth plot, which summarized the relationships during the portion of the group where Jn and Ry explored their conflict, also

demonstrated some interesting interpersonal relationships. Note how neither Ry nor Jn were behaviourally coupled here. Yet, in terms of synchronous couplings, one notes signs of a subgrouping effect with Ry coupled with W1, and Jn coupled with Sc, Ty, and Dn. One is left to question whether there was some other ill-defined or unarticulated affective basis for the confrontation between Ry and Jn.

Ending

As the last part of the session began, W1 persisted in his efforts to persuade Dn to accept the helpfulness of the group's feedback. However, Dn continued to view the group's feedback as abusive. W1, unrelenting, then noted how the effects of abuse were present in the group. Maintaining this vicious cycle, Ry raised another example of Dn's need for attention and Dn continued to respond defensively. Next W1 noted how group members had taken risks to provide feedback to Dn. After Dn again responded angrily, Sc declared that Dn had confirmed that Dn did not find the group helpful and did not wish to change. Sc then wished Dn well, and added that he would not try to help him further. Ty then added that Dn preferred the role of the victim in order to solicit comforting words. Dn then attacked Ty for his lack of vulnerability in the group. Ty then responded with a veiled threat. W1 continued to observe how the effects of abuse were affecting Dn's willingness to accept help from the group. Sc then noted how Dn had built up great defences and that he would like to help him remove them. This seemed to reach Dn, who then asked for feedback from Sc. W1 then closed the session by asking Jn to let the group know if he tuned out from the group at future meetings.

Time series analysis (see Table 53) revealed the impact of W1's agenda to convince Dn of the group's helpfulness. Note how the couplings that emerged in the middle portion are virtually absent here. Also prominent are the numerous oppositional relationships (the greatest number for any section in the life of the group). Understandably, Ty moved oppositely with Dn for engagement behaviour, but also developed a positive coupling with Dn for accessibility behaviour. Further, despite feeling under siege at this point, Dn's followed several other members figured prominently in the results for accessibility behaviour (with St, Ty, and Sc).

Table 53

Session Eleven (End): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	Ty	Dn	0 (-.33)	Ry	Jn	1 (-.40)			
	Jn	Pl	0 (.37)	St	Sc	1 (-.43)			
				Ry	Pl	2 (.36)	Pl	Ry	-4 (-.41)
Accessibility				Dn	St	2 (.40)	St	Dn	-1 (.30)
				Dn	Sc	0 (.37), 3 (.39)			
				Dn	Ty	3 (.32)	Ty	Dn	-2 (.32), -5 (.33)

For cluster analysis (see Figure 28), coinciding with the resumption of open hostilities in the group was a pronounced reduction in the couplings in the fifth plot. Dn was again isolated from stronger couplings in the group, although there were many moderate strength resonant couplings present in the group at this point. In the last plot, a further erosion of strong couplings occurred, while a moderately synchronous coupling developed between Sc and Dn, which was perhaps indicative of Dn's softening towards Sc at the end of the session.

Sessional Relational Patterns

As indicated in Table 54, the number couplings (16) over the eleventh session were similar to those of other sessions. The pattern of significant relationships was also indicative of participation of members during the session. W1's efforts at attempting to work through the interpersonal conflict in the group were demonstrated by his engagement behavioural couplings between five other members. Since Dn was the focus of much of the discussion, it was not surprising that he would also figure prominently in the couplings during the session (following St, Sc, and Ty). Dn maintained his style of following other members.

Table 54
Session Eleven (All): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W1	Jn	0 (.20)	W1	Dn	0 (.17), 1 (.15)	St	Dn	0 (.27), -3 (.15)
	W1	Sc	0 (.17)				Sc	Dn	0 (.19), -3 (.14)
	W1	Ty	0 (.18)				Ty	Dn	0 (.21), -2 (.20)
	W1	Pl	0 (.16)						
	Sc	St	0 (.19)						
	Jn	Pl	0 (.27)						
Accessibility	Jn	Sc	0 (-.21)	Dn	St	2 (.25)	St	Dn	-1 (.17)
				Dn	Sc	0 (.15), 3 (.20)	Pl	W2	0 (.18), -3 (.15)
							Ty	Dn	-1 (.17), -4 (.29)

Sessional Ratings of Cohesion, Empathy, and Therapeutic Effectiveness

The eleventh session marked the final session in which interpersonal conflict would dramatically affect interactions in the group (see Figure 29). Frustration experienced in the group again resulted in a significant downward trend in observer-rated empathy ($r = -.181, p = .01$) and a significant increase in therapeutic effectiveness over time ($r = .432, p < .000$). Observer ratings of empathy ($M = 2.84, SD = .71$) and therapeutic effectiveness ($M = 12.45, SD = 3.03$) reached marginally higher mean values and demonstrated slightly lower levels of variability than those of the previous session. Cohesion started at a relatively low level, remained rather flat during the session, and thus resulted in substantially lower mean observer ratings ($M = 3.98$) than achieved during the previous five sessions. Accordingly, ratings of group cohesion demonstrated less variability than during the previous session ($SD = 1.10$).

Session Twelve

Beginning

Session Twelve occurred after the weekend break, and was the final session rated for this group. All remaining members were present at the beginning of this session. It seemed that the conflict had taken its toll on the group over the previous sessions. The trend of avoiding interpersonal conflict, which had been prominent at the beginning of recent sessions, was also prominent here. To begin, rather than asking for a check-in, W1 solicited feedback from the group about the previous week. Dn at this point intervened to contract with the group by asking each member to accept his limitations and to move the discussion onto something and someone else. The group members agreed with this plan but refrained from elaborating much in their responses. The remainder of the session involved P1 sharing his grief and loss over his son, who had been seriously injured some years earlier.

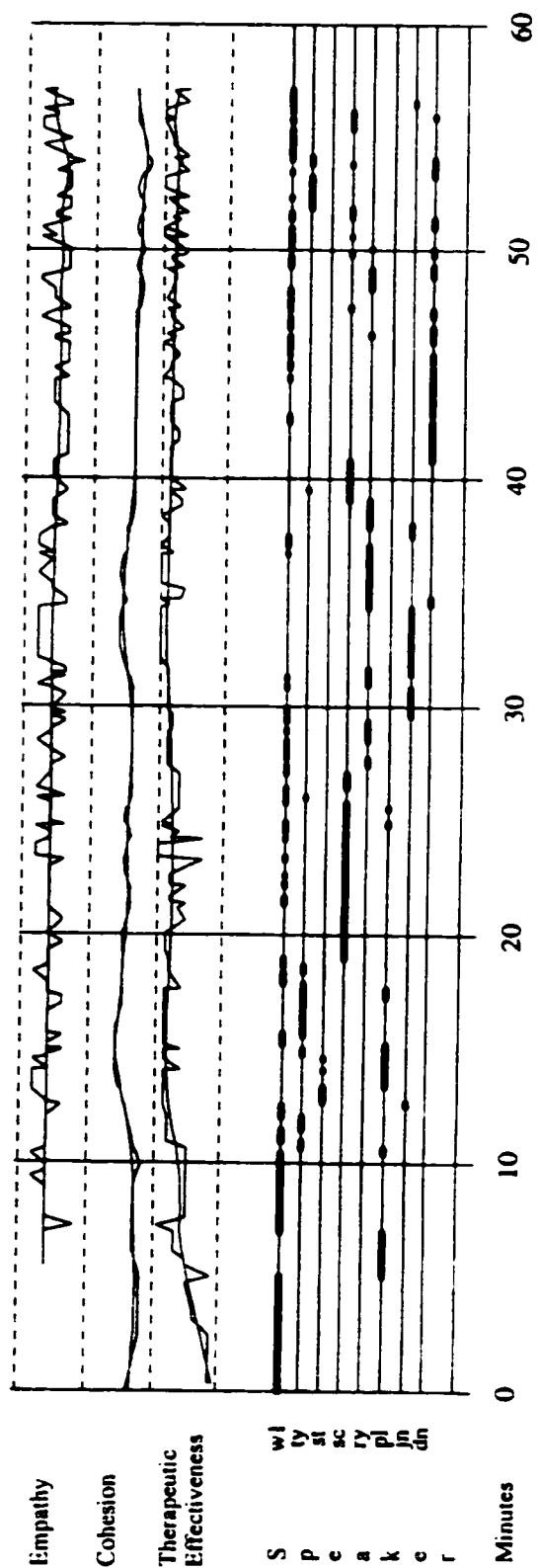


Figure 29. Session Eleven: Empathy, Cohesion, and Therapeutic Effectiveness by Speaker (10-Minute Segments)

Time series analysis generally reflected the interactions during this portion of the session (see Table 55). Given that much of the later portion of this section involved PI sharing his story with the group, it was not surprising that PI was followed by four other members (Jn, Ry, Dn and Ty). Also interesting were the limited number of behavioural couplings involving Dn. Despite engaging with each member to elicit support to end interpersonal hostilities, there was little evidence of members following Dn's behaviour during this period.

Table 55

Session 12 (Beginning): Time Series Analysis - Significant Cross-correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W1	Ry	0 (.31)	Ry	PI	1 (.42)	PI	W2	0 (.36), -1 (.34)
	W1	Sc	0 (.32)						
	Ry	St	0 (.33)						
	St	Jn	0 (.40)						
	Jn	Sc	0 (.32)						
	Jn	PI	0 (.40)						
Accessibility				W2	Ty	2 (.27), 4 (.44)	St	Ry	-4 (.50)
				Dn	PI	0 (.30), 1 (.30)	Ty	Dn	-1 (.31), -2 (.30)
				Jn	Ty	1 (-.30)			
				Jn	PI	1 (.40), 4 (.30)			
				Ty	PI	2 (.46)	PI	Ty	-2 (.27)

As for cluster analysis (see Figure 30), the first plot illustrated the attempts by W1 to engage with other members. Evident were W1's couplings with PI, Ty, Jn, St, and Dn. There also seemed to be a high level of synchrony prevailing during this segment. For example, Dn coupled with Jn and Ry, both of whom had supported him during the previous conflict.

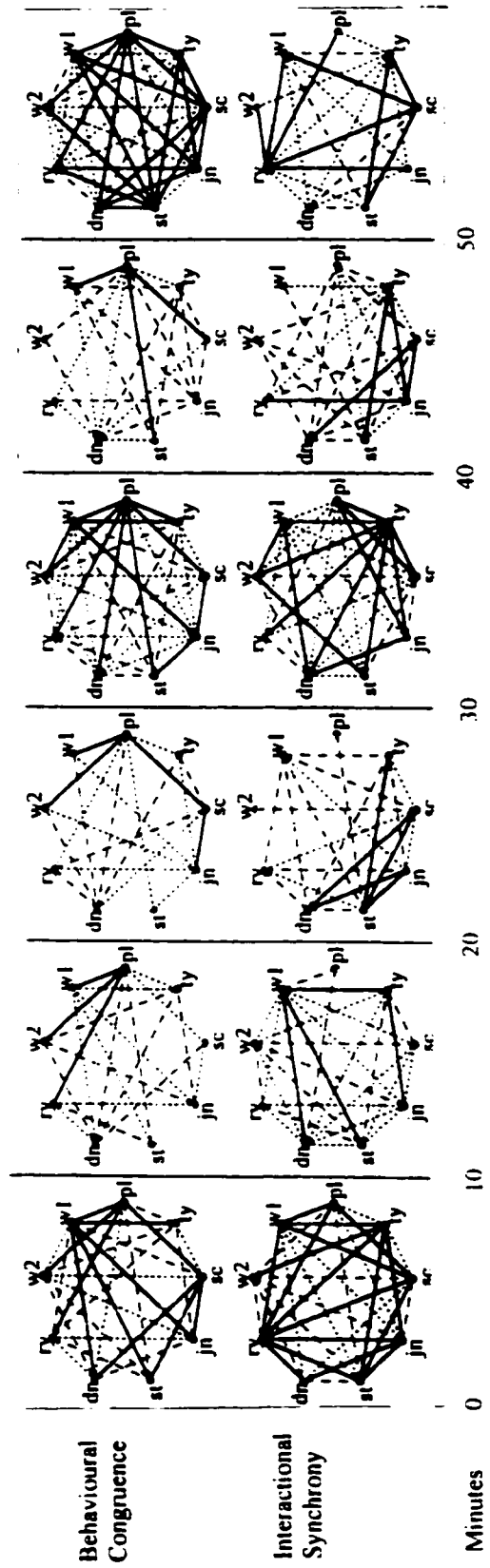


Figure 30. Session Twelve: Cluster Analysis of Interpersonal Coordination (10-Minute Segments)

Middle

In the middle section, several members empathically shared their care and concern for PI and the loss of his son. Ty, who shared some similar feelings of loss relating to his son, resonated with the feelings shared by PI. Dn attempted to help PI to recognize that PI had not lost his son and that his son had some quality of life. Since PI's son lived far away from him, the group used the remaining minutes of this portion to help PI find a way to communicate with his son. Ty, visibly moved by the issues raised by PI, also attempted to help PI see the potential in his son, through the example set by a physically challenged client in the hospital. Group members continued to suggest ways to help PI re-connect with his son. Then, W1 very skilfully helped PI explore his feelings related to the loss. Dn also continued to attempt to help PI by offering advice. So a pattern continued in the group, where PI would more deeply explore his feelings and then discussion would shift to problem-solving focused on re-establishing a relationship with his son. After Sc attempted to offer spiritual guidance and counselling, Jn shared his feelings of loss over his relationship with his children. Ty then quite poignantly shared his anger at God over the tragic demise of his grandfather.

Time series analysis (see Table 56) yielded a number of interesting findings. First, W1 did not couple with any other members. In fact W2 was more active here than in any previous session. As nearly all of the discussion focused on PI's story, it was understandable that several members coupled with him. Finally, St also figured prominently in terms of coupling with several other members including PI.

Table 56

Session Twelve (Middle): Time Series Analysis - Significant Cross-Correlations (CCF) Between Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W2	St	0 (.43)	Dn	St	0 (.26), 1 (.25)			
	W2	Jn	0 (.39)						
	W2	Pl	0 (.40)						
	St	Jn	0 (.30), 2 (.20)						
	St	Sc	0 (.26)						
	St	Pl	0 (.30)						
	Sc	Pl	0 (.30)						
Accessibility				Dn	St	3 (.20), 5 (.30)	Ty	Ry	-1 (.22), -3 (.18)
				Jn	Ry	0 (.26), 1 (-.20)			
				St	Pl	0 (.18), 1 (.27)	Pl	St	0 (.18), -3 (.23)
				Ty	Pl	1 (.29), 2 (.25)			

For cluster analysis (see Figure 30), the impact of Pl's story of loss and focus outside of the group away from member interpersonal relationships seemed to have had some effect on the pattern of interpersonal coupling. The reduction in immediacy may in part account for the diminishing behavioural and synchronous couplings over this time. One notes behavioural coupling between Pl and W1, W2, and Ry here. In the third plot, a similar loosely coupled pattern was maintained. However, in the fourth plot, as members began to interact more freely and had an opportunity to share their related experiences of loss, a dramatic increase of behavioural and synchronous couplings occurred. Here, Pl behaviourally coupled with all members save for Jn, while Ty's story seemed to resonate with all other members.

Ending

During the ending portion of the session, the patterns of emotional exploration and problem-solving continued with several members engaged with PI (Dn, Ty, Sc, and W2). PI continued to explore various ways of reconnecting with his son. He then shared a passage from a children's story he used to tell his son when he was a child. W1 then helped PI to recognize how he could work through his grief by reaching out to his son. PI continued to explore the potential of completing a tape for his son, when he observed that others who had ongoing contact with his son had changed in their feelings from grief and rage to acceptance and love. PI shared his hope that such a transformation would happen for him as well. W1 then asked PI to share what he learned from the session, and PI responded by noting that he felt a release from sharing his story. The session closed with the group planning arrangements for recording a tape for PI's son.

Time series analysis for the ending section (see Table 57) yielded some interpretable results. First, one may note that both workers coupled with PI's engagement behaviour. It also seemed that Ry resonated with Ty's accessibility behaviour over this period. However, there were some oppositional relationships (i.e., between Jn and Ty, and between St and Sc) that were difficult to interpret from the discussion during the closing stages of the session.

Table 57
Session Twelve (End): Time Series Analysis - Significant Cross-Correlations (CCF) Between
Group Members

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	W1	St	0 (.39)	Jn	Ty	0 (-.32), (-.31)			
	Ry	St	0 (.31)						
	W1	Pl	0 (.33)						
	W2	Pl	0 (.40)						
Accessibility	W1	Dn	0 (.30)	St	Sc	1 (-.30)			
	Ry	Ty	0 (.33)	Dn	Jn	1 (.30)	Jn	Dn	-3 (.40)

Cluster analysis findings displayed in the fifth plot (see Figure 30) revealed that the primary focus of the group on problem-solving activities seemed to have reduced the level of couplings between members. Again in the final plot, Pl's further exploration of his feelings related to his loss may have promoted an increase in his couplings with other members. During this section, Pl behaviourally coupled with all members (save for Jn). Similarly, there was also a significant increase in the number of synchronous couplings during the final cluster plot.

Sessional Relational Patterns

Sessional relational patterns were somewhat explainable in light of the interactions in the final session recorded. Characteristic of a session near the end of a group's life, the workers assumed a more prominent role in terms of group interactions (see Table 58). This pattern was evident in the time series results for engagement behaviour where the workers were involved in over half of the significant couplings. Also understandably prominent were couplings involving Pl, since nearly all of the session involved dealing with Pl's grief and loss of his son. Indeed, Pl was involved in more couplings than was any other participant in this session (11). Somewhat

uncharacteristic of a closing session was the higher than average number of couplings (23), since members near the end of a group experience often turn their focus away from each other and the bonds tend to attenuate. However, as this session was not the final group session reported here, and given the single focus of the discussion, it is not completely unexpected that the couplings would increase in this final recorded session.

Table 58

**Session Twelve (All): Time Series Analysis - Significant Cross-Correlations (CCF)
Between Group Members**

Behaviour	Name	Couples With	at Lags (CCF)	Name	Follows	at Lags (CCF)	Name	Leads	at Lags (CCF)
Engagement	St	W1	0 (.17)	W2	Ry	0 (.17), 4 (.19)	Ry	W2	0 (.17), -2 (.16)
	Jn	W1	0 (.20)	Pl	Sc	0 (.26), 1 (.19)	Sc	W1	0 (.26), -1 (.15)
	St	W2	0 (.30)	Pl	W1	0 (.29), 1 (.14)	Pl	W1	0 (.29), -4 (.14)
	Jn	W2	0 (.30)	Ry	St	0 (.20), 3 (.12)	Pl	W2	0 (.40), -1 (.19)
	Jn	St	0 (.30)	Ry	Pl	0 (.15), 3 (.18)			
	Pl	St	0 (.30)	Dn	St	0 (.21), 5 (.14)			
Accessibility				Pl	Jn	0 (.18), 1 (.12)	Pl	Jn	0 (.18), -1 (.13)
				Ty	Pl	2 (.24)	Pl	Ty	-1 (.18)
				Dn	St	1 (.15), 3 (.13)	Sc	Pl	-1 (.15), 2 (.13)
				W2	Dn	3 (.23)			

Sessional Ratings of Cohesion, Empathy, and Therapeutic Effectiveness

The twelfth session marked the cessation of hostilities and a return to patterns of observer-rated variables similar to those occurring during the sixth session (see Figure 31). As with the sixth session, cohesion ($r = .664, p < .000$) and therapeutic effectiveness ($r = .214, p < .000$) both increased over time, while observer-rated empathy remained rather flat. Moreover, the mutual

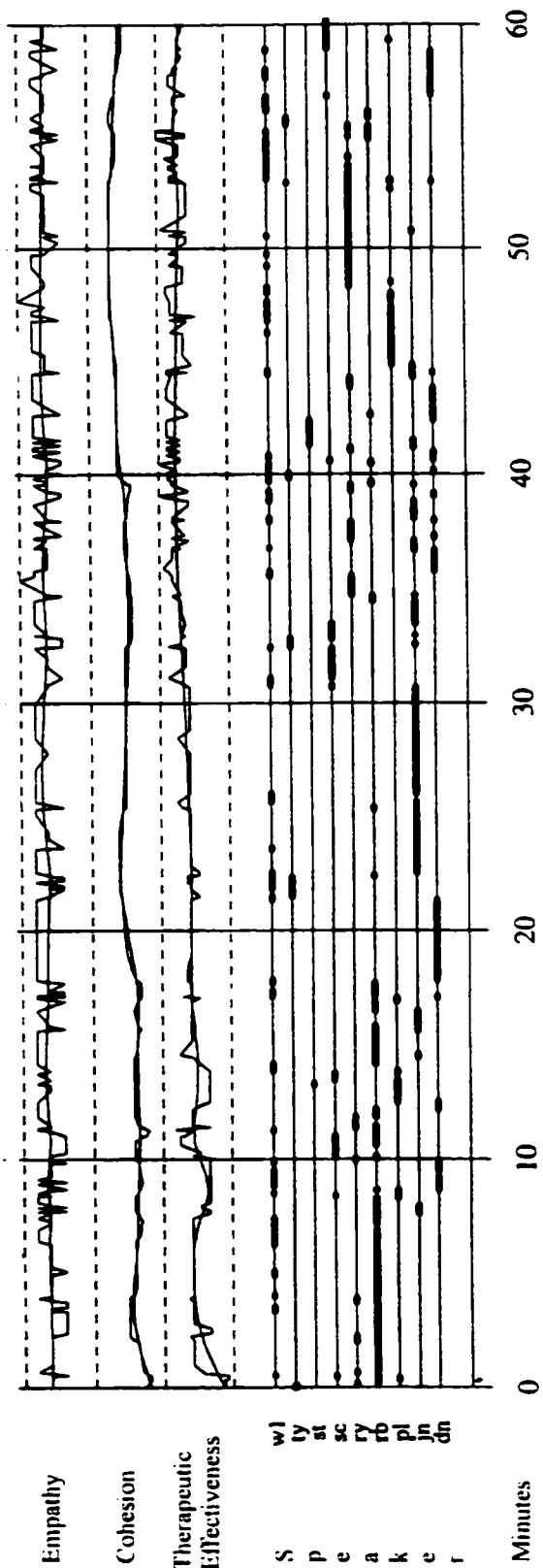


Figure 31. Session Twelve: Empathy, Cohesion, and Therapeutic Effectiveness by Speaker (10-Minute Segments)

agreement to accept Dn's right to be different and to move on with other issues was associated with substantially higher levels of cohesion ($\bar{x} = 6.04$), and marginally higher levels of empathy ($M = 2.91$) than found in the tumultuous eleventh session. Conversely, the reduction and/or avoidance of confrontation also resulted in lower mean levels of therapeutic effectiveness ($M = 11.18$). Mean observer ratings for empathy ($M = 2.91$) and therapeutic effectiveness ($M = 11.18$) matched overall group means, while ratings for cohesion substantially exceeded those for all sessions ($M = 4.48$). Variability for observer ratings of empathy ($SD = .78$), cohesion ($SD = 1.26$), and therapeutic effectiveness ($SD = 1.26$) marginally increased from the previous session.

Analysis of Overall Group Level Characteristics

Ratings of Cohesion, Empathy, and Therapeutic Effectiveness

Observer Ratings of Cohesion

Table 59 and Figure 32 illustrate the pattern of mean cohesion ratings for each of the 12 sessions under study. Cohesion does not appear to follow a linear pattern; rather, it appeared to move cyclically reaching peaks at Sessions Two, Six, Ten, and Twelve, as well as troughs at Sessions Four, Seven, and Eleven. There was, however, an overall increase in mean cohesion from Session One to Twelve (from $M = 4.07$ to $M = 6.04$).⁹⁸ Associated with the rise and fall of group cohesion was interpersonal conflict as well as the authentic sharing and interventions by Jn. Peaks or modes of the distribution coincide with empathic interventions by the "emotional

⁹⁸ Time series cross-correlational analysis (non-prewhitened) found that cohesion significantly increased over time (significant positively related with time segments: lag 0 correlation coefficient was $r = .263$, $p < .05$)

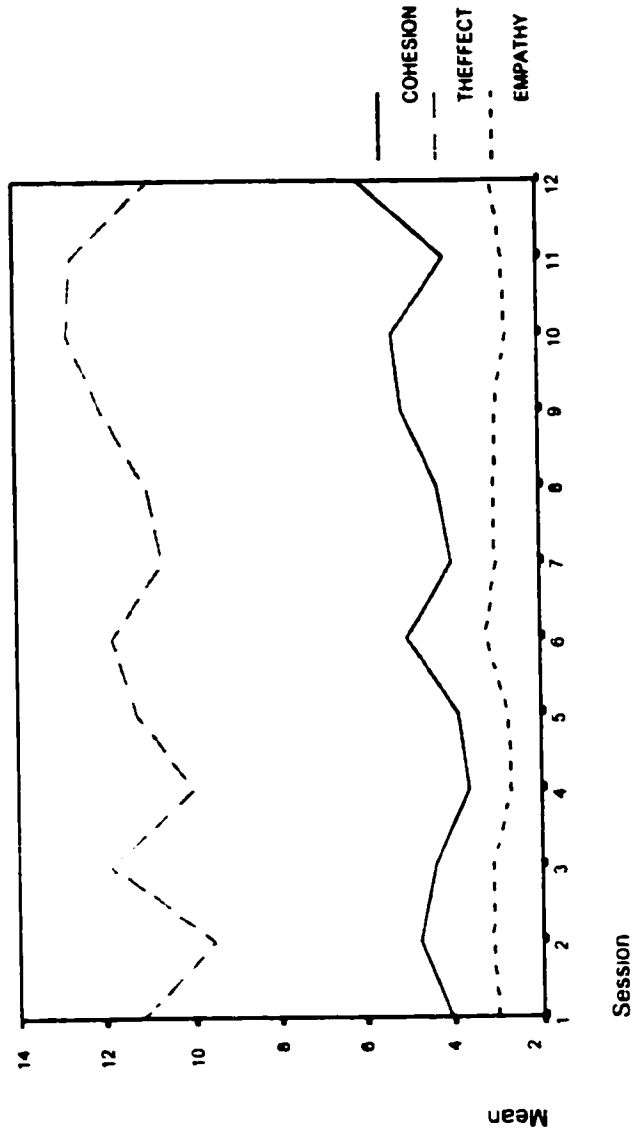


Figure 32. Mean Empathy, Cohesion, and Therapeutic Effectiveness by Session

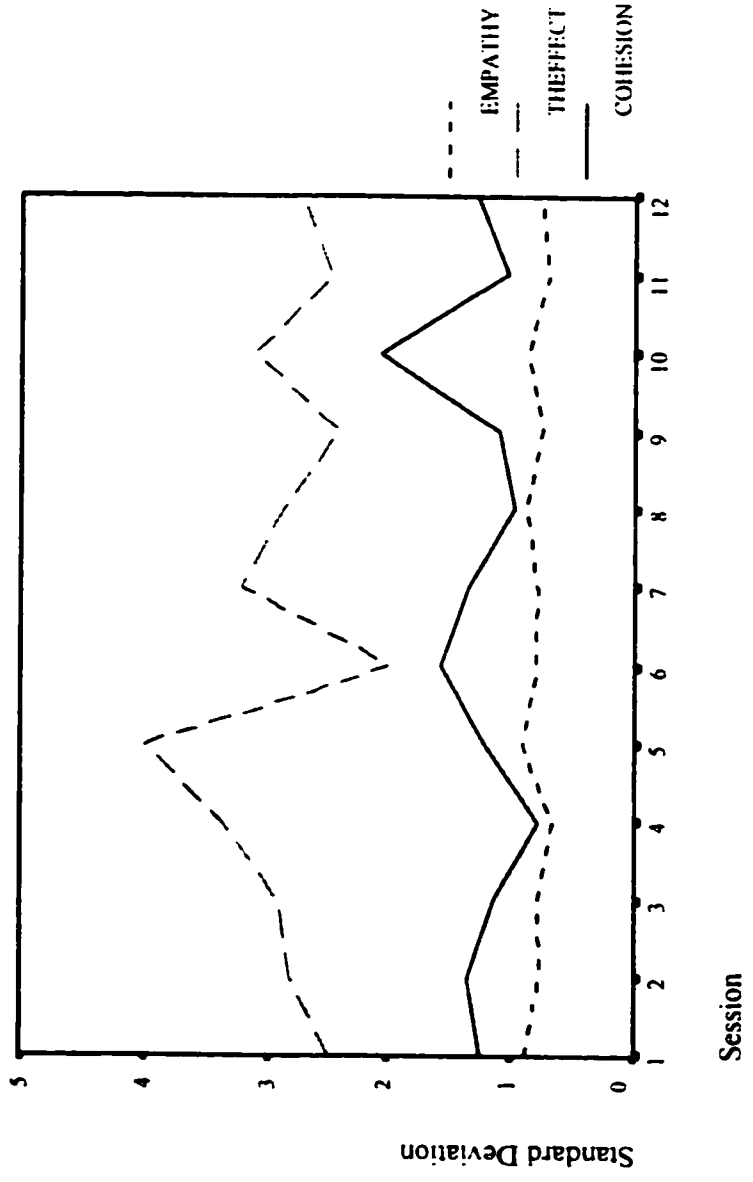


Figure 33. Standard Deviation of Cohesion, Empathy, and Therapeutic Effectiveness by Session

leader” in the group, whereas troughs in cohesion ratings are associated with interpersonal conflict present between group members (particularly Sc and Ty with other members). Also noteworthy were the peaks and troughs in the standard deviation of cohesion ratings. Each peak coincides with the aforementioned peaks in cohesion ratings.

Table 59:

Mean Observer Ratings of Group Cohesion, Empathy, and Therapeutic Effectiveness (Standard Deviation) by Session

Session	1	2	3	4	5	6	7	8	9	10	11	12	All
Cohesion Mean	4.07	4.78	4.44	3.63	3.86	4.98	4.00	4.30	5.09	5.25	3.98	6.04	4.48
(SD)	(1.23)	(1.33)	(1.12)	(.78)	(1.19)	(1.57)	(1.34)	(.96)	(1.09)	(2.05)	(1.10)	(1.26)	(1.45)
Empathy Mean	3.04	3.19	3.03	2.66	2.76	3.10	2.99	2.95	2.92	2.65	2.84	2.91	2.91
(SD)	(.85)	(.76)	(.77)	(.63)	(.90)	(.81)	(.77)	(.81)	(.79)	(.82)	(.71)	(.75)	(.81)
Therapeutic Effectiveness Mean	11.29	9.75	11.71	9.69	11.11	11.99	10.28	10.93	11.81	12.21	12.45	11.17	11.18
(SD)	(2.79)	(2.84)	(2.89)	(3.55)	(4.35)	(1.86)	(3.40)	(2.86)	(2.61)	(3.62)	(3.05)	(2.56)	(3.26)

Observer Ratings of Empathy

Empathy seems to follow a pattern similar to cohesion. However, unlike cohesion, empathy did not demonstrate a general increase over time.⁹⁹ Further, empathy declined during Session Ten to its lowest rated level (mean of 2.65), while cohesion reached its second highest sessional mean value. As one would anticipate, mean empathy ratings for the workers ($M = 3.12$) were significantly higher ($p < .001$) than for the other group members ($M = 2.85$). The only session

⁹⁹ Time series cross-correlational analysis (non-prewhitened) found that observer rated empathy remained unchanged over time (lag 0 correlation coefficient $r = -.048$, $p > .05$)

where member mean empathy ratings exceeded those of the workers was Session Six. As noted above, Session Six was the session where group members were moved by Jn's story and where there was an empathic rupture between W1 and Jn.

Observer Ratings of Therapeutic Effectiveness

Ratings of the Hill Interaction Matrix showed a general rise from Session One to Eleven (from means of 11.29 to 12.45).¹⁰⁰ with mean values declining somewhat for Session Twelve. Also present was an undulating pattern that reached peaks at Sessions Three, Six, Nine, Ten and Eleven.

Member Ratings of Cohesion, Avoidance, Empathy, Anxiety, and Friction

Table 60 and Figure 34 display similar patterns in relation to the ebb and flow of empathy and cohesion on the Group Cohesion and Empathy Scale. Both variables reached peaks at Sessions Two, Six, Nine, and Twelve. Demonstrating a general oppositional pattern, friction and anxiety seemed to reach peaks at points where empathy and cohesion were in decline (Sessions Four, Five, Eight and Ten). While both member ratings of cohesion and empathy appear to decrease over time,¹⁰¹ there was a trend towards higher ratings of anxiety and friction from Sessions One to Eleven.¹⁰² Lower levels of friction and anxiety for Session Twelve are quite understandable, given the apparent "truce" called by Dn at the opening of the session. The group

¹⁰⁰ Time series cross-correlational analysis (non-prewhitened) found that observer-rated therapeutic effectiveness significantly increased over time (significant positively related with time segments: lag 0 correlation coefficient was $r = .184$, $p < .05$).

¹⁰¹ While there was little change between the mean values of member-rated cohesion and empathy in Sessions One and Twelve, the least squares regression line of the distribution was downward yielding negative correlations coefficients for both empathy ($r = -.67$; $p = .018$) and cohesion ($r = -.52$, $p = .084$) with time.

¹⁰² Although the influence of the final session resulted in non-significant correlation coefficients between friction, anxiety, and time.

clearly agreed to suspend hostilities at this moment, and thus, levels of self-reported anxiety and friction declined for this session. Session 10 was particularly interesting as it was a session characterized by the highest levels of self-reported friction. As this session was also characterized by higher levels of observer-rated cohesion,¹⁰³ one might ask if the group had formed sufficient bonds to withstand or tolerate the level of conflict it encountered. Using the metaphor of object relations theorists (e.g., Bion, 1970), the group became a sufficiently strong container to hold the conflict. One other significant trend was the ratings of avoidance by group members. Displaying a pattern somewhat different from any of the other subscales, there seemed to be a relatively stable pattern of high levels of avoidance from Sessions Seven through Eleven. One potential interpretation of this finding may be that the group focused on its increasingly turbulent interpersonal relationships during this period. Less time was devoted to personal exploration of the meaning of member anxiety, depression, and personal stories. This trend changed dramatically during Session Twelve where the group agreed to move on and PI shared his personal story of loss and grief.

¹⁰³ Note that higher levels were not reported by group members. The higher observer ratings may be an artefact of the way in which the two instruments defined and measured the construct of cohesion.

Table 60

Sessional Means (Standard Deviation) for Subscales of the Group Cohesion and Empathy Scale by Session

Session	1	2	3	4	5	6	7	8	9	10	11	12	All
Respondents	7	8	8	8	7	7	6	7	8	7	7	7	—
Cohesion Mean	3.73	4.80	4.52	3.72	3.41	4.27	3.98	3.45	3.84	3.29	3.06	3.98	3.86
(SD)	.614	.74	.99	.77	.69	.70	.89	.80	1.14	.78	.80	1.17	.55
Avoidance Mean	1.98	1.27	1.46	3.72	2.14	1.40	2.17	2.10	2.04	2.12	2.20	1.24	1.84
(SD)	.92	.67	.61	.84	.70	.54	.74	.79	.83	.85	.99	.80	.57
Empathy Mean	3.10	4.33	4.13	3.63	2.81	3.81	3.56	2.76	3.21	2.48	2.67	2.81	3.32
(SD)	1.46	1.33	.94	1.21	.92	.69	1.33	.83	1.02	.98	.82	1.36	.68
Anxiety Mean	1.71	1.31	1.25	2.50	2.57	1.79	1.67	1.57	1.31	2.86	1.93	1.07	1.80
(SD)	1.04	1.51	1.07	1.25	.89	1.47	1.37	1.06	1.10	.85	1.21	1.84	.77
Friction Mean	1.00	.75	1.13	3.00	3.71	.14	2.50	2.29	.75	4.43	3.71	.14	1.95
(SD)	1.15	1.04	1.36	1.20	1.11	.38	1.38	.95	.89	1.51	1.70	.38	.62

Correlation of Observer Ratings and G.C.E.S. Subscales

Table 61 displays the relationship between sessional mean ratings for observer ratings of the three group level variables (i.e., cohesion, empathy, and therapeutic effectiveness) and the Group Cohesion and Empathy Scale (cohesion, empathy, avoidance, anxiety, and friction).¹⁰⁴

¹⁰⁴ Significance levels and *p* values are included in Table 61. However, the small number of cases (12 sessions) substantially reduce the likelihood that moderately strong relationships will be found significant.

Cohesion

As indicated in Figure 35, the two instruments that measured cohesion seem to follow similar patterns, generally reaching peaks and troughs for the same sessions. The only exception to this pattern was during Session Ten. There are several explanations for the anomalies associated with the tenth session. First, as noted above, each instrument defined and measured cohesion in different ways. This fact alone may not have been sufficient, since the two measures produced nearly identical ratings during the first four sessions. Perhaps as important was the fact that the high ratings of interpersonal conflict or friction during this session may have also influenced member ratings of group cohesion. Conflict, though considered in the criteria for rating cohesion on the HCHPGCS, may not have affected the observer ratings as strongly.

Table 61

Cross-Correlation of Observer Ratings and Group Cohesion and Empathy Subscales

		Observer Ratings			Group Cohesion and Empathy Subscales					
		Empathy (Rated)	Cohesion (Rated)	Therapeutic Effectiveness (Rated)	Cohesion	Avoidance	Empathy	Anxiety	Friction	
Empathy (Rated)	Pearson Correlation	1.000	.165	-.131	.746*	-.559	.631*	-.770*	-.775*	
	Sig. (2-tailed)		.609	.686	.005	.059	.028	.003	.003	
	N	12	12	12	12	12	12	12	12	
Cohesion (Rated)	Pearson Correlation	.165	1.000	.312	.271	-.564	-.108	-.392	-.487	
	Sig. (2-tailed)	.609		.324	.394	.056	.738	.208	.109	
	N	12	12	12	12	12	12	12	12	
Therapeutic Effectiveness (Rated)	Pearson Correlation	-.131	.312	1.000	-.400	.180	-.473	.074	.099	
	Sig. (2-tailed)	.686	.324		.198	.576	.120	.819	.760	
	N	12	12	12	12	12	12	12	12	
Cohesion (GCES)	Pearson Correlation	.746*	.271	-.400	1.000	-.811*	.901*	-.610*	-.745*	
	Sig. (2-tailed)	.005	.394	.198		.001	.000	.035	.005	
	N	12	12	12	12	12	12	12	12	
Avoidance (GCES)	Pearson Correlation	-.559	-.564	.180	-.811*	1.000	-.603*	.561	.754*	
	Sig. (2-tailed)	.059	.056	.576	.001		.038	.058	.005	
	N	12	12	12	12	12	12	12	12	
Empathy (GCES)	Pearson Correlation	.631*	-.108	-.473	.901*	-.603*	1.000	-.405	-.532	
	Sig. (2-tailed)	.028	.738	.120	.000	.038		.191	.075	
	N	12	12	12	12	12	12	12	12	
Anxiety (GCES)	Pearson Correlation	-.770*	-.392	.074	-.610*	.561	-.405	1.000	.828*	
	Sig. (2-tailed)	.003	.208	.819	.035	.058	.191		.001	
	N	12	12	12	12	12	12	12	12	
Friction (GCES)	Pearson Correlation	-.775*	-.487	.099	-.745*	.754*	-.532	.828*	1.000	
	Sig. (2-tailed)	.003	.109	.760	.005	.005	.075	.001		
	N	12	12	12	12	12	12	12	12	

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Cross-correlation of the various instruments and subscales revealed that observer ratings of cohesion were moderately correlated with therapeutic effectiveness ($r = .312$) and member-rated cohesion ($r = .271$) (on the cohesion subscale of the GCES). The less than impressive relationship between the two instruments measuring cohesion may in part be explained by the above-mentioned factors. Observer-rated cohesion was also strongly and negatively correlated with avoidance ($r = -.560$), anxiety ($r = -.392$), and friction ($r = -.487$). The member self-reported ratings of group cohesion were also very strongly positively correlated with observer ($r = .746$) and member ($r = .901$) rated levels of empathy. Member-rated levels of cohesion were also strongly and negatively correlated with avoidance ($r = -.811$), anxiety ($r = -.610$), and friction ($r = -.745$). The substantially stronger negative relationship between member-rated cohesion and member-rated friction ($r = -.745$ vs. $r = -.487$) than between observer-rated cohesion and member-rated friction may also lend support to the above interpretation of differential cohesion findings and the lower than expected positive correlation between two instruments designed to measure the same construct.

Empathy

Figure 36 displays the strong positive relationship between observer-rated and member-reported empathy existing over each of the twelve sessions. This relationship was also confirmed in Table 61 where observer-rated empathy was strongly and positively related to member-rated empathy ($r = .631$) and cohesion ($r = .746$). Conversely, both observer-rated and member-rated empathy were strongly and negatively correlated with member-rated avoidance ($r = -.559$, $r = -.603$ respectively) and anxiety ($r = -.770$, and $r = -.405$ respectively), and friction ($r = -.775$, $r = -.532$ respectively).

Therapeutic Effectiveness

While there was no member-rated equivalent to observer-rated therapeutic effectiveness, Figure 37 reveals the rather paradoxical relationship between therapeutic effectiveness and member-rated variables. For example, during the early sessions therapeutic effectiveness seemed to move oppositely with friction and anxiety, yet this relationship seemed to change during the later sessions. One potential explanation for this phenomenon may be that the higher ratings of the Hill Interaction Matrix are associated with therapeutically relevant confrontation. Recalling the events in the group, it was during the later sessions that group conflict was largely related to member attempts to therapeutically confront Dn's self-defeating behaviour. Referring to Table 61, this property of the instrument may also serve to explain why a moderately strong positive relationship was found between observer ratings of therapeutic effectiveness and cohesion ($r = .312$).¹⁰⁵ Since the group was in many ways focused on confronting and assisting one member to change during the later sessions, such behaviour would normally result in higher observer ratings of group cohesion. However, the self-reports, which would likely capture differences between members and be affected by both the anxiety and the friction in the group, could be expected to reveal a strong negative relationship between therapeutic effectiveness and member ratings of empathy ($r = -.473$) and cohesion ($r = -.400$).

Member-rated Cohesion

As noted above, strong positive correlations were found between member-rated cohesion and both observer ($r = .746$) and member ($r = .901$) rated empathy. Member-rated cohesion was also moderately and positively related to observer rating of cohesion ($r = .271$). Strong negative

¹⁰⁵ The results of time series cross-correlational analysis between observer-rated variables are discussed later in this section.

correlations were found between member-rated cohesion and member ratings of avoidance ($r = -.811$), anxiety ($r = -.610$), friction ($r = -.745$) and observer-rated therapeutic effectiveness ($r = -.400$).

Member-Rated Avoidance

Member-rated avoidance was strongly and positively related to both member-rated anxiety ($r = .561$) and friction ($r = .754$). As mentioned, avoidance was negatively correlated to both member and observer ratings of cohesion ($r = -.564$) and empathy ($r = -.559$).

Member-Rated Empathy

Strong positive relationships were found between member-rated empathy and both observer-rated empathy ($r = .631$) and member-rated cohesion ($r = .901$). Strong negative correlations were found between member-rated empathy and therapeutic effectiveness ($r = -.473$), as well as member-rated avoidance ($r = -.603$), anxiety ($r = -.405$), and friction ($r = -.532$).

Member-Rated Anxiety

Strong positive relationships were found between member-rated anxiety and member ratings of avoidance ($r = .561$) and friction ($r = .828$), while strong negative relationships were found between member rating of anxiety and both observer and member ratings of empathy ($r = -.770$ and $r = -.405$ respectively), and cohesion ($r = -.392$ and $r = -.610$ respectively).

Member-Rated Friction

Strong positive relationships were found between member rating of friction and member ratings of avoidance ($r = .745$) and anxiety ($r = .828$). Conversely, strong negative correlations were found between member rated friction and both observer and member ratings of empathy ($r = -.775$ and $r = -.532$ respectively) and cohesion ($r = -.487$ and $r = -.745$ respectively).

Patterns of Member Nonverbal Behaviour

As described above, four specific nonverbal behaviours were measured for each participant during the 12 sessions. Each participant's arm, leg, and lean position as well as their gaze were measured. Lean and gaze were combined to create a measure defined as engagement and arm and leg position were combined to create a variable defined as accessibility. Table 62 and Figure 38 display the mean positions for each of the four nonverbal behaviours over the 12 sessions. One will note two unexpected characteristics of the resulting sessional means. First, lean and legs appeared to covary in a similar pattern, as do gaze and arms. Second, there was a slight increase of mean values for legs (from 2.57 to 2.84) and lean (1.55 to 1.89) over the 12 sessions, while no such increase seemed to occur for arms and gaze.¹⁰⁶

Table 62
Group Mean Behavioural Positions by Session

Session	1	2	3	4	5	6	7	8	9	10	11	12	All
Lean (mean)	1.56	1.80	1.56	1.72	1.59	1.44	1.92	1.68	1.83	1.76	1.81	1.89	1.71
Gaze (mean)	4.46	5.10	4.95	4.70	5.17	4.67	4.97	4.91	4.80	4.76	4.68	4.68	4.84
Arms (mean)	4.37	4.53	4.30	4.30	4.59	3.97	4.16	4.12	4.49	4.18	3.97	4.40	4.31
Legs (mean)	2.58	2.66	2.57	2.49	2.44	2.42	2.87	2.69	2.33	3.24	2.95	2.84	2.66

¹⁰⁶ This was also confirmed through correlational analysis where significant positive relationships were found for mean leg and lean position in their relationships with time segments utilizing both Pearson correlational (mean legs $r = .279$, $p < .001$; mean lean $r = .285$, $p < .001$) and time series (non-prewhitened) cross-correlational analysis (mean legs CCF = .279 at lag 0, $p < .05$; mean lean CCF = .284 at lag 0, $p < .05$). Correlational analysis found a slight decrease in mean arm position over time, where weak negative relationships were found for mean arm position in relationship to time segments utilizing both Pearson correlational ($r = -.158$, $p < .001$) and time series cross-correlational analysis (CCF = $-.158$, $p < .05$).

A time series cross-correlational analysis¹⁰⁷ of mean body part positions confirmed the impressions conveyed by Figure 38, where weak and marginally significant ($p < .05$) relationships were found between arms and gaze (CCF = .037 at lag 0), arms and legs (CCF = -.052 at lag 0) and lean and arms (CCF = .041 at lag 0). In addition, a significant moderate positive correlation was found between lean and legs (CCF = .140 at lag 0). No other significant relationships were found.

More germane to this inquiry are the patterns of standard deviations of nonverbal behaviour over the course of the group. Examining Table 63 and Figure 39 one will note that there appears to be a gradual increase in the variability of leg positions over time,¹⁰⁸ the other three nonverbal measures appear to be rather stationary about their means,¹⁰⁹ with a discernible decrease in the magnitude of changes (peaks and troughs) between sessions over the last three sessions of the group. Also noteworthy is the precipitous decrease in variability at Session Six for arms and lean¹¹⁰ positions.

¹⁰⁷ Cross-correlation of each body component (i.e., lean, gaze, arm and leg positions) required prewhitening of each variable and the estimation of each series autocorrelative process. A stepwise estimation process (beginning with lower-order and progressing to higher-order processes) resulted in each variable being prewhitened through the removal of its autocorrelative process: lean (mean) ARMA (3,2) process, gaze (mean) ARMA (3,1), arms (mean) ARMA (2,1), and legs ARMA (2,1).

¹⁰⁸ This impression was subsequently confirmed by correlational analysis. Pearson correlations with time segments found a moderate positive relationship (.311, $p < .001$) with the standard deviation of leg positions. A positive relationship of similar magnitude was found using time series cross-correlational analysis (non-prewhitened) (CCF = .311 at lag 0, $p < .05$).

¹⁰⁹ A slight decrease over time was found in the standard deviation of arms positions ($r = -.116$, $p < .001$, CCF = -.116 at lag 0, $p < .05$).

¹¹⁰ Overall, time series cross-correlation analysis found a significant weak positive correlation in the standard deviations of arms and lean (.118 at lag 0; $p < .05$), and a weak negative relationship in the standard deviations of arms and legs (-.116 at lag 0; $p < .05$).

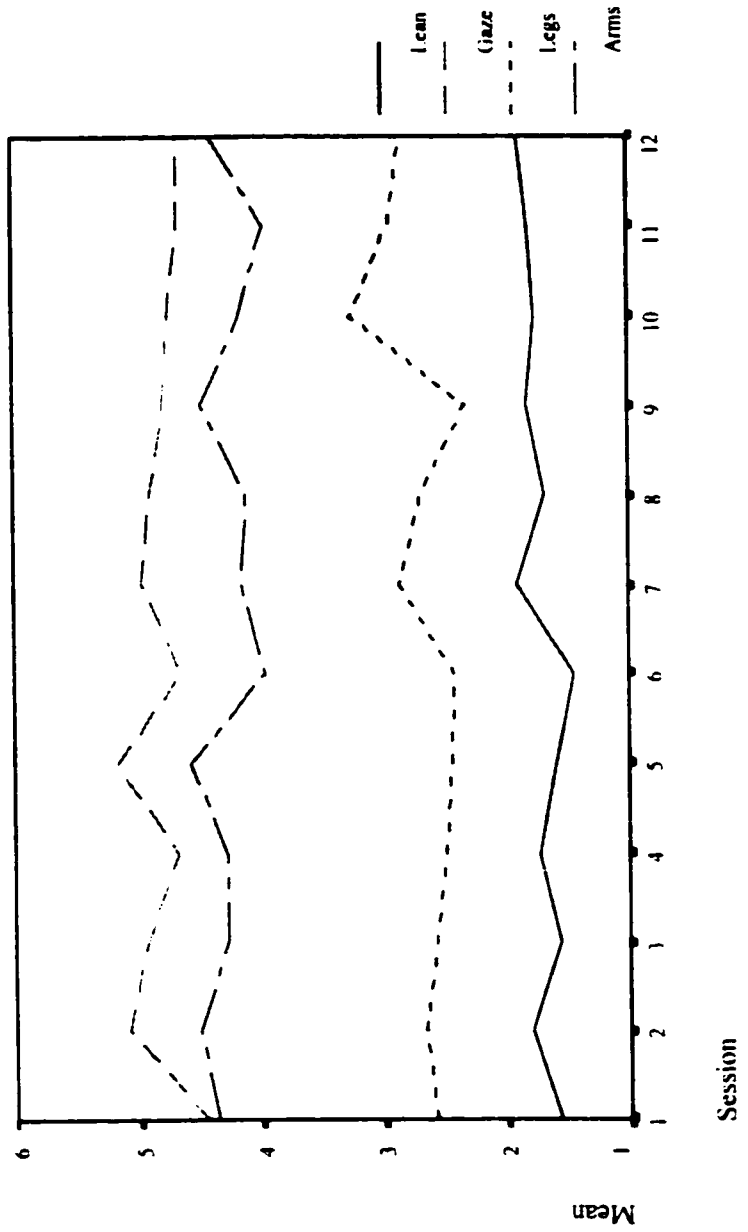


Figure 38. Group Mean Behavioural Positions by Session

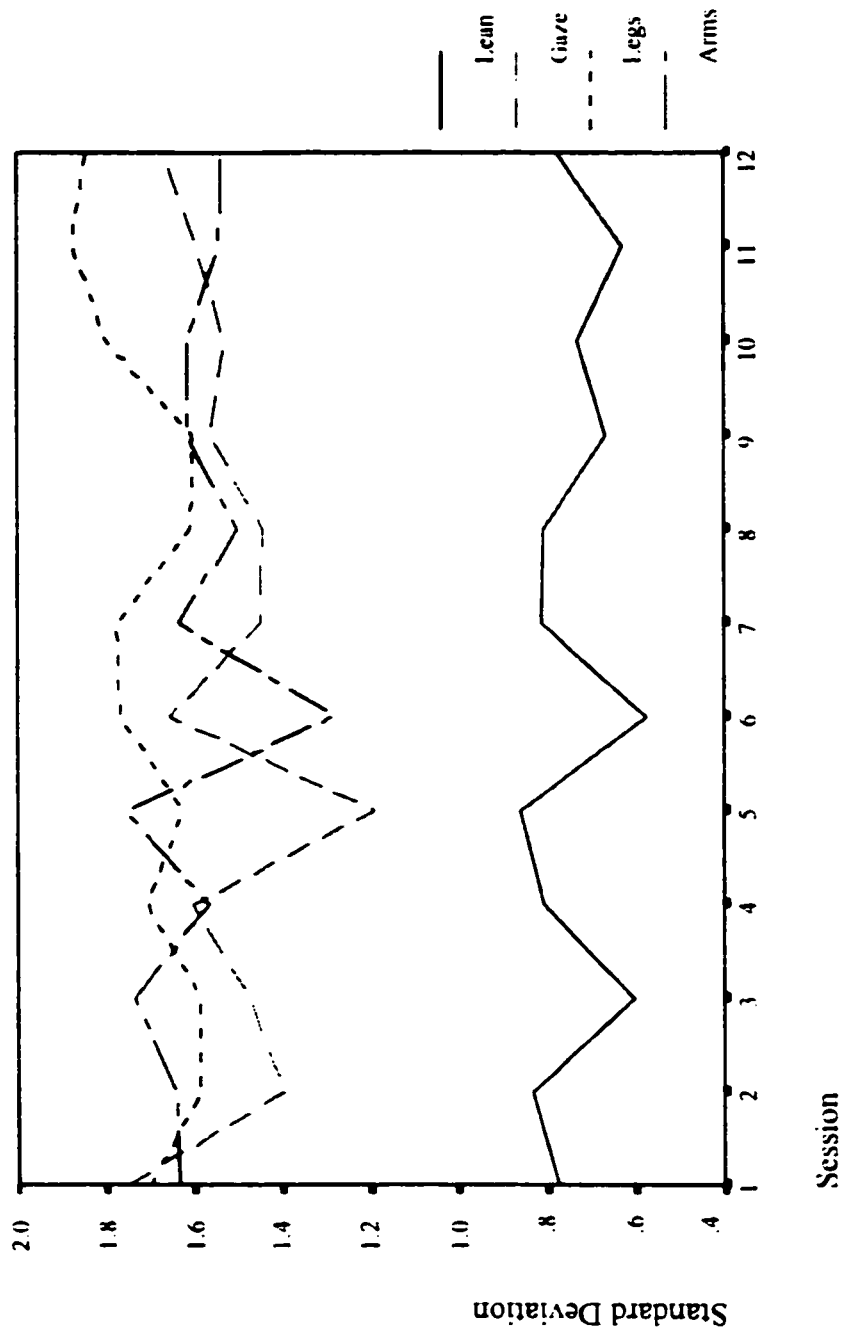


Figure 39. Standard Deviations of Group Nonverbal Behaviour by Session

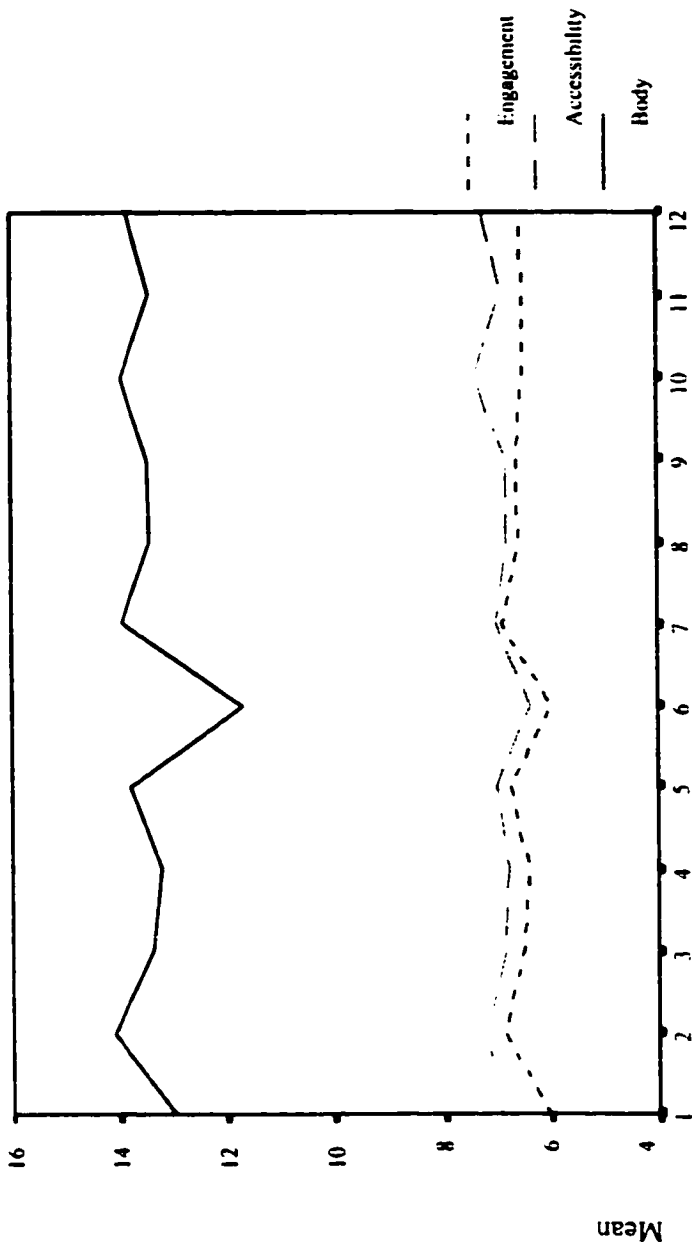


Figure 40. Mean Scores for Aggregate Group Variables by Session

Table 63
Standard Deviations of Group Nonverbal Behaviour by Session

Session	1	2	3	4	5	6	7	8	9	10	11	12	All
Lean (<i>SD</i>)	.78	.83	.60	.81	.86	.58	.81	.81	.67	.73	.63	.78	.75
Gaze (<i>SD</i>)	1.75	1.40	1.48	1.60	1.19	1.66	1.45	1.44	1.57	1.53	1.59	1.67	1.51
Arms (<i>SD</i>)	1.64	1.64	1.73	1.57	1.75	1.28	1.64	1.50	1.61	1.61	1.54	1.54	1.61
Legs (<i>SD</i>)	1.70	1.59	1.59	1.71	1.63	1.77	1.78	1.61	1.60	1.80	1.88	1.85	1.70

A similar phenomenon emerged in the mean scores for engagement, accessibility, and body (the aggregate of all nonverbal measures): (see Table 64 and Figure 40) where, although each variable remains rather flat about the mean,¹¹¹ there was a precipitous decline in means values at Session Six. Similarly in Figure 41 (see also Table 64), a dramatic increase in variability occurred at Sessions Six and Eleven. One is left to ask what was special about Session Six that could account for these dramatic and yet conflicting results. Recall that Session Six was characterized by a long period where Jn shared his moving story with group members. This was also the only session where member empathy ($M = 3.14$) was rated as higher than that of the workers ($M = 2.98$). Could it be that the empathic rupture that occurred between W1 and Jn may have contributed to the dramatic variability within this session?

¹¹¹ Overall, there was a trend towards greater variability in both accessibility and body position over time (accessibility $r = .196, p < .001$; CCF = .197 at lag 0, $p < .05$; total body position $r = .182, p < .001$; CCF = .196 at lag 0, $p < .05$).

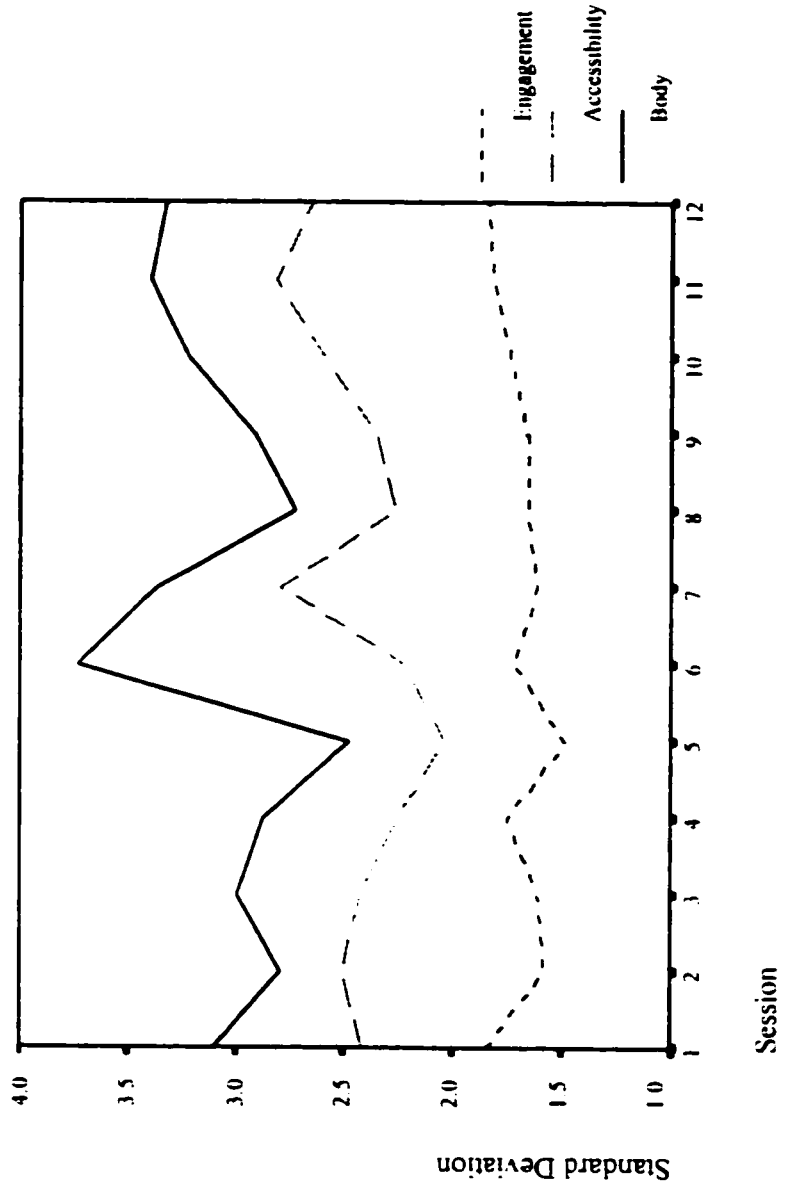


Figure 4L. Standard Deviations for Aggregate Group Variables by Session

Table 64
Descriptives for Aggregate Group Variables by Session

Session	1	2	3	4	5	6	7	8	9	10	11	12	All
Engagement (mean)	6.02	6.89	6.51	6.45	6.76	6.00	6.89	6.59	6.63	6.52	6.49	6.57	6.54
Engagement (SD)	1.84	1.58	1.61	1.75	1.49	1.72	1.61	1.66	1.66	1.73	1.81	1.84	1.68
Access (mean)	6.95	7.19	6.87	6.79	7.03	6.39	7.03	6.82	6.82	7.42	6.92	7.25	6.97
Access (SD)	2.43	2.51	2.43	2.26	2.04	2.22	2.80	2.26	2.36	2.59	2.82	2.65	2.42
Body (mean)	12.97	14.08	13.38	13.21	13.77	11.72	13.92	13.41	13.45	13.94	13.41	13.82	13.46
Body (SD)	3.10	2.80	3.00	2.88	2.47	3.73	3.37	2.72	2.92	3.22	3.40	3.33	3.03

Cross-correlation of Nonverbal Behaviour and Observer Ratings

Another set of results to be discussed is the relationship between the observer ratings of group cohesion, empathy, and therapeutic effectiveness and participant nonverbal behaviour. The results of a time series cross-correlation analysis in Table 65 confirmed some earlier results and allowed several lingering questions to be further examined.

Table 65

Time Series Analysis – Significant Cross-Correlations (CCF) between Mean Observer-Rated Variables (All Sessions)

Behaviour	Leads	at Lags (CCF)	Behaviour	Leads	at Lags (CCF)
Cohesion	Empathy	0 (.114), 1 (.074), 2 (.073)	Th. Effect.	Empathy	0 (.224), 2 (.047)
Cohesion	Th. Effect.	0 (.049), 1 (.041), 2 (.045)			

First, a significant positive relationship was found between empathy and cohesion.¹¹²

Challenging our previous hypothesis concerning the relationship between cohesion and empathy, although the highest correlation occurred at lag 0 (CCF = .114), cohesion also led empathy at two lags (CCF = .074 at lag 1, and CCF = .073 at lag 2, $p < .05$). A similar, though less powerful, relationship was found where cohesion led therapeutic effectiveness (CCF = .049 at lag 0, CCF = .041 at lag 1, and CCF = .045 at lag 2, $p < .05$). As could be anticipated, a moderately strong positive relationship was found between empathy and therapeutic effectiveness (CCF = .224 at lag 0, $p < .05$).

If one was to assume that cohesion acted like a magnetic force, serving to constrain variability in member nonverbal behaviour, then negative correlational relationships would be anticipated between observer-rated cohesion and the standard deviation of nonverbal behavioural

¹¹² Estimation of each variable's autocorrelative process resulted in removal of an ARMA (2,2) process from both the interpolated cohesion and empathy time series as well as removal of an ARMA (3,1) process for therapeutic effectiveness.

variables.¹¹³ A mixed picture seemed to have emerged at least in Table 66. While this supposition was supported by negative correlations between cohesion and standard deviations of arm position and overall body position (i.e., aggregate of all body parts), cohesion was significantly and positively related to standard deviations of accessibility (i.e., aggregate of arms and leg positions), engagement (i.e., aggregate of gaze and lean) and leg position. However, one should keep in mind that the magnitude of these correlations was quite low, with no correlations exceeding that between cohesion and the standard deviation of accessibility behaviour ($r = .063$).

Table 66

Time Series Analysis – Significant Cross-Correlations (CCF) Between Mean Observer-Rated Group Cohesion and Various Group-Level Behavioural Measures (All Sessions)

Behaviour	Leads	at Lags (CCF)	Behaviour	Leads	at Lags (CCF)
Cohesion	Accessibility (<i>SD</i>)	4 (.063)	Body (<i>SD</i>)	Cohesion	-2 (-.033), -5 (-.041)
Cohesion	Arms (<i>SD</i>)	5 (-.042), -8(-.049)			
Cohesion	Legs (<i>SD</i>)	4 (.044)			
Cohesion	Engagement (mean)	3 (.047)			
Cohesion	Gaze (mean)	3 (.045)			
Cohesion	Legs (mean)	0 (-.045)			
Cohesion	Body (mean)	3 (.044)			

¹¹³ Estimation of each variable's autocorrelative process resulted in removal of an ARMA (1.1) process from both the standard deviations of arm and leg position time series, removal of an ARMA (2.1) process from mean accessibility, arm and leg position time series, removal of an ARMA (2.2) process from standard deviations of engagement, accessibility, and body position times series as well as the mean body position time series, removal of an ARMA (3.1) process from the standard deviation of lean position, and mean engagement and gaze position time series, and finally, removal of an ARMA (3.2) process from the standard deviation of gaze and mean lean time series.

In terms of relationship between empathy and nonverbal behaviour, there were fewer and relatively weaker significant correlations found than for cohesion. One may note in Table 67, that a positive relationship was found between empathy and the standard deviation of accessibility postures. That is, increased empathic responses among participants led to increased variability in accessibility or openness of their arm and leg positions. A different relationship was found relating to engagement behaviour. Rather than leading variability in behaviour, empathy seemed to follow changes in the relative variability of engagement positions. The most influential of components of these relationships appeared to be leg and lean positions for accessibility and engagement respectively.

Table 67

Time Series Analysis – Significant Cross-Correlations (CCF) Between Mean Observer-Rated Empathy and Various Group-Level Behavioural Measures (All Sessions)

Behaviour	Leads	at Lags (CCF)	Behaviour	Leads	at Lags (CCF)
Empathy	Accessibility (<i>SD</i>)	2 (.049)	Engagement (<i>SD</i>)	Empathy	-3 (.040)
Empathy	Legs (<i>SD</i>)	2 (.041)	Lean (<i>SD</i>)	Empathy	-1 (-.057)
			Lean (mean)	Empathy	-1 (-.047)

Similar analysis involving therapeutic effectiveness revealed somewhat different results. Given the Hill Interactional Matrix's property of valuing immediacy or confrontation in interpersonal relationships, it is not surprising that therapeutic effectiveness would lead variability of gaze behaviour. It would seem that greater immediacy was followed by increasingly fixed gazes in the group. As one would expect, given the findings for gaze behaviour, mean engagement was positively correlated with therapeutic behaviour. Increased immediacy was also

associated with increased mean engagement among group members. However, increased immediacy, especially during interpersonal conflict, may also be perceived as threatening, and so we find a much different relationship between therapeutic effectiveness and mean accessibility behaviour. Here increased immediacy would seem to be followed by less open or accessible postures adopted by group members. The remaining findings reflect the major components of the above results. The major component of engagement was lean, and for accessibility it was arms. Therefore, it would seem that as the discussion became more immediate or confrontational, members would respond by leaning towards each other and using their arms in a protective or defensive manner.

Table 68
Time Series Analysis – Significant Cross-Correlations (CCF) Between Observer-Rated Therapeutic Effectiveness and Various Group-level Behavioural Measures (All Sessions)

Behaviour	Leads	at Lags (CCF)	Behaviour	Leads	at Lags (CCF)
Th. Effect	Gaze (<i>SD</i>)	7 (-.051)			
Th. Effect.	Engagement (mean)	9 (.044)			
Th. Effect	Access (mean)	0 (-.086), 2 (-.048)	Legs (mean)	Th. Effect.	-2 (.042)
Th. Effect.	Lean (mean)	1 (.043), 2 (.042)			
Th. Effect.	Arms (mean)	0 (-.088), 2 (-.051)			
Th. Effect.	Body (mean)	0 (-.050), 2 (-.048)			

One final analysis examined the relationships between observer-rated variables and participant nonverbal behaviour. A highly influential interaction effect was discovered involving the worker's involvement in the group discussion. A regression of the pre-whitened series (using an AR1 process) found ($L.ratio = 17.69; p = .024$) that the worker interventions significantly

influenced relationships between observer-rated variables and nonverbal behaviour. For example, when the worker spoke, strong negative correlations were found between average arm position and therapeutic effectiveness. That is, when the worker spoke in a manner that challenged members to examine their interpersonal relationships, members tended to adopt more closed or defensive arm positions. A similar relationship was also found involving average member lean and therapeutic effectiveness. Again, when the worker challenged members to explore their interpersonal relationships, they tended to withdraw and move away from the group. The worker's interventions also affected the relationship between observer ratings of cohesion and nonverbal behaviour. In general, the worker's interventions appeared to produce a positive relationship between mean accessibility behaviour (arm and leg position) and cohesion, and a negative relationship between cohesion and the standard deviation of accessibility behaviour. In other words, when the worker spoke, the theoretically supported notion of cohesion acting to reduce behavioural variability seemed to hold. However, when others spoke such a relationship did not. So it would seem that the identity of, and thus the relationship between, the speaker and group members may play a role in mediating the effect of group cohesion upon group member nonverbal behaviour.

Summary

In this chapter, I have described the results derived from bivariate cross-correlational analysis and hierarchical cluster analysis by session and for the group as a whole. While the implications of these results will be further explored in the following chapter, it is important to note how anxiety and unresolved conflict continued to influence patterns of interpersonal coordination. This group did not appear to resolve the developmental crisis associated with working through

what the Boston model described as the fourth stage of group development or 'Differentiation.'

Indeed, while some of differences presented by group members were resolved, the group opted to move on with assisting P1 rather than continuing to explore the 'difference' presented by Dn.

CHAPTER V: DISCUSSION

This chapter will supplement the interpretation of the findings that was offered in the preceding chapter with an overview that addresses the research questions, the patterns identified from the sessional analysis, and the implications of each for group work practice and future research. Given that this inquiry was exploratory and at times anecdotal in nature, much of what follows is offered tentatively. Indeed, it is hoped that this chapter will provoke as many questions for additional research as it provides conclusive answers.

On the Relationship between Empathy and Group Cohesion

Recalling the purpose of this inquiry, it would be prudent to address the basic question of the relationship between empathy and group cohesion. One of the benefits of time series cross-correlational analysis is the opportunity it provides to assess the temporal relationship between variables. After much effort to lay the theoretical groundwork for a hypothesis governing the relationship between empathy and group cohesion, one may be tempted to be disappointed to discover that the findings do not support the hypothetical relationship. This inquiry did not provide support for the assertion that empathy is a control parameter that influences group cohesion. Just as proposed by Yalom (1995) and a host of previous inquiries, cohesion was found to be a precursor that marginally led both empathy and other therapeutic factors. These findings also challenge some of the assertions in the literature, and the assumptions of several rating instruments, that empathy is a component of group cohesion as an allegedly multidimensional construct. Further, this finding suggests that interpersonal bonds must be established before affective contact and thus empathy follows. As was clearly demonstrated in the sessional

analyses, interpersonal bonds and affective contact do not necessarily result in rapport or an empathic response. As Levine (1979) pointed out several decades ago, anxiety, friction, conflict, and withdrawal/avoidance may also arise from affective contact. One may go as far as to ask if empathy and cohesion may be components of a larger process of human relating.

Group Cohesion

Beyond the refutation of my theoretically-based hypothesis, also challenged by the findings was the "magnetic metaphor" used in describing the properties of group cohesion. Cohesion as a force serving to constrain the variability of nonverbal behaviour was bestowed equivocal support. Although the metaphor was marginally supported by some relatively weak negative correlations with variability in aggregate nonverbal behaviour and arm position, other nonverbal components did not covary in the fashion suggested by the metaphor.

Another myth challenged to some extent by the time series analysis was that cohesion would generally increase over time. Indeed, there were sessions where cohesion actually decreased. The pattern that emerged over time was most closely approximated by MacKenzie's (1990) assertions involving a combining of linear and cyclical processes. While there was a general increase over the life of the group, the trend in group cohesion was not strictly linear: rather the increase over time varied in a cyclical pattern. Moreover, given the patterns associated with group cohesion after weekend adjournments, breaks between sessions were not the most influential factors in influencing variations in group cohesiveness. Rather conflict, friction and anxiety were more influential in producing decreases in group cohesion than were breaks between session. It is also important to note that since this group was situated in a residential setting, it is questionable as to whether breaks between sessions actually ended interaction between members. The twelfth

session was most informative on this issue. Although occurring after a weekend break, the twelfth session produced the highest ratings of observer-rated group cohesion and the fourth highest level of member-rated cohesion. What appeared to be more influential in this session was the agreed cessation of interpersonal conflict and the turning of the group's attention to the needs of one member grieving the loss of his son.

However, one metaphor for the treatment group posited by object relations theory was given some tentative support. The tenth session provided a classic example of the treatment group as what Bion (1970) would term a "container" for therapeutic work. Here, unlike earlier sessions, group cohesion did not decrease with the arising of conflict and friction among group members. It seemed that at this point the group had developed sufficient bonds to hold the conflict. Indeed, in the face of intense conflict and the highest levels of self-reported friction, observer-rated group cohesion reached its second highest level for the group.

Empathy

This inquiry also offered additional insights into the development of member-offered empathy in the group treatment process. From the sessional descriptions, one may gain an appreciation of how group members during the early sessions developed bonds and experienced affective contact. The stories of Jn, Pl, Rb, and St offered examples of how members can mutually resonate with the feelings and identification with the experiences of others through the empathic process. After hearing their stories, the group responded with caring, support, and affirmation. However, Dn's story, and the feelings of anxiety that his story evoked for other members, offered another important insight into the affective process of group treatment. Within the narrative offered by the group in relation to their experience of depression, it would seem that the dominant theme given voice was one of struggle, survival, grief, and loss. However, Dn's story was one that was much

more difficult for other males to accept, as his story included the potentially threatening themes of powerlessness, victimization, and despair. In response to his plight, some of the members responded by trying to move Dn from his stance. Their attempts to help Dn may have been driven by their needs to ward off or relieve their anxiety as much it was driven by the needs of Dn.

This conflict offered insight into how the empathic process may result in differential responses. For several group sessions, while some members offered responses to affective contact normally associated with an empathic response such as support and understanding to Dn, others responded with rejection and invalidation. Such differential responses to this conflict help to account for the positive correlation found between observer-rated empathy and variability of accessibility and engagement behaviour. While one would expect that mutual resonance would result in increased synchrony among group members, it seems that members may respond differently to affective contact depending upon the feelings that are evoked by such interactions.

Finally, while I will further elaborate upon these findings later, the negative correlation found between member-reported anxiety and empathy serve to further corroborate the above interpretation. Anxiety appears to have been antithetical to both member- and observer-rated empathy. Using self-organization theory one may ask if anxiety serves as a control parameter driving their coping behaviour. Once an individualized threshold was reached, members shifted from a supportive style to a more defensive style of relating.

In relation to the observer ratings of therapeutic effectiveness, the findings of this inquiry offered some unanticipated insights. The apparently contradictory findings between therapeutic effectiveness, member-rated empathy and cohesion, and observer-rated cohesion were interesting. At face value, one would expect a strong positive relationship similar to that achieved with empathy. However, one should keep in mind that the Hill Interaction Matrix values both

interpersonal confrontation and immediacy. Confrontation and immediacy may be perceived as threatening by group members, particularly during the early sessions of a group. This interpretation is given some credence in the findings involving nonverbal behaviour. Recall that mean engagement (i.e., the level of mutual gaze and forward lean) was found to be positively correlated with therapeutic effectiveness, while accessibility behaviour was found to be negatively correlated. One interpretation of these findings is that therapeutically effective interactions, as defined by the H.I.M. involving confrontation and immediacy, were associated with higher levels of engagement behaviour and lower levels of accessibility behaviour. In other words, when members confronted each other they tended to gaze and lean towards each other, while at the same time adopting more closed or defensive arm positions. However, this assertion is very tentative, given limited sample size of the self-reports and the marginally positive correlations achieved in time series analysis.

Interpersonal Coordination

For our findings from each of the sessions, it was clear that interpersonal coordination offers promise as a new approach to understanding the complex process of group self-organization, including the development of interpersonal bonds and relationships. Anecdotal evidence supports that notion that the various forms of coupling found through cluster and time series analysis have some salience to the relationships and interactions documented in the group over time. Was there a perfect correspondence between member nonverbal couplings and group discussion? No, but there was certainly enough evidence to support further investigation of this construct as a way of studying interpersonal bonds and group development over time. As for its promise as offering a new approach to defining and understanding group cohesion, the evidence at this point is

ambiguous at best. Based upon theory and the related empirical research, one might surmise that behavioural congruence may be a good candidate to gauge the interpersonal bonds and relative cohesiveness of a group. In a similar vein, given previous research involving synchrony in dyads, and the incorporation of resonance as a component of empathy, one might assert that interactional synchrony may be another way of measuring empathy. The results of this inquiry challenge some of these speculations and the findings of previous research relating to nonverbal behaviour. Concisely, while the findings of this inquiry are tentative, they do not support such simple linear relationships: it seems that a much more complex picture appears to have emerged here.

Behavioural Congruence

In relation to behavioural congruence, as mentioned above, if behavioural congruence was a valid indicator of group cohesion, then one would expect that the degree of similarity of postures in the group would be positively correlated with observer ratings of group cohesion. For such a linear relationship to hold, one would expect to find a negative correlation between variability in postures (i.e., standard deviation) and ratings of group cohesion. The overall quantitative results are rather equivocal on this issue. While there was some marginal support for this hypothesis in relation to aggregated body and arm position, there were other marginally contradictory findings relating to accessibility behaviour and leg position.

Comparison of anecdotal descriptions with the sessional time series and cluster analysis results offered some discernible and interesting patterns. In the first session it was noted that couplings were primarily between the worker and other members. This pattern was clearly indicative of the pattern of interactions present in the group at that time, and for most groups at an early stage of development. Another identifiable pattern emerged for new members in the group.

It seemed as if new members engaged in behaviourally congruent couplings more prominently than longer-term members. This pattern seemed to hold for P1 initially, and for the nurses who attended the group on an intermittent basis. It seemed that P1 and the nurses (W2) often adopted behaviourally congruent behaviour with others. This observation lends support to the findings of LaFrance and Broadbent (1976) as well as LaFrance and Ickes (1981), who found that posture sharing may reflect involvement or engagement as a way of developing rapport. Moreover, it directly supports Kendon's (1982) suggestions that postural relationships may become less important with the development of familiarity with the situation (procedures, expectations) and each other. However, the most frequent, though at times somewhat inconsistent, pattern was that which indicated that members who adopted behaviourally congruent postures tended to hold or agree on similar views. There was evidence acquired through the comparison of behavioural couplings and group interactions during the third, fourth, ninth, and tenth sessions. These findings support Schefflen's (1964) assertions that behavioural congruence may be associated with mutual agreement. However, the fifth and tenth sessions also offer some evidence that questions this conclusion. In these cases, it appeared that behavioural congruence might be associated with involvement or engagement but not necessarily agreement or support. For example, recall the conflict between Dn and W1 in the tenth session: while there was certainly behavioural coupling, one could not assert that there was mutual agreement between Dn and W1. Therefore, it may be wise to adopt a minimalist position here, and tentatively conclude that behavioural congruence may be indicative of involvement or engagement but not necessarily agreement. This conclusion certainly does not support the earlier findings of investigators studying dyads (notably Charney, 1966; Mehrabian, 1972; Trout & Rosenfeld, 1980), who found that behavioural congruence was an index of liking or preference.

Interactional Synchrony

In general, the picture portrayed by findings relating to interactional synchrony was far less ambiguous than for behavioural congruence. This greater clarity may have been due in part to the methodology that measured interactional synchrony through both cluster analysis and times series analysis, and then triangulated these results with the interactions summarized in each session. While behavioural congruence appeared to reflect involvement or engagement in interpersonal relating, interactional synchrony appeared largely to reflect the affective quality of those relationships. It would also appear that accessibility behaviour would be the most sensitive to what Foulkes and Anthony (1965) would have described as the "affective currents" prevailing within a treatment group.

There were many examples of how synchronous couplings were related to the affective quality of interpersonal relationships in the group. In the second session, cluster analysis depicted the dramatic impact of Jn's intervention that at least temporarily heightened the authenticity of the discussion and produced a dense constellation of couplings. Later in that session, as well as in the third session, it was also evident how increased anxiety served to disrupt synchronous couplings. It appeared that in both cases anxiety arose in response to the increase immediacy present in the group. In the later sessions it seemed that whenever members shared deeply moving stories relating to grief and loss (e.g., when Jn, Ty, St and Pl shared their stories), there also arose denser patterns of synchronous couplings. In the ninth session group members seemed to have been swept away in a contagion-like phenomenon associated with the conflict involving Dn. Then somewhat later in the tenth session, when the conflict became personal and lost its appeal, the group contagion dissipated as members decoupled from each other.

If one was to accept Kelso's (1997) assertions that control parameters become particularly noticeable under conditions of instability, then one would be tempted, based on the patterns that emerged during the sessional analysis, to assert that anxiety is a strong candidate for consideration as a control parameter in interpersonal relations. Throughout all 12 sessions were numerous examples of the disruption of synchronous couplings in response to anxiety, particularly in the midst of conflict. This assertion was to some extent corroborated by the positive correlations between member-reported anxiety, friction, and avoidance. Again, by way of example, recall how couplings were dissolved in the first session during the cathartic assault upon Dn. In that case, both behavioural congruence and interpersonal synchrony was diminished. Similar examples occurred during intense conflicts in the fifth, sixth, seventh (when Jn confronted P1), and eighth (increasing intolerance of Dn's "victimhood") sessions. An especially informative shift occurred during the sixth session, where W1's empathic rupture with Jn coincided with his decoupling in both sets of cluster plots.

One final observation offered additional support to the assertion that treatment groups may develop an increasing capacity to contain and resolve conflict. Upon review of the impact of anxiety and conflict in this group over time, a differential response by group members became evident. While both couplings indicative of behavioural congruence and interactional synchrony were disrupted when conflict arose during the first nine sessions, in the tenth session a different pattern emerged. In that session, couplings involving interactional synchrony were reduced, while behavioural congruence was far less impaired. Though there are many potential explanations for this phenomenon, it is evident that members were able to remain involved or engaged with each other during this period, despite the fact that interpersonal rapport may have been impaired. If, as suggested above, one was to assume that behavioural congruence may signal engagement that

may precede rapport, then the maintenance of behavioural congruent couplings under such circumstances may be evidence of the group's increasing tolerance of conflict, and perhaps more importantly, the opportunity for the rebuilding of interpersonal rapport. More examples of the properties of interactional synchrony will be offered for the two classes of nonverbal behaviour measured.

Engagement

While synchronous couplings may have been more sensitive to the prevailing affective currents in the group, the two classes of behaviour may have responded differentially. Engagement behaviour appeared to coincide with group interactions more reminiscent of behavioural congruence couplings. One may speculate that the reason for this pattern was that both synchronous engagement behaviour and behavioural congruence were related to the same interpersonal phenomenon, namely interpersonal involvement or engagement. Recalling that engagement behaviour involved gaze and lean behaviour, elements that have been traditionally classified as measures of interpersonal proximity and involvement, such an interpretation of these patterns becomes more defensible. More concretely, if members shift their gaze or body orientation in the same way at the same time, it may be that they are responding to the same event, most likely the person who is speaking. In this way, synchronous engagement behaviour is quite understandable as a measure of interpersonal involvement.

Numerous examples were provided in the sessional analysis, particularly involving Dn's interpersonal relationships. For example, in the first session, recall that Dn's synchronous engagement behaviour involving P1 and Sc coincided with their confrontation of him. A similar coupling occurred in the third session between Ty and P1. In the fourth session, numerous couplings with Jn may have indicated involvement or attention directed to him over his abrupt

departure from the group. As with behavioural congruence, sometimes with involvement may also come similar view and alliances in the group. This was evident in the fifth session in the couplings between W1 and the two members who challenged the status quo (Ry and St). On the other hand, the obverse of involvement would be withdrawal or avoidance, and in the seventh session there was evidence of withdrawal by group members coinciding with a reduction of synchronous engagement couplings. Similarly, in the early moments of the eleventh session the absence of what had become normal couplings with the worker were absent at a time where he exerted great efforts to engage members in group discussion. The differential nature of synchronous couplings was also evident in several sessions. In the eleventh session it was noted that initial hostility coincided with synchronous engagement behavioural couplings; however, this relationship did not extend to accessibility behaviour. Later in the session, once Ty's stance towards Dn softened, his supportive responses coincided with increased accessibility couplings with Dn

Accessibility

From the sessional analysis, synchronous accessibility behaviour was perhaps the most indicative and sensitive to the prevailing affective currents in the group. These findings support several investigators' assertions (Rosenfeld, 1982; Schefflen, 1964) that synchrony may be an index of interpersonal rapport. Evidence of this conclusion was provided in the fourth (member concern over Jn's departure), sixth (e.g., Ty's identification with Jn's story), and seventh (e.g., in response to St's story) sessions. Tentatively, synchronous accessibility behaviour may reflect shared affective resonance and may be the main factor in interactional synchrony in the cluster plots. Among the best examples were interventions offered by Jn. As an 'emotional leader' in the group, Jn's statements produced dense synchronous couplings during several sessions.

Conversely, more intense feelings of anxiety, fear, or conflict had the effect of disrupting resonant accessibility couplings as was demonstrated in the first (e.g., P1 cathartic challenge of Dn), third (e.g., over the "community" conflict), fifth (e.g., Ty's challenge of Ry's statements), sixth (e.g., impact of empathic rupture between Jn and W1), eighth (e.g., decoupling over Dn's story), and ninth (e.g., where Dn decouples with W1 and oppositional relationship between Jn and Ty over Dn) sessions.

However, perhaps the most thought-provoking example of the properties of affective resonance relating to synchronous accessibility behaviour occurred during the eleventh session. Here it was noted that Dn and other group members were coupled in terms of synchronous engagement behaviour and behavioural congruence, but not in relation to accessibility behaviour. Indeed, most disturbing was the pattern that emerged where Dn was the only member isolated from all others in terms of affectively based accessibility couplings. Briefly, many of the group members were engaged with Dn, but did not experience rapport with him. These findings suggest most tentatively, that conflict may be associated with the presence of behaviourally congruent couplings (likely involving lean and gaze) without synchronous accessibility couplings. They also stimulate curiosity, for, given the isolated position that Dn experienced, one is tempted to ask if such a pattern was indicative of what has been termed in group dynamics as 'scapegoating.' Was Dn a scapegoat, not only in terms of the verbal discussion of a few members, but the nonverbal behaviour of all other group members? Also noteworthy was the shift that took place in this pattern towards the end of the session, when Ty adopted a more supportive response, perhaps as a result of the worker's intervention prompting him to reflect upon the congruency of his words and actions. Here attenuation of Ty's projective hostility seemed to coincide with the redevelopment of synchronous accessibility couplings.

Notions about the differential functions of nonverbal behaviour as has been noted above are not new. These findings serve to confirm Schefflen's (1964) ideas concerning the differential function of body orientations and postures. Schefflen asserted that body orientations rarely involved the entire body of each participant. However, differing from Schefflen's findings, rather than being split between upper and lower halves, the findings presented here seem to support a differentiation between engagement and accessibility behaviour (as suggested by Mehrabian, 1972). Moreover, rather than maintaining group stability, as Schefflen (1964) asserted, they appear to reflect the nature and quality of interpersonal relational bonds among group members.

Limitations of Research

Throughout this discussion, mention has been made of some of the limitations underlying the research design and the ensuing findings. Limitations of this inquiry can be classified into three major types, relating to the reliability, validity, and generalizability of the findings.

In relation to reliability, extensive commentary was devoted earlier to the issues of interobserver and intraobserver reliability. Marginally lower-than-median reliability estimates for ratings of observer ratings of nonverbal positioning, as well as lower than .8 level intraclass correlations for observer ratings of empathy, cohesion, and therapeutic effectiveness, may serve to challenge the reliability of the ratings and measurements. While these are valid concerns, they are in some respects a product of the ethical principles guiding this inquiry. Of primary concern was preservation of the treatment value of the group and the therapeutic needs of group members. Certainly, reliability may have been improved by adding more cameras in recording member nonverbal behaviour and by additional observers rating nonverbal behaviour from videotaped sessions. However, such changes may have further impaired member participation in the group

and threatened the confidentiality of member statements. Thus, marginally lower reliability scores are in part the price that was paid for upholding our ethical imperatives.

In relation to the validity of the findings presented here, as has been mentioned, some of the correlations reported above, while statistically significant, were of very low order, and thus the relationships described were tentative at best. As noted above, despite efforts to minimize the differences, video observation may have detracted somewhat from the authenticity of observations. On balance, however, the methodology adopted here represented a substantial improvement over earlier contrived analogue groups.

Construct validity was raised in relation to the various measures purporting to measure group cohesion. Regrettably supporting the earlier criticism of the field was the lower than expected correlation between observer- and member-rated group cohesion. While it was noted earlier that the two instruments defined and measured the same construct in different ways, the lower-than-median interobserver ratings, coupled with the lower than expected member observer correlations, called into question the validity of the results relating to group cohesion.

Another threat to validity was the aggregation of behavioural measures. This problem was not foreseen in the original research design, where it was hoped that each member's nonverbal behaviour would form part of a matrix for analysis purposes. However, after the measures were completed it was discovered that prolonged periods of stillness in member postures (i.e., primarily in lean and leg positions) resulted in malfunctioning of the matrix analysis program. Fortunately, the literature offered some direction at this point in terms of which postural elements to aggregate for analysis purposes. One unanticipated threat to validity raised by this change of plans was the issue of additive identity. Simply put, an arm position of 1 and a leg position of 5 when added together yields the same aggregated value (6) as an arm position of 5 and a leg

position of 1. Although these are very different postures, they would be considered as the same posture when the aggregated values are utilized. While this was a concern, it was countered to some extent by the findings of previous research that had associated leg and arm position as indices of postural openness or accessibility, as well as lean and gaze positions as indices of engagement and proximity. Consequently, findings related to nonverbal behaviour in this inquiry may have been most valid in relation findings asserting congruence or synchrony for engagement and accessibility behaviour.¹¹⁴

A related issue involved the appropriateness of the analysis techniques utilized given the measurement level of the data. With the exception of lean position, the other basic postural variables (i.e., gaze, arm and leg position) were at best ordinal in nature. That is, the scale used in determining degrees of accessibility and engagement was rank ordered in degrees of magnitude (lower to higher). While treating essentially ordinal variables as interval measures for analysis purposes in such instruments as rating or Likert-type scales is common in the social sciences, one should be aware of the potential dangers that such procedures may present in that they may violate some of the assumptions underlying advanced statistical techniques, and hence call into question the validity of the results.

Finally, the generalizability of the findings of this inquiry was limited by the fact that they were based upon the study of one group, and that group members were not randomly selected or assigned. Also of potential concern were the different medications that influenced members during their participation in the group. Generalizability may have also been limited by the

¹¹⁴ This process was similar to collapsing several items or variables on a rating instrument to create one or more variables. This procedure was documented at length in the discussion on the creation of the GCES.

specialized nature of the treatment group and its gender-specific composition. The residential setting of the group allowed for day-to-day contact among members between sessions. Thus, the interactions and relationships that emerged between members may have been influenced by their interactions outside of the recorded group sessions. On the other hand, a major strength of this inquiry was that it involved the study of an actual treatment group designed to address depression and anxiety.

However, given the aforementioned ethical concerns, the lack of consistency in the field, and the improvements that this design possessed over earlier inquiries, while these limitations are of concern, they do not negate the value of the tentative findings. Rather, these limitations serve to challenge investigators to conduct further research that reduces or eliminates the aforementioned limitations. In addition to the promise of the tentative findings, the methodology adopted in this inquiry offered a new and significantly improved approach to the study of group cohesion and process-oriented variables. Time series analysis certainly allowed for the settling of some issues as to whether cohesion or other therapeutic factors are antecedent to or follow other conditions. While the moment-to-moment recording of both group level variables and nonverbal behaviour was very time consuming, this approach offered a multilevel approach to redefining cohesion and the opportunity to assess the impact of worker interventions and other critical events.

Implications for Group Work Practice

Distinguishing social work with groups from other academic disciplines is a rich legacy of empirical observations, anecdotal data, and practice wisdom. As writers like Norma Lang and Susan Henry would affirm, early group workers adopted a pragmatic and empirical approach to their study and work with groups. Early group workers generated knowledge by direct observation in the field and rather than in the laboratory. Today we benefit from the keen

observational skills of our early scholars (e.g. Coyle, Hartford) in that our literature continues to offer a rich source of practice wisdom and data from which to explore countless research questions. This inquiry honours the tradition of early social group workers through adopting a methodology that utilized direct observation as the primary source of data.

The implications of the findings of this inquiry are both meaningful and informative for group work practice. The implications of the more prominent findings may be placed into four categories: awareness of nonverbal communication, relationship building, timing of interventions, and the influence of authority issues.

The attention paid to patterns of nonverbal communication, while pragmatic in terms of achieving the objective of capturing the group-as-whole for each observation, also affirms the notions of Watzlawick, Beavin, and Jackson (1967) who observed that group members are communicating with each other at all times. Indeed, there is never a point when group members are not communicating. For many students, encountering the field of nonverbal communication for the first time is like travelling to a new country. He or she discovers a new language and culture that opens doors to new vistas of exploration and meaning. Although tentative, the findings of this inquiry related to patterns of nonverbal behaviour offer another valuable source of information enabling the worker to make sense out of their group work experiences. Perhaps most simplistically, the worker may obtain a sense of the relative engagement of members in the issue under discussion by examining their lean and gaze behaviour. While cultural differences may play a role, if the worker notices that one or more members are averting their gaze and are leaning away from the group, he or she may wish to check-in with such members at an appropriate time to solicit feedback on their experience of the group. Similarly, if one or more members have adopted closed arms and leg positions, this may also be a signal to the worker that it may be

useful to check-in with affected members concerning what they are experiencing. Of course, such interventions may not be needed the first time the worker notices such phenomena, but may be appropriate if such behaviour becomes repetitive.

As suggested by Middleman and Goldberg-Wood (1990), through scanning patterns of nonverbal behaviour displayed by members during group interactions, workers may gain information about the relative involvement and affective reactions of members to the speaker and the information he or she shares in the group. If the worker notices which members share similar postures, he or she may gain further information about who engages or is involved with whom in the group. Moreover, by tracking the timing of member changes in postural positions, especially who follows/leads others, the worker may gain a sense of which members share similar views or feelings concerning the issue under discussion. Additionally, by tracking changes in nonverbal behaviour the worker may gain a clearer picture of changing alliances, the extent to which different members are coupled with others (thereby identifying isolates), and the emergence of group leaders.

The findings also inform practice in relation to how workers may "tune-in" (Shulman, 1992) and develop relational bonds with members of the group. If, as noted above, behavioural congruence serves as a preparatory step to the development of affective contact and rapport, then it may be useful for the worker to adopt postures that reflect the intended targets of his or her interventions. By mirroring group members the worker will be better able to establish the empathic set necessary to develop a relational bond from which to offer interventions or responses that are in tune with the therapeutic needs of group members. Further, the worker may seek to move with group members in order to further enhance his or her sense of the underlying affective tone of individual group members. In this inquiry it was noteworthy how the workers

and others adopting leadership roles nonverbally coupled with one or more group members. This style of movement, especially in the context of engagement behaviour, may inform our understanding of effective active listening skills. In many cases in our sessional analysis it was common to find the workers and Jn coupling with other members. For example, recall how Jn empathically intervened with the group during the first session. His intervention coincided with Jn's coupling through synchronous accessibility couplings with Sc and Pl, both of whom were engaged in a conflict with Dn. His example and those of the workers illustrate the importance of interactional synchrony and behavioural congruence in interpersonal relationships.

This inquiry also added further support to group developmental theorists (e.g., Garland et al., 1973; Hartford, 1972; Henry, 1992; MacKenzie, 1990; Northen, 1969) who noted that the worker must adopt a differential role and function with a group as it develops over time. For example, a pattern developed early in the group where the worker was much more prominent in the pattern of couplings at the beginning of each session. Moreover, the timing of his and member interventions appeared also to have had a differential effect upon interpersonal couplings. At several points over the course of the group, the worker and Jn intervened and prompted members to examine their interpersonal relationships in the group. It would appear that the impact of these interventions was in part influenced by the interpersonal bonds that had developed in the group over time. While such interventions may have been experienced as anxiety-provoking during the early sessions, and were associated with decoupling of interpersonal bonds, later in the group sessions (Session Five) similar interventions were not accompanied by a positive impact upon behavioural couplings. A related pattern emerged with respect to the way in which interpersonal feedback and confrontations are presented. Supporting Shulman's (1992) assertions concerning the need to balance support and challenge in confrontations with others, several sessions offered

examples of how such confrontations may favourably or negatively affect the couplings in the group. Where caring and support were combined with a challenge, couplings tended to be maintained or enhanced, whereas when only a challenge was offered they were often disrupted. One of the best examples of this process was the conflict with Dn that spanned several sessions. Often while Jn, and later Ty, offered confrontations that were balanced, Sc offered those that were not. In numerous cases imbalanced interventions resulted in a decrease in safety, heightened anxiety, and decoupling among group members.

In this inquiry, a final implication for group work practice arose with respect to authority and leadership issues that have been discussed by such social group workers as Shulman (1992), Garvin (1997) and Northen (1988). In relation to authority, the findings that reported the differential effect of the worker's speaking on arm and leg variability were most interesting. One is left to speculate as to whether status or authority issues serve to constrain variability in nonverbal behaviour in a way that was originally associated with group cohesion. This suggests that authority and status may play a role in ordering member behaviour. Of course, this is only speculation at this point. A much more important phenomenon emerged during the later half of the group sessions. The sixth (Ty assuming worker role after empathic rupture with Jn), eighth (emergence of Jn as emotional leader), tenth (Jn intervention in the conflict between Dn and Ty), and twelfth (Dn adopting a worker role with Pl) sessions offered examples of how group members may assume leadership and take over the worker's role. The implications of this observation further support our practice wisdom that in a functional group the worker's role may be adopted by other members. As Levine (1979) noted in a mature treatment group worker-offered empathy is later replaced by mutuality and member-offered empathy, a process often vital to the therapeutic growth of all group members.

Implications for Future Research

Before addressing specific implications arising from this inquiry for future research, it is important to celebrate what has been achieved through what has been a four-year project of research. Consonant with the aims of doctoral research, this inquiry has pioneered new approaches to studying treatment groups and has taken group work research into a new realm of discovery. Beyond the implications of specific findings, the design and implementation of this project has creatively extended and integrated several bodies of knowledge. Responding to limitations of previous research, this inquiry has linked the constructs of interpersonal coordination, empathy and group cohesion. This project has extended our understanding of interpersonal coordination from individual and dyadic relationships to group settings. This exploratory initiative will hopefully promote additional research activity and contribute to a clearer understanding of group self-organization processes and group cohesion. Moreover, it may also promote inquiry into the development of interpersonal bonds. In addition, this inquiry has offered not only a new way of looking at group cohesion, it has introduced new tools for studying interpersonal relationships through the application of time series analysis and cluster analysis. Finally, it has provided an empirical approach, and thus a potential empirical foundation, for a vast body of anecdotal evidence, practice wisdom and theoretical concepts present within the field of group work. For example, as noted this inquiry has offered empirical support to previous notions relating to group development (including the group as a 'container' phenomenon) and group cohesion as a precursor for other therapeutic factors.

As an exploratory inquiry it has also highlighted the need for further exploration of some fundamental questions and issues. First, given the paucity of related studies, it is evident that further exploration of patterns of nonverbal behaviour in group settings is warranted. With few

exceptions, such as LaFrance and her colleagues (LaFrance & Broadbent, 1976; LaFrance & Ickes, 1981) as well as one rudimentary study by Mabry (1989), there has been little empirical activity in such a promising area of inquiry. Given the limited attention paid to this area of investigation and the tentative nature of the findings of this inquiry, further replicative studies are certainly justified.

Given the specialized nature of the group studied here (male, middle class, Caucasian), if we are to aim for production of generalizable findings, additional research is needed for groups with different compositions. The most obvious next step would be to examine and compare the findings reported here with those of an all female treatment. Fortunately, an all-female treatment group from the same ward (treating depression and anxiety) was also recorded as part of this project. However, such a project will demand some methodological changes. For example, the Hill Interaction Matrix has a clear gender bias, as betrayed by its acronym (i.e., H.I.M.). While use of the H.I.M. may be justified with an all-male population, it would pose great limitations if applied to the study of all-female or mixed-gender groups.

Further research activity may serve to clarify the rather ambiguous relationships reported in this inquiry. More attention may help to elaborate a clearer picture of the formation and disruption of interpersonal bonds and relationships in treatment groups. Development of greater clarity would open a door to a better understanding of group development as well as the potential of assessing the efficacy of worker skills, strategies, and interventions. In addition, time series analysis offers a special advantage in this field over other analysis techniques. The temporal aspect offered with time series analysis allows the investigator to identify members who lead and others that follow in relation to nonverbal couplings. Thus, this analysis technique potentially offers a new approach to examining patterns of group leadership. There were some indications

from the sessional analysis that some members may have adopted preferred nonverbal styles. Certain members such as Ry and Jn tended to more often follow others, while Ty and Sc were more apt to lead other members. One may ask if there is value in further examining such patterns and whether they offer additional approaches for assessing social functioning and the efficacy of group treatment.

Further replication may also help to identify and examine other candidates for control parameters influencing group cohesion and group development. During this inquiry one or more variables have been identified, and of these anxiety is clearly the most prominent and promising candidate. Certainly, further exploration of the impact of anxiety upon interpersonal relationships would benefit all facets of clinical practice. However, on an even more fundamental level, I speculated earlier about how cohesion and empathy may form part of a more elaborate process of human relations. Indeed, many of the results seemed to suggest that examining these variables as components of a broader relational process may be more fruitful. For example, the findings of this inquiry support further investigations that may provide clearer understanding of the functions of behavioural congruence and interpersonal synchrony in the context of interpersonal relationships. While the results described above offer a good beginning, they remain too tentative, inconsistent, and somewhat ambiguous to provide definitive answers to the roles they play in interpersonal relations and group self-organization.

Beyond replication, improved multivariate times series analysis techniques as well as improved data collection instrumentation are needed. In light of the above theoretical discussion, the inclusion of nonlinear analysis approaches may be fruitful in offering further clarity to the findings and additional avenues of investigation. Certainly developing more precise and automated data collection techniques would assist investigators in launching and publishing

additional research projects. To this end, digitization of video recordings and the use of digital markers that automatically track postural changes may promise that future behavioural research projects will be less time consuming to implement and offer greater precision. Such technical innovations will allow for greater research activity and contributions to our knowledge base in this most promising field.

Concluding Remarks

In conclusion, this inquiry offered in a microcosm many of the experiences that typify the process of inquiry. While the Western positivist tradition honours objectivity and emotional detachment, this journey of discovery has provided a remarkable range of experiences. My experience with this project began with a sense of confusion and uncertainty over the ambiguity and sparse coverage offered for this topic in the literature. Then arose a sense of curiosity and a broadening of my scope of investigation. As I continued my reading, I suddenly realized how my experiences in the Tea Dance and treatment groups paralleled those described by others as the process of interpersonal coordination. I was abruptly transformed from a state of utter confusion and despair to that of excitement in posing the eternal research question of "What if?" During the three years of work on this project, I have faced many challenges and some disappointments. However, the two most prominent feelings that I now experience concerning this work are gratitude and curiosity. As I now find myself writing the last few lines of my doctoral dissertation, I experience a sense of gratitude to all those who have helped shape my experience and assisted me in reaching this point. However, my curiosity has not yet been satisfied, and so this dissertation, although closing a chapter in terms of my doctoral program, continues as a work in progress and an ongoing investigation into the essence of human relationships.

In 1968 William Condon, who may have been the first Western researcher to investigate the properties of interpersonal coordination, offered a statement that echoed the spirit of the Dene Tea Dance when he wrote, "Moving together in harmony is communication. It is a relationship that is the message. 'I am with you'"(Condon, 1968, p. 37). This inquiry has documented the healing journey of ten courageous people. Their dance towards wholeness was but a small part of what is a universal and eternal dance. I close this dissertation with the words of Condon that I hope will honour all of those seekers who share a sense of understanding, awe, and curiosity about our fundamental epistemology and relationship with all other things:

In perceiving and knowing, the organism participates in the order of the universe in which it exists and replicates aspects of that order within itself....Human existence appears to involve a profound synchronization of the organism with the universe in which it exists and with other human beings. (Condon, 1986, pp. 74-75)

APPENDICES

Appendix A: Participant Information Form

PARTICIPANT INFORMATION FORM

Since previous research has found that member characteristics may influence how treatment groups function, it is important that basic member information is obtained for each member participating in the above research project. Your identity and responses will be kept strictly confidential. This form will be destroyed at the conclusion of this study. Only aggregate totals for each characteristic will be reported in written format. You will be asked to complete this form once only at the beginning of your group sessions.

Name: _____

1. Age: _____ 2. Gender (M or F): _____

3. Cultural/Ethnic Origin (X):

(1) First Nations _____ (2) Asian _____ (3) Caucasian _____ (4) Black _____ (5) Other _____

4. Rate Your Income Level (circle):

Low		Middle		High
1	2	3	4	5

5. Rate the level of Education you have completed (circle):

Less than Grade 8	Grade 8 - 12	Graduated	Some University	University Degree
1	2	3	4	5

6. Have you participated in treatment groups before? Yes _____ No _____ If so, how many _____

7. Do you experience any physical or mental conditions or illnesses which may affect your participation in the group? Yes _____ No _____

If so please list: _____

8. Are you currently taking any medications? Yes _____ No _____

If so please list: _____

Your cooperation and participation is most appreciated! Thanks again!

Appendix B: Harvard Community Health Plan Group Cohesiveness Scale II

11/30/87

HCHP - GCS II

GLOBAL COHESIVENESS

Measures group connectedness demonstrated by working together toward a common therapeutic goal, constructive engagement around common themes and openness to sharing personal material.

1) Very Slight

No efforts to connect with others toward a common therapeutic goal demonstrated by total inactivity or withdrawal.
or extreme fragmentation.
or extreme destructive conflict.

3) Slight

Predominantly individualistic interactions without extreme hostility, or active disruption, but with very slight attempts to connect with others and work toward a common therapeutic goal.

5) Moderate

Some attempts to connect with others and work together toward a common therapeutic goal but with limited constructive responsiveness, openness and depth.

7) Strong

Substantive attempts to connect with others around common themes with constructive responsiveness, openness and depth.

9) Very Strong

Strong efforts to connect with others and work together toward a common therapeutic goal with consistent empathic responsiveness, marked openness and depth.

Appendix C: Empathic Understanding In Interpersonal Processes Scale

The verbal and behavioral expressions of the first person either do not attend to or detract significantly from the verbal and behavioral expressions of the second person(s) in that they communicate significantly less of the second person's feelings than the second person has communicated himself.

EXAMPLES: The first person communicates an awareness of even the most obvious, expressed surface feelings of the second person. The first person may be bored or uninterested or simply operating from a preconceived frame of reference which totally excludes that of the other person(s).

¹This scale is derived in part from "A Scale for the Measurement of Accurate Empathy," which has been validated in extensive process and outcome research on counseling and psychotherapy (summarized in Truax & Carthoff, 1967), and in part from an earlier version that had been validated in extensive process and outcome research on counseling and psychotherapy (summarized in Carthoff, 1966; Carthoff & Berenson, 1967). In addition, similar measures of similar constructs have received extensive support in the literature of counseling and therapy and education. The present scale was written to apply to all interpersonal processes and represents a systematic attempt to reduce ambiguity and increase reliability. In the process many important refinements and additions have been made, including, in particular, the change to a systematic focus upon the additive, subtractive, or interchangeable aspects of the levels of communication of understanding. For comparative purposes, level 1 of the present scale is approximately equal to stage 1 of the Truax scale. The remaining levels are approximately correspondent: level 2 and stage 2 and 3 of the earlier version; level 3 and stages 4 and 5; level 4 and stages 6 and 7; level 5 and stages 8 and 9. The levels of the present scale are approximately equal to the levels of the earlier version of this scale.

In summary, the first person does everything but express that he is listening, understanding, or being sensitive to even the feelings of the other person in such a way as to detract significantly from the communications of the second person.

Level 2

While the first person responds to the expressed feelings of the second person(s), he does so in such a way that he abstracts noticeable affect from the communications of the second person.

EXAMPLES: The first person may communicate some awareness of obvious surface feelings of the second person, but his communications drain off a level of the affect and distort the level of meaning. The first person may communicate his own ideas of what may be going on, but these are not congruent with the expressions of the second person.

In summary, the first person tends to respond to other than what the second person is expressing or indicating.

Level 3

The expressions of the first person in response to the expressed feelings of the second person(s) are essentially interchangeable with those of the second person in that they express essentially the same affect and meaning.

EXAMPLE: The first person responds with accurate understanding of the surface feelings of the second person but may not respond to or may misinterpret the deeper feelings.

In summary, the first person is responding so as to neither abstract from nor add to the expressions of the second person; but he does not respond accurately to how that person really feels beneath the surface feelings. Level 3 constitutes the minimal level of facilitative interpersonal functioning.

Level 4

The responses of the first person add noticeably to the expressions of the second person(s) in such a way as to express feelings a level deeper than the second person was able to express himself.

EXAMPLE: The facilitator communicates his understanding of the expressions of the second person at a level deeper than they were expressed, and thus enables the second person to experience and/or express feelings he was unable to express previously.

In summary, the facilitator's responses add deeper feeling and meaning to the expressions of the second person.

Level 5

The first person's responses add significantly to the feeling and meaning of the expressions of the second person(s) in such a way as to (1) accurately express feelings levels below what the person himself was able to express or (2) in the event of an going deep self-exploration on the second person's part, to be fully with him in his deepest moments.

Appendix D: Hill Interaction Matrix

Hill Interaction Matrix

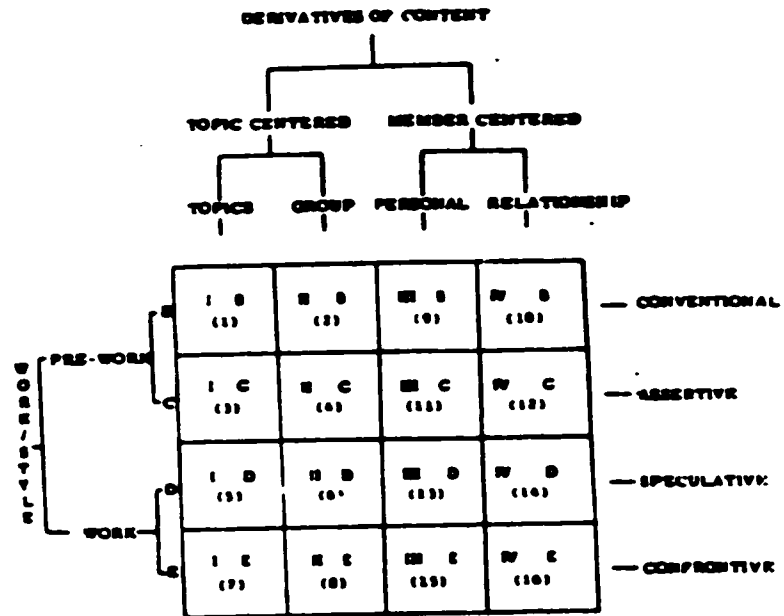


Table with 5 columns: Topic (centered), Group (centered), Process, Role, and Feedback. The table contains 12 numbered rows describing various group dynamics and roles.

Appendix E: Code Book

Dancing Towards Wholeness

Code Book- Ratings (Revised)

Variable Name	Engagement (Lean + Gaze)	Gaze (1-6) (Recorded 1-5)	Accessibility (Arms + Legs)	HCHP Group Cohesion	Empathic Understanding	Therapeutic Effectiveness (H.I.M.)
Sub-Variable (Range)	Lean (1-5)		Arms (1-7)	(1-9)	(1-5)	(1-16)
	1= far back	1= averted	1= both arms crossed chest/stomach	1= very slight	1= Not attending or significantly detracts	1= Conventional/Topic Centred 2= Conventional/Group Centred
	2= back	2= nodding/averted, delete	2= together or clasped over chest or at chin or face	2	2= Subtracts noticeable affect	3= Assertive/Topic Centred 4= Assertive/Group Centred
	3= upright	3= indirect recode to 2	3= asymmetry one arm crossing body (e.g. at mouth or chin or face) other in lap or at sides	3= slight	3= Expression of interchangeable affect	5= Speculative/Topic Centred 6= Speculative/Group Centred
	4= forward	4= direct (tilted) recode to 3	4= clasped or clenched in lap	4	4= Adds noticeable affect and deepens	7= Confrontive/Topic Centred 8= Confrontive/Group Centred
	5= far forward	5= direct (towards receiver) recode to 4	5= both in lap	5= moderate	5= Adds and significantly deepens affect	9= Conventional/Personal Relational 10= Conventional/Relational
		6= direct (towards speaker) recode to 5	6= one in lap other at side	6		11= Assertive/Personal 12= Assertive/Relational
			7= both apart & at sides or behind or raised	7= strong		13= Speculative/Personal 14= Speculative/Relational
				8 9= very strong		15= Confrontive/Personal 16= Confrontive/Relational

Dancing Towards Wholeness

Code Book- Group Cohesion & Empathy Scale - Variable List

Variable Name	Engagement	Cohesion	Avoidance	Empathy	Anxiety	Conflict
Calculated	Mean items #1,2,4,8,11,19	Mean items #13,14	Mean items #3,5,7,9,10,18	Mean items #15,17,20	Mean items #12,16	Item #6
	#1 -cared members liking & caring	#13 -unity feelings of unity	#3 -avoid members avoided issues	#15 -oemp other member's empathy	#12 -oanx other member's anxiety	#6 -frictn friction and anger between members
	#2 -undst members try to understand	#14 -goals group will help achieve goals	#5 -dpend members depended on leaders	#17 -ldemp group leader's empathy	#16 -pranx personal anxiety	
	#4 -part member participation		#7 -distnt members were distant	#20 -premp personal empathy		
	#8 -cnfrnt members challenged & confronted each other		#9 -acctpt member did things acceptable to group			
	#11 -osdsc members self-disclosure		#10 -reject members rejected & distrusted each other			
	#19 -prsdsc personal self-disclosure		#18 -prwth personal withdrawal			

Appendix F: Group Cohesion and Empathy Scale

GROUP COHESION AND EMPATHY SCALE

Name: _____ Group: _____ Date: _____

The following statements are designed to rate the level of therapeutic factors (e.g. empathy, cohesion, self-disclosure) present in treatment groups. Your responses will not be read until your group has completed all its sessions. Your responses will be kept completely confidential. After you have responded to each statement, please fold this form and place in the envelope provided. Then seal the envelope. One member of your group will be asked to collect your envelope and enclose it in a larger envelope.

Rating Scale	
0	- not at all
1	- a little bit
2	- somewhat
3	- moderately
4	- quite a bit
5	- a great deal
6	- extremely

Please read each statement carefully. Using the rating scale as a guide, circle the number for each statement that best describes the group during today's session. Please respond to each statement. Please mark only ONE answer for each statement. Thanks!

1. The members liked and cared about each other	0	1	2	3	4	5	6
2. The members tried to understand why they do the things they do, tried to reason it out	0	1	2	3	4	5	6
3. The members avoided looking at important issues going on between themselves	0	1	2	3	4	5	6
4. The members felt what was happening was important and there was a sense of participation	0	1	2	3	4	5	6
5. The members depended on the group leader(s) for direction	0	1	2	3	4	5	6
6. There was friction and anger between the members	0	1	2	3	4	5	6
7. The members were distant and withdrawn from each other	0	1	2	3	4	5	6
8. The members challenged and confronted each other in their efforts to sort things out	0	1	2	3	4	5	6
9. The members appeared to do things the way they thought would be acceptable to the group	0	1	2	3	4	5	6
10. The members rejected and distrusted each other	0	1	2	3	4	5	6
11. The members revealed sensitive personal information or feelings	0	1	2	3	4	5	6
12. The members appeared tense and anxious	0	1	2	3	4	5	6
13. In spite of individual differences, a feeling of unity exists in the group	0	1	2	3	4	5	6
14. I feel that working with this group will enable me to achieve my personal goals for which I sought the group	0	1	2	3	4	5	6
15. The other members understood how the things I experienced felt to me	0	1	2	3	4	5	6
16. I felt tense and anxious during the session	0	1	2	3	4	5	6
17. The group leader(s) understood how the things I experienced felt to me	0	1	2	3	4	5	6
18. I felt distant and withdrawn from the other members	0	1	2	3	4	5	6
19. I revealed sensitive personal information or feelings	0	1	2	3	4	5	6
20. I understood how the things other members experienced felt to them	0	1	2	3	4	5	6

Your cooperation and participation is most appreciated! Thanks again!

Appendix G: University Ethics Approval Letter



Founded 1911

August 31, 1998

Mr. William Pelech
c/o Faculty of Social Work
Wilfrid Laurier University

Dear Mr. Pelech:

Re: Your Dissertation Research Proposal entitled "Dancing Towards Wholeness: An Examination of Empathy and Cohesion in Social Work Treatment Groups"

The Research Ethics Committee has reviewed the revisions to your original proposal and determined that the proposal is ethically sound.

If the research plan and methods should change in a way that may bring into question the project's adherence to acceptable ethical norms, please contact me as soon as possible and before the changes are put into place.

Yours sincerely,

A handwritten signature in cursive script, appearing to read "Linda Parker".

Linda Parker, PhD
Assistant Dean of Graduate Studies and Research, and
Chairperson, WLU Research Ethics Committee

LP/jb

cc: Dr. R. Basso, Faculty of Social Work

Appendix H: Hospital Ethics Approval Letter

Affiliated with York University

October 2, 1998

William James Pelech
Faculty of Social Work
Wilfred Laurier University
Waterloo, Ontario
N2L 3C5

Dear Mr. Pelech:

This is to confirm that approval was given at the Homewood Research Ethics Committee Meeting, held on Thursday, September 24, 1998 to carry out the project entitled, **"Dancing towards wholeness: An Examination of Empathy and Cohesion in Social Work Treatment Groups"**. The study was presented by yourself, William Pelech.

The members in attendance at the meeting were:

Dr. John Pellettier, Specialized Psychiatry Division, Acting Chairperson
JoLynn Wright, Research Coordinator - Community Division
Karen Hubbarde, Research Assistant - Community Division
Ian Chovil - Director, Community Education
Dr. Wilson Lit, Director - Community Division
Cathy Barber, Administrative Assistant, Participant and Recorder
Eileen McIntosh, Patient Care Coordinator - Community Division
Steve Abdool, Ethics Consultant

This will acknowledge that William Pelech did not vote.

Sincerely,



JP:cb

John Pellettier, MD, FRCP (C), Acting Chairperson
Specialized Psychiatry Division
Homewood Research Ethics Committee



Canadian Council on Health
Services Accreditation
4-YEAR AWARD (1995-1999)

Appendix I: Information for Potential Participants



Founded 1911

**Dancing Towards Wholeness:
An Examination of Empathy and Cohesion in Social Work Treatment Groups**

INFORMATION FOR POTENTIAL PARTICIPANTS

This information sheet is to invite your participation in a research project which examines the role that empathy and group cohesion play in treatment groups. This study attempts to respond to a need in the field for greater understanding of how empathy and group cohesion vary over the life of a group. Empathy is the ability to experience and understand the feelings of others. Cohesion refers to the sense of connectedness or belonging that often arises from participating in a group. This research will potentially contribute to a better understanding of therapeutic group processes, and ultimately, improve the overall therapeutic effectiveness of treatment groups. Data will be collected in two ways:

1. Video Recording of Group Therapy Sessions

This study involves videotaping of your group treatment sessions. Videotaped recordings will then be rated by me on a continuous basis for group cohesion, empathy and therapeutic effectiveness. To assess the accuracy and reliability of my ratings, randomly sampled videotaped segments of your therapy group will also be rated by one of the group therapists who worked with your group. If one of your group therapists is not available to complete these ratings, their immediate clinical supervisor may be asked to do so.

Recording of any group session will not proceed unless all group participants have consented in writing to participate in this study. Further, you may at any time revoke your consent to participate in this study. In the event that you do wish to revoke your consent, the recording equipment will be turned off. Recording may resume only if members who have revoked their consent, once again consent to the resuming of recording. In the event that it becomes apparent that any participant has become so distracted or uncomfortable with the presence or operation of recording equipment that his or her full participation in group treatment is impaired in any way, the equipment will be immediately turned off. Under such circumstances, recording may be resumed only when the affected participant(s) state that such recording will no longer impair their full and free participation.

2. Completion of the Group Cohesion and Empathy Scale

You will also be invited to respond to a Group Cohesion and Empathy Scale (a copy is attached for your perusal). At the end of each group session you will be given a copy of this scale and asked to respond to statements which rate the level of various therapeutic factors present in the group during the session. In addition, for statistical purposes, you will also be asked to complete a Participant Information Form at the end of the first session (a copy is also attached for your perusal). After you have responded to each statement on Group Cohesion and Empathy Scale, you will be asked to fold this form and place in the envelope provided and then seal the envelope. One member of your group will be asked to collect your envelope and enclose it in a larger envelope. Your responses will not be read until your group has completed all its sessions.

Faculty of Social Work

Wilfrid Laurier University, Waterloo, Ontario, Canada N2L 3C5 (519) 884-1970 Fax: (519) 866-9732

INFORMATION FOR GROUP THERAPISTS

This information sheet is to invite your participation in a research project which examines the roles that empathy and group cohesion play in treatment groups. This study attempts to respond to a need in the field for greater understanding of how empathy and group cohesion vary over the life of a group. This research will potentially contribute to a better understanding of therapeutic group processes, and ultimately, improve the overall therapeutic effectiveness of treatment groups.

I am a doctoral student in the Faculty of Social Work at Wilfrid Laurier University. This study will be reported in a dissertation report prepared by me and serves to meet the partial requirements of a doctoral degree in social work. My advisor is Dr. Robert Basso, Associate Professor, in the Faculty of Social Work at Wilfrid Laurier University.

This study involves videotaping of your group treatment sessions. Videotaped recordings will be rated by me on a moment to moment basis for group cohesion, empathy and therapeutic effectiveness. To assess the accuracy and reliability of my ratings, you will be asked to rate randomly sampled videotaped segments of your therapy group. If you (or your co-therapist) are not able to complete these ratings, your immediate clinical supervisor may be asked to do so.

Recording of any group session will not proceed unless all group participants have consented in writing to participate in this study. Further, you, as well as any of the other participants, may at any time revoke your consent to participate in this study. In the event that you, or any of the other participants, do wish to revoke your consent, please turn the recording equipment off immediately. Recording may resume only if participants who have revoked their consent, once again consent to the resuming of recording. In the event that it becomes apparent that any participant has become so distracted or uncomfortable with the presence or operation of recording equipment that his or her full participation in group treatment is impaired in any way, you should immediately turn off the recording equipment. Under such circumstances, recording may be resumed only when the affected participant(s) state that such recording will no longer impair their full and free participation.

Participation in this inquiry will be strictly voluntary. You may freely choose not to participate or to revoke your consent at anytime without explanation. No penalty will be imposed upon you if refuse to consent or subsequently revoke your consent to participate.

No one, other than your immediate clinical supervisor and myself will have access to the videotaped recordings. All identifying information included in transcripts prepared from group treatment sessions will either be removed or altered so as to preserve your anonymity and protect the confidentiality of each participant's recorded statements. Confidentiality will be strictly maintained except as required by law. Please note that I am bound by legally imposed and ethical limits to confidentiality. In the event that I note during review of the videotaped recordings that a group member has disclosed some information which must be reported (e.g. abuse of children), I will first consult with you or your immediate clinical supervisor to determine if the disclosure has been reported as prescribed by law. If it has not, I will then be obligated to report the disclosure to the appropriate authorities. It is my hope that all participants will clearly understand the limits of confidentiality. All videotapes will be kept in a locked cabinet at the agency in which they were recorded, except when they are removed for transcribing or coding purposes by me. When in my possession, all taped recordings will be kept in a locked cabinet.

Appendix J: Participant Consent Forms



Founded 1911

**Dancing Towards Wholeness:
An Examination of Empathy and Cohesion in Social Work Treatment Groups**

PARTICIPANT CONSENT FORM

In signing this consent form, I understand that I am consenting to participate in a study which examines the role that empathy and group cohesion play in treatment groups. I further understand that the information gathered in this study will be summarized in a dissertation prepared by the Principal Investigator, William Pelech. I further understand that:

1. My participation in this inquiry is strictly voluntary and that I may freely choose not to participate or to revoke my consent at anytime without explanation;
2. No penalty will be imposed upon me if I refuse to consent or subsequently revoke my consent to participate in this study. Agency services, including membership in the treatment group, will neither be denied nor limited to me in any way if I refuse to participate in this study or later revoke my consent;
3. No one, other than my therapists, their supervisors, and the Principal Investigator, William Pelech, will have access to my written responses or the videotaped recordings of my group sessions;
4. All identifying information included in transcripts prepared from recorded group treatment sessions will either be removed or altered so as to preserve my anonymity and protect the confidentiality of my recorded statements;
5. Confidentiality will be strictly maintained except as required by law;
6. All videotapes and written responses will be kept in a locked cabinet at the Homewood Health Centre, except when they are removed for analysis purposes by the Principal Investigator, William Pelech. The Principal Investigator will also store all taped recordings and written responses in a locked cabinet;
7. Only the numerical ratings of videotaped recordings and written responses will be reported in written format;
8. Random selections of transcribed segments, lacking any details which would potentially identify or be linked to me, may be included in the final dissertation to demonstrate the rating system employed in this study;
9. All videotaped recordings and written responses will be erased or destroyed at the conclusion of this study;
10. The Principal Investigator, William Pelech will advise me of any new information that may have a bearing on my decision to participate in this study.
11. In receiving this information form, the Homewood Health Centre and my therapists have agreed to participate in this study.

Finally, I understand that, if at any time I have any concerns or questions about this study, I may ask my group therapist(s) to contact the Principal Investigator, William Pelech to obtain additional information or I may call him directly at (519) 725-4603. I, or my therapists, may also contact Dr. Robert Basso at 884-1970 ext. 2031. I also understand that a copy of the preliminary findings of this study will be made available to me approximately six months after the completion of the recording of my treatment group. I may request a copy of these findings by providing my address in the space below.

My signature indicates that this study has been explained to me, that I understand fully both Information for Potential Participants form and this Participant Consent form, and that a copy of both forms has been given to me for my own records.

Participant:
Name (print): _____ Signature: _____ Date: _____

Please forward a copy of the preliminary findings to: _____

Faculty of Social Work

Wilfrid Laurier University, Waterloo, Ontario, Canada N2L 3C5 (519) 884-1970 Fax: (519) 888-9732

An Examination of Empathy and Cohesion in Social Work Treatment Groups

GROUP THERAPIST CONSENT FORM

In signing this consent form, I understand that I am consenting to participate in a study which examines the roles that empathy and group cohesion play in treatment groups. I further understand that the information gathered in this study will be summarized in a dissertation prepared by the Principal Investigator, William Pelech. I further understand that:

1. My participation in this inquiry is strictly voluntary and that I may freely choose not to participate or to revoke my consent at anytime without explanation;
2. No penalty will be imposed upon me if I refuse to consent or subsequently revoke my consent to participate in this study;
3. No one, other than my supervisor and the Principal Investigator, William Pelech, will have access to the videotaped recordings of my group sessions;
4. All identifying information included in transcripts prepared from recorded group treatment sessions will either be removed or altered so as to preserve participant anonymity and protect the confidentiality of all group participant statements;
5. Confidentiality will be strictly maintained except as required by law;
6. All videotapes will be kept in a locked cabinet at the agency in which they were recorded, except when they are removed for transcribing or coding purposes by the Principal Investigator, William Pelech. The Principal Investigator will also store all taped recordings in a locked cabinet;
7. Only the numerical ratings of videotaped recordings will be reported in written format;
8. Random selections of transcribed segments, lacking any details which would potentially identify or be linked to me, or any of the group participants, may be included in the final dissertation to demonstrate the rating system employed in this study;
9. All videotaped recordings will be erased at the conclusion of this study;
10. In receiving this information form, I understand that the agency sponsoring my group has agreed to participate in this study.

Finally, I understand that, if at any time I have any concerns or questions about this study, I may contact the Principal Investigator, William Pelech to obtain additional information at (519) 725-4603. I may also contact Dr. Robert Basso at 884-1970 ext. 2031. I also understand that a copy of the preliminary findings of this study will be made available to me approximately six months after the completion of the recording of my treatment group. I may request a copy of these findings by providing my address in the space below.

My signature indicates that this study has been explained to me, that I understand fully both Information for Group Therapists form and this Group Therapist Consent form, and that a copy of both forms has been given to me for my own records.

Therapist:
Name (print): _____ Signature: _____ Date: _____

Please forward a copy of the preliminary findings to: _____

Appendix K: Therapist's Video Rating Guide

Dancing Towards Wholeness***Group Therapist Video Rating Guide***

You have been asked to rate approximately 60 randomly selected taped segments. Each segment will be approximately 1 to 2 minutes in duration. On the video tape each segment has been numbered (a number will appear for approximately 10 seconds prior to the start of each segment). Please rate each segment for each of three qualities: empathy, therapeutic effectiveness and group cohesion. Please record your ratings on the rating sheets enclosed. If you encounter any problems or difficulties with completing the ratings or need further clarification of these instructions, don't hesitate to contact me at (519) 725-4603. Please complete the ratings on or before July 15th 1999. Once completed please contact me and I will pick up the rating sheets and tapes at Homewood.

Tape Seg#

In this column a number from 1 to 60 is listed which corresponds to each of the 60 taped segments recorded on your tape. A number should appear on your screen for approximately 10 seconds prior to each segment. If a number does not appear or you encounter any problem with identifying the number of any of the segments, please call me immediately.

Time & Speaker

During each segment please pick one statement by one person to rate for the qualities of empathy and therapeutic effectiveness. You may choose to rate any statement provided your rating applies to the entire statement made by the chosen speaker. The entire statement is one which is unbroken by a statement by another person or a long pause. Please note the elapsed tape time at the end of the statement you have chosen to rate for empathy and therapeutic effectiveness as well as the first name of the speaker. If you do not have access to a vcr which indicates elapsed tape time, I will provide one.

Empathy

Ratings of empathy are based upon the Carkuff Empathic Understanding scale. This is a five point scale which rates the relative empathy of a person's statements based upon the following criteria.

Rating Level 1

The verbal and behavioural expressions of the responding person *either do not attend to or detracts from* the verbal and behavioural expressions of the other in that they communicate significantly less of the other's feelings than the other communicated him or her self.

Rating Level 2

The person responds in a such a way that he or she *subtracts noticeable affect* from the communications of the other person.

Rating Level 3

The person responds so as to neither subtract from nor add to the expressions of the other. He or she does not respond accurately to how the other really feels beneath the surface feelings. The response is *essentially interchangeable* with those of the other.

Rating Level 4

The person responds in a way which *adds noticeably* to the expressions of the other in such a way as to express feelings on a level deeper than the other was able to express him or herself.

Rating Level 5

The person responds in such a way as to (a) *accurately express feelings below* what the other was able to express or (b) in the event of ongoing deep self-exploration on the other's part, the respondent was able to be *fully with him or her* in his or her deepest moments.

- Note: see attached photocopy of Carkuff scale for further information.
-

Hill Matrix (Therapeutic Effectiveness)

For the statement chosen for rating of empathy, also rate the same statement for its therapeutic effectiveness based upon the Hill Interaction Matrix. The Matrix is comprised of 16 categories. The easiest way to employ the Hill Matrix is to:

1. Determine whether the statement is first to determine the focus of the statement:
 - a. topic centred (that is speaking about some topic related to mental health or adjustment or another issue which does not refer to a member of the group) or,
 - b. group centred - refers to or evaluates the group in some way
 - c. personal - refers to the speaker such as his or her past, present or future behaviour, feelings or experiences
 - d. relational - refers to a relationships between group members have with each other.

Once you have determined which of the above four classes the statement falls under, then determine the type of the statement:

- a. conventional - a simple statement of fact or opinion
- b. assertive - a statement which is argumentative, hostile, provocative or self-assertive
- c. speculative- a statement which is offered tentatively and/or encourages further elaboration, exploration or evaluation
- d. confrontive - an statement which is insightful, critical, penetrating, analytical or points out contradictions or discrepancies in the statements/behaviour of another member.

After you have determined the type and focus of the chosen statement you will then be able to determine which of the 16 categories the statement should be rated as:

- 1=Conventional/Topic Centred
- 2=Conventional/Group Centred
- 3=Assertive/Topic Centred
- 4=Assertive/Group Centred
- 5=Speculative/Topic Centred
- 6=Speculative/Group Centred
- 7=Confrontive/Topic Centred
- 8=Confrontive/Group Centred
- 9=Conventional/Personal
- 10=Conventional/Relational
- 11=Assertive/Personal
- 12=Assertive/Relational
- 13=Speculative/Personal
- 14=Speculative/Relational
- 15=Confrontive/Personal
- 16=Confrontive/Relational

• Note: for further elaboration of each category see attached summary sheet

Group Cohesion

Unlike the previous two ratings, you do not choose only one statement to rate group cohesion. Rather you rate group cohesion based upon the entire 1 to 2 minute segment. The measure of group cohesion employed here measures group connectedness demonstrated by working together toward a common therapeutic goal, constructive engagement around common themes and openness to sharing personal material. Since the segments you are viewing are quite short, it may be difficult to assess the overall group cohesion for the segment. To make this easier try to remember the context from which the segment was derived and include your recollections of how cohesive the group was at the point this segment was recorded in order to gain a fuller sense of the group cohesion.

This scale rates cohesion on a range of 1 to 9. Only the odd number ordinals are assigned descriptive labels, you are to assign the segment an even number rating if it falls in between one of the odd numbers. For example if the group was more cohesive than a 1 and less than a 3 then rate it as a 2.

Level 1 - Very Slight

No efforts to connect with others toward a common therapeutic goal demonstrated by total inactivity or withdrawal or extreme fragmentation or extreme destructive conflict.

Level 2 - a rating of more group connectedness than level 1 and less than level 3.

Level 3 - Slight

Predominantly individualistic interactions without extreme hostility or active disruption, but with very slight attempts to connect with others and work toward a common therapeutic goal.

Level 4 - a rating of more group connectedness than level 3 and less than level 5.

Level 5 - Moderate

Some attempts to connect with others and work together toward a common therapeutic goal but with limited constructive responsiveness, openness and depth.

Level 6 - a rating of more group connectedness than level 5 and less than level 7.

Level 7 - Strong

Substantive attempts to connect with others around common themes with constructive responsiveness, openness and depth.

Level 8 - a rating of more group connectedness than level 7 and less than level 9.

Level 9 - Very Strong

Strong efforts to connect with others and work together toward a common therapeutic goal with consistent empathic responsiveness, marked openness and depth.

Videotape Rating Sheet
Men's Process Group

Rated by _____

<i>Tape Seg#</i>	<i>Time</i>	<i>Speaker</i> (First Name)	<i>Empathy</i> (1 to 5)	<i>Hill Matrix</i> (1 to 16)	<i>Group Cohesion</i> (1 to 9 for entire segment)	<i>Comments</i>
1						
2						
3						
4						
5						
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7						
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12						
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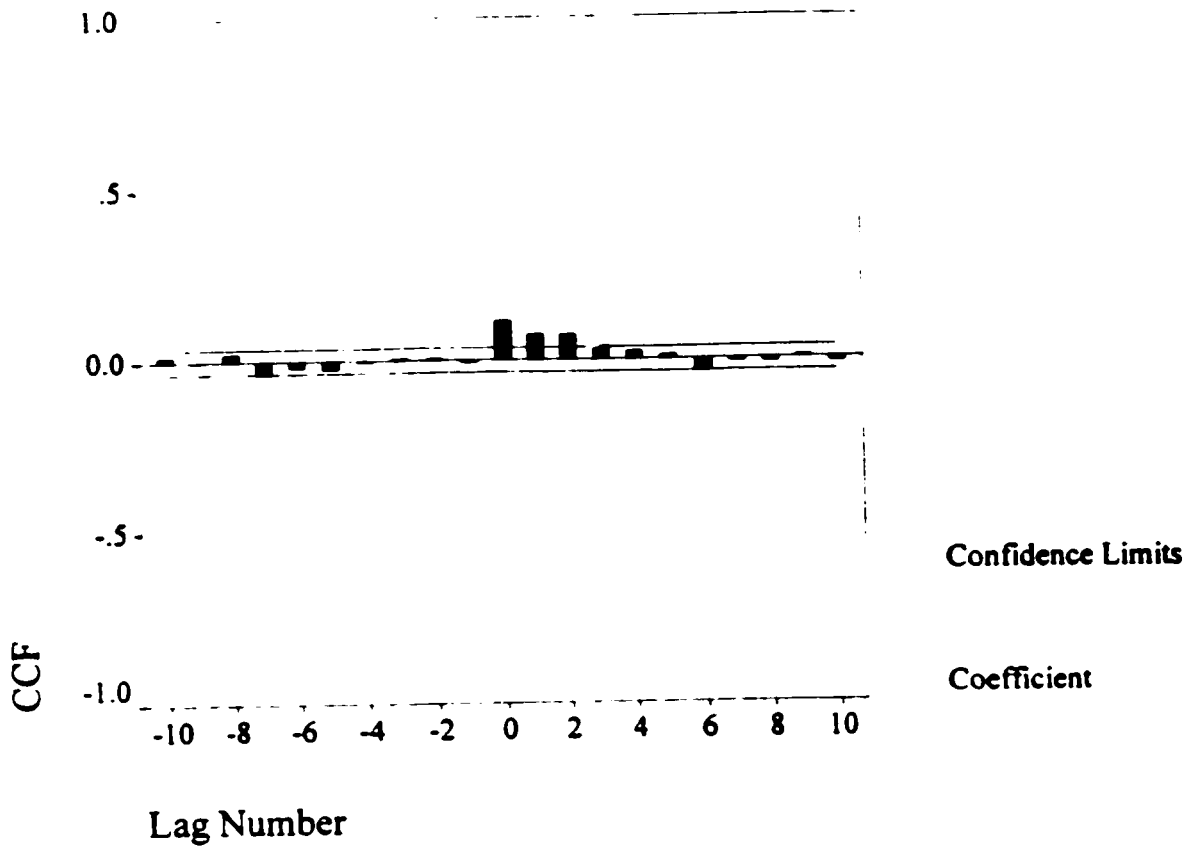
Videotape Rating Sheet
Men's Process Group

Rated by _____

<i>Tape Seg#</i>	<i>Time</i>	<i>Speaker</i> (First Name)	<i>Empathy</i> (1 to 5)	<i>Hill Matrix</i> (1 to 16)	<i>Group Cohesion</i> (1 to 9 for entire segment)	<i>Comments</i>
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Appendix L: Sample Time Series Plot

Empathy Following Cohesion



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