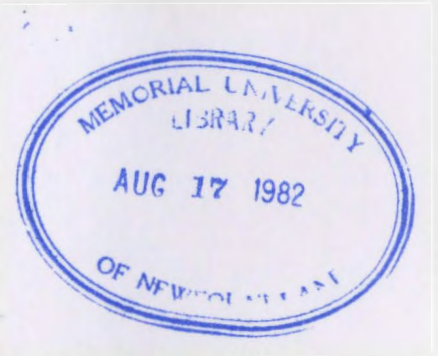
SENSITIVITY TO FACIAL EXPRESSIONS AS A FUNCTION OF GROUP EXPERIENCE: HOLISTIC THEORY AND NONVERBAL COMMUNICATION

DONNA LEE PATTERSON



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SENSITIVITY TO FACIAL EXPRESSIONS AS A FUNCTION OF GROUP EXPERIENCE: HOLISTIC THEORY AND NONVERBAL COMMUNICATION

by

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A Thesis Submitted to
The Department of Educational Psychology
Memorial University of Newfoundland

In Partial Fulfillment of
the Requirements for the Degree
Master of Education

Spring 1980

St. John's Newfoundland

ABSTRACT

This research examined nonverbal communication (NVC), namely the decoding of facial affect, in light of a holistic theoretical framework. Primarily a study of communication, this work was aimed at discovering whether or not accuracy in decoding facial affect increased as a function of group/laboratory experience. Twenty-seven subjects (18 experimental and 9 control) took part. All subjects completed a test battery which included the Affect Recognition Scale (ARS), a measure of sensitivity to facial affect. This instrument, based on the work of Ekman and associates (1975), consisted of a series of slides depicting six affect categories--happy, sad, fear, anger, surprise, disgust, each at three intensity levels--slight, moderate and extreme. The Q-Sort, a measure of personal congruence, plus a questionnaire on the nature of group experience were also used as part of the test battery. Each administration of these instruments (pre- and post-) yielded one correlation for the Q-Sort plus a series of scores on the ARS.

While the mean for both groups changed in a positive direction on the Q-Sort, this change was not statistically significant. There was a statistically significant change on the overall mean of the ARS for the

control group on the post-administration. As well on the post, there was a significant difference between groups on one of the ARS subtests. Other non-significant trends were discussed.

Holistic theory as well as Dabrowski's theory of positive disintegration were used in the discussion of these results. A number of limitations of the study and suggestions for future research were also presented.

The methodology used in this study may be useful in further attempts to understand the development and theoretical basis of NVC. Much of the value of the work lies in its exploratory heuristic nature and in its attempt to evolve theoretical directions for future NVC research.

ACKNOWLEDGEMENTS

To Dr. Gary Jeffery, my mentor, for knowing how to plant seeds and nourish them so that they would bear fruit.

To Dr. Terry Boak for bothering to ask the right questions and caring about the answers.

To Dr. Toni Laidlaw for a careful, thorough reading.

To Ruth Cornish for making the computer just a little less a monster.

To Mary Lawlor for typing the final product.

To members of the laboratory without whom there would be no study.

To the many friends who believed I could/would finish.

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CHAPTER I

INTRODUCTION

The inherent direction of all development is towards:

> a) increasing differentiation and specification of primitive action systems that are initially fused with each other in one global organization, causing
> b) the emergence of novel and increasingly discrete action systems that are also increasingly integrated within themselves, such that
> c) the most advanced (differentiated, specialized and internally integrated) systems hierarchically integrate (functionally subordinate and regulate) less developed systems.
>
> (Langer, 1969, p. 72)

The above quotation represents an encapsulation of orthogenetic theory which proposes that development is a synthesized process which interweaves two antithetical organismic tendencies--one being to maintain continuity in order to conserve the individual's integrity (survival and organizational coherence) and the other being to elaborate discontinuity in order to promote and produce change (see Langer, 1969, pp. 88-92; Werner, 1948, pp. 53-55; Werner & Kaplan, 1963, p. 5). One aspect of psychological growth according to this theory takes the form of the individual being increasingly able to differentiate between subtleties in information within an experiential component (Witkin, Dye, Faterson,

Goodenough, Karp, 1962, p. 256). In order for this differentiation to occur, it is vital that opportunity for appropriate experience be available; thus, an interactive model is proposed. While a more exhaustive discussion of this model can be found in Werner's Theory of Orthogenesis, this view of growth is both common and basic to all of what is termed holistic theory (see Dabrowski, 1964; Langer, 1969; Schachtel, 1959; Schmidt, 1973; Werner, 1948; and Werner & Kaplan, 1952, 1963). This thesis is an examination of the orthogenetic principle as it relates to the development of Non Verbal Communication (NVC).

Although this study may be viewed from a variety of perspectives, in particular that of orthogenetic theory, it is decidedly a study in communication; one in which the method of determining the meaning of an act is based on observer judgement and so falls readily within the framework offered by Ekman and Friesen (1968, pp. 176-216). This study proposes the application of a theoretical framework to the area of Non Verbal Communication (NVC).

A small number of diverse theorists, writers and researchers have defined communication as a multi-channel transmission of information (see Mehrabian, 1971; Sebeok, Hayes & Bateson, 1964; Watzlawick, 1964, 1967; Weitz, 1974). Bateson (1960, 1968) and Birdwhistell (1952, 1963, 1968, 1970) are considered among the first to have involved themselves extensively in studying communication using this

multi-channel perspective. Laban (1947; 1950; 1956; 1963; 1966) and Watzlawick (1964; 1967), among others, have focused on the place of the individual in the communication process while Bales (1950; 1951), Argyle (1972), Goffman (1959; 1961; 1963) and Scheflen (1963; 1964; 1967; 1969; 1973a; 1973b) have studied group interactions and their impact in this process. Rogers (1951a; 1951b; 1967a; 1967b; 1971) and Carkhuff (1969; 1971) have focused on the role of communication in the counselling process with the aim of increasing counsellor effectiveness.

From a somewhat different perspective Sommer (1967; 1969) has focused on what he calls "interpersonal space," a construct which is said to involve several communication channels such as immediacy, eye contact and body orientation. He uses this construct in looking at large groups, dyads and triads, as well as the individual.

The diversity of perspectives taken by these authors readily illustrates the complexity of the communication process and similarly makes one aware that much work remains to be done. In particular, it can be noted that nowhere in existing literature can be found a theory discussing the development of communication.

The complexity of the communication process becomes apparent when one studies interpersonal interactions. When people interact they employ many channels including speech, voice pitch, eye movement, hand gestures, postures, etc.

While the number of channels is large (Duncan, 1969; Ruesch & Kees, 1956), all channels are typically linked within either of two communication modes--verbal or nonverbal (Bateson, Jackson, Haley & Weakland, 1956; Riskin, 1963). While each channel can be regarded as discrete, there often appears a collaboration which produces what has been termed "multi-modal redundancy" (Davitz, 1964). In other words, Birdwhistell (1970) summarizes this position when he points out that, "Communication is not achieved through a simple additive process which involves the accumulation of parcels of sound or body motion which carry incapsulated chunks of meaning" (p. 7).

Although theorists (i.e. Mead, 1934; Piaget, 1962; Vygotsky, 1962) for some time have assumed that gestural behaviour precedes cognitive representation, speech and social development, recent research and theory dealing with communication as a multi-channel phenomenon take on new significance in light of the orthogenetic principle discussed earlier. Transition from the global idea of communication to multi-channel and then to a hierarchical organization can be clearly traced.

Writers with a developmental orientation (Mead, 1934; Piaget, 1962; Vygotsky, 1962) suggest that the nonverbal mode of communication develops first. Stirnimann's (1940) work illustrates that the child has, in the first 10 to 14 days and often even by the first day of extrauterine life,

demonstrated a tendency to either turn towards or away from an external sensory stimulus while apparently trying to either maintain or decrease contact with it. While the child's movements may be marked by uncoordinated mass activity, Stirnimann has noted that there are actions and sensory responses which suggest that a process of differentiation has begun. The present thesis assumes that the development of the nonverbal mode is in the direction of increased differentiation.

Such a line of development is clearly seen in language development. The child goes from little or no recognizable language to a few spoken words and then to sentences. This change is, of course, in part a function of the child's experiences--experiences which facilitate more and more lexical sophistication.

The two systems (verbal and nonverbal) are not discrete as Birdwhistell (1967) so succinctly points out:

> All the emerging data seems to me to support the contention that linguistics and kinetics are intercommunicational systems. Only in their interrelationship with each other and with comparable systems from other sensory modalities is the emergent system achieved (p. 71).

A major problem with holistic theory is found in the difficulty it poses for the researcher (see Baldwin, 1967, pp. 497-498). How does one go about studying the <u>whole</u> person? In order to do empirical research, a pragmatic matter, namely an appreciation of the limitations of existing

methodology, demands that one focus on an arbitrarily chosen static point thereby running the risk of losing both the essential rich complexity and the interactive organization fundamental to holistic theory.

As stated earlier the demonstration of organismic theory and by extension, the orthogenetic principle remains difficult (Baldwin, 1967, pp. 497-498). In fact, Witkin et al. (1962) say of their attempt in this direction:

> We consider the differentiation hypothesis a supportable one, although we should not expect the relations predicted to be of a very high order (p. 17).

The discussion to this point can be appreciated as reflecting a systems perspective. While systems theory has been utilized by some students of communication (i.e., Watzlawick, 1964, 1967; Sapir, 1921) it has not been formally incorporated into any of the major developmental theories. So while a detailed review of systems theory holds important implication for any student of communication, it is not considered within the scope of the present thesis.

Accepting this reality, this research is aimed at examining the principle that the development of the nonverbal mode of communication can be empirically studied and described within the holistic principles stated earlier. More specifically, it is proposed that the nonverbal mode develops from a relatively nondifferentiated state in the child to a variety of interdependent channels (see Erikson, 1963; Schachtel, 1959, for further discussion) in the

adult. While this study does not look at such a wide age range, it does focus on change in the nonverbal mode as a function of what is reported to be a developmental experience (Lieberman, 1973, p. 4). More specifically, this study looks at the decoding of affect in facial expression (Ekman & Friesen, 1967) and seeks to demonstrate that as an individual undergoes a growth or developmental experience there will also be a parallel change in his or her sensitivity to nonverbal cues. This study explores the hypothesis that change (i.e., development) brought about by group or laboratory experience will be reflected in a change in an individual's sensitivity to facial cues.

Operationally, the study examines whether group experience, as represented by sensitivity or laboratory group training, has a significant impact on the subject's accuracy in decoding facial affect cues. It seeks to determine whether a change in personal congruence (as an outcome of group experience) will be reflected in a parallel change in NVC sensitivity.

CHAPTER II

REVIEW OF LITERATURE AND STATEMENT OF HYPOTHESIS

Each of the three components which make up the framework of this study, i.e., holistic theory, nonverbal communication (NVC) of affect, and sensitivity or laboratory training are discussed briefly below.

Holistic Theory and NVC

While several holistic theorists allude to NVC (i.e., Schactel, 1959; Schmidt, 1973) virtually no empirical research has been found dealing with the application of holistic theory to this topic. The findings of Witkin et al. (1954; 1962) indicate that "a tendency to experience the body as more articulated or less articulated is associated with a tendency to experience the self and the surrounding world in a similar fashion" (Witkin, 1965, p. 34). (See Witkin et al. [1962] for further discussion of this concept [pp. 15-18] and its limitations [p. 16]). Similarly the work of Harlow with the rhesus monkey (1958; 1960; 1962; 1963; 1966a; 1966b), which postulates a link between the intimate mother/child relationship and the formation of multiple learned and generalized affectional responses, can be viewed as an attempt to use a "holistic-heuristic" approach strongly suggestive of

NVC. Neither of these theorists has NVC as their primary focus.

Still, authors such as Witkin can be interpreted as suggesting that one's level of differentiation is reflected in the degree of self-consistency across diverse psychological areas. While not specifically concerned with levels of differentiation, Davitz (1964) did find that individuals are consistent in their level of sensitivity to different modes of communication. In studies made of the ability to understand vocal, facial, musical, graphic and metaphorical modes of communicating emotion, Davitz found a stability of performance:

> . . . The range of individual differences does not seem to be greater in any particular mode of communication . . . regardless of the individual's level of performance, behaviour on any given test of sensitivity tends to be internally consistent and remarkably stable over time.
>
> (Davitz, 1964, p. 178)

Davitz also found that accuracy and error levels in the identification of meaning in different modes by an individual were also found to be stable and consistent. The tendency to attend or not attend selectively was also stable. A consistency in nonverbal behaviour in different modes and channels was also demonstrated. This consistency held for both decoding (judging or interpreting) nonverbal cues and encoding (emitting) nonverbal cues.

Implicit in such a holistic position is the view that greater inner differentiation is associated with greater

articulation of the individual's experience of the world (Witkin et al., 1962, p. 16). Such consistency is not unlike Rogers' congruency model (see Rogers & Dymond, 1954). This present study looks at the decoding of NVC of affect relative to congruence as a demonstration of "the degree of articulation of the world" relative to "the degree of articulation of self" (Witkin et al., 1962, p. 16).

While there is little experimental research which looks at NVC in terms of holistic theory, there exists much phenomenological work to suggest the validity of doing so (e.g., Ames, 1944; Birdwhistell, 1952; 1965a; 1965b; Bunzel, 1948; Canner, 1968; Davis, 1966; 1970; Deutsch, 1952; 1959; Gewirtz, 1964; Lowen, 1965; 1967; 1971; Montague, 1974; Rosen, 1957; Scheflen, 1966; Siegal, 1973; Wolff, 1943). While few of these researchers have put forth or explored specific hypotheses and while their research remains "informal," their work does allow the reader to see another reality or perspective--that of "the lived world" (Schmidt, 1973, p. 164). This perspective is a source of data useful in perceiving patterns within the nonverbal mode and its subsystems (i.e., kinesics, proximics, etc.) (Duncan, 1969, p. 121).

Dance and Larsen's (1976, p. 7) model for systematic theory building suggests than an empirical approach to research only becomes a useful or necessary tool after much observation has been done. They suggest that only after such observation can the decision be made to view something as

a phenomenon or event. The existing abundance of phenomenological data may be considered a first step in a building process and at linking NVC and holistic theory.

A Brief Overview of NVC

At least seven disciplines have made contributions to the area of NVC, namely: anthropology, linguistics, psychoanalysis, clinical psychology, social psychology, sociology and dance. The problem of a researcher attempting to work in such an area as NVC is analagously described by Kagan (1971, p. 171). Although not referring to NVC, he points out that the researcher involved in studying an area like NVC is akin to:

> . . . a stranger peering into a house containing many irregularly placed windows, each with a different refractory index; and covered on the inside by a special filter so that objects of different hues appear to have the same colour. The view from each window offers a slightly different picture of the complicated scene on the inside. If the stranger is to know the complete contents of the house, he must learn about the refractory characteristics of the glass, the nature of the filters, and construct ingenious hypotheses about the relationship between the different perspectives; for he only has visual access to a small proportion of all that is located within.
>
> (Kagan, 1971, p. 171)

The many different perspectives on NVC have lead to a large quantity of phenomenological and empirical data. Still, while the field of information is extensive (the interested reader is referred to Knapp (1978) and Argyle (1975)),

anything other than a brief review of pertinent literature is thought by the author to be inappropriate to the purposes of the present thesis. Of particular relevance to this study are the perspectives of Ekman and his associates (1964; 1965; 1967; 1969a; 1971; 1972; 1975) and more generally of Davitz (1964).

NVC of Affect

It has been known for some time that the psychological experiencing of emotion brings about both internal and external physical changes (see Sainesbury, 1955; Dittmann, 1962). Rosen (1957, p. 52), for example, points out that

> . . . persistent hypertonus of muscles has been one of the symptoms of anxiety, the physical reaction of the body to emotional anxiety. In psychotic patients this psycho-physical relationship shows itself in two rather distinctive patterns--static rigidity and hyperactivity.

Precise understanding of the relationship between physiological reactions and the psychological interpretations of these states have proved quite difficult. Davitz (1959, 1964) is one of the few authors who has attempted to deal with this difficult area. His studies done in the early 1960's are particularly significant here since they have helped establish nonverbal behaviour as a measurable personality variable. Most significant to this study is his conclusion (Davitz, 1964) that the individual's reception of emotional messages vary in at least four ways. Individuals

vary in terms of: 1) their overall sensitivity to emotional expressions, measured in terms of accuracy of identification; 2) the specific nature of erroneous responses; 3) the kinds of emotional expressions correctly identified; and 4) the degree to which they attend to the emotional meanings of a total communication. Levy's (1964) findings that people who are accurate in identifying the emotional expressions of others are more effective in expressing their own emotional meaning to others, can be seen as both supporting and extending Davitz's findings. Sensitivity, self-understanding and expressiveness then appear interrelated in a positive manner.

The face is used as a focus for this study because of the extensive work done on the NV cues it transmits. Authors such as Allport (1924); Engen, Levy and Scholsberg (1958); Osgood (1966); Osgood, Suci and Tannenbaum (1959); Plutchik (1962); Scholsberg (1952; 1954); Sherman (1927); Tomkins and McCarter (1964); Triandis and Lamberg (1958); and Woodworth (1938) among others have studied this area. While much of this work is not pertinent to this study, the reader interested in gaining additional background information is referred to it.

The loss of information which results from considering only the face (although it is seen, at least, by Ekman and Friesen (1975) to be a multi-signal and/or message system) must be appreciated. Additionally, valuable research on the part of the body plays in supplying NV cues is omitted (i.e.,

Charney, 1966; Condon & Ogston, 1966; 1967a; 1967b; Davis, 1966; 1970; Dittmann, 1962; Loeb, 1968; Mahl, 1968; Mehabian, 1965; 1967; 1969a; 1969b; Sainesbury, 1955; Scheflen, 1964).

Ekman (1964), one of the few researchers to look at more than one channel (Speigel, 1974), found that his subjects had difficulties in decoding NV cues when only the body and not the head was given as stimulus. Ekman (1965), noting the limited generalizability of the finding, found that while affect (anger, fear, etc.) may be communicated by the face, differential information is provided by other units of the body. He suggests that the head emits more information about the nature of the emotion and the body provides more information about its intensity.

A look at current overviews of NV communication finds such statements as:

> The face is the most compelling channel of nonverbal communication . . .
> (Weitz, 1979, p. 17)

> The face is rich in communication potential . . .
> (Knapp, 1972, p. 68)

> Facial expression is perhaps the area in nonverbal communication that comes closest to the more traditional concerns of psychology.
> (Weitz, 1974, p. 11)

> Research on facial expression of emotion is currently one of the most important and promising areas in nonverbal communication research . . .
> (Harper, Wiens, and Mantarazzo, 1978, p. 80)

So on the basis of the literature review (including more specifically applicable works of Ekman plus the comments of reviewers), NVC of affect through facial expression has been chosen as the focus in this study.

Ekman and his co-workers (1964; 1965; 1967; 1969; 1972) have provided evidence for the reliable classification of affect as shown in both spontaneous and posed photographs. Reliability was based on consensus among raters as to the emotion reflected (see Speigel, 1974, pp. 64-65 for a critique of the use of still photographs).

There are two criticisms of Ekman's work which should be considered. Shapiro (1968, 1972) suggested that one of the limitations in Ekman's approach to the meaning of NVC is that interjudge reliability which is successful with single cues may not necessarily be appropriate to a more complex judging situation (i.e., the sheer number of cues). Spiegel (1974) also raised questions concerning the nature of interpretation and labeling of nonverbal cues. He suggested that rather than lexically labeling what is perceived the observer decodes in terms of his/her visual/affective reactions.

Since this present study looks at accuracy and inaccuracy in the observer, the findings of Dittman, Parloff and Boomer (1965), Vande Creek and Watkin (1973), and Waxer (1974a; 1974b) are significant. It is known that subjects vary in their preference for either the verbal or nonverbal

mode. Verbal responders show little ability to respond to nonverbal cues (Vande Creek & Watkins, 1973). Secondly, dancers are more alert to NVC than psychotherapists when given the task of utilizing visual cues in inferring mood (Dittmann et al., 1965). Lastly, within the helping professions there are different levels of sensitivity to the nonverbal cues of depression--counselling graduates identified depression with significantly greater accuracy in contrast to psychology undergraduates, the least accurate group (Waxer, 1974). So variables such as level and kind of training plus preference for the verbal or nonverbal mode would appear to be important factors in the awareness of NVC.

Sensitivity Groups

Of importance to this study is research which looks at whether or not sensitivity training in some way affects the personality of the participant. One aspect of this question, namely, whether or not group members increase in clarity and accuracy in their perception of their own behaviour, has been extensively researched using Q-Sort. This measure examines the discrepancies between a person's description of "actual self" and "ideal self" (see Burke & Bennis, 1961; Ends, 1959; Feder, 1962; Gassner, Bold & Snadowsky, 1964; Grater, 1959; Johnson, 1964; Johnson, 1966). Truax (1968) has produced evidence indicating that Q-Sort measures and other measures of self-adjustment, including the MMPI, covary

together with the level of client adjustment. That is, as client adjustment tends to improve or deteriorate, scores among the various measures of self-adjustment tend to similarly change. Several of these instruments are psychometrically quite sophisticated.

In a review of the literature using Q-Sorts as an outcome measure of the effects or changes brought about by sensitivity groups, Burke and Bennis (1961) suggested that "members of T-Groups during the course of their laboratory training experience, became more satisfied in their perceptions of self [and] moved their actual percepts in the direction of their ideal . . ." (p. 178). In one of the better studies done using self-adjustment as a measure of change, Peters (1966) found that in a laboratory training group a significant convergence of the self-concept and the ideal concept occurred while no such change occurred in the control group. In brief, it appears reasonable to state that group experience contributes to perceived improvements in self-adjustment.

There is evidence from a study by Miles, Cohen and Whitman (1959) that group therapy led to an increase in the variable "sensitivity to feelings." Both Semon (1957) and Wilson (1967) have indicated that the level of interpersonal functioning or social adjustment may increase observably (see Bednar & Lawlis, 1971, p. 817). Finally, studies such as those done by Berger (1952), McIntyre (1952), and Sheerer (1949) showed that an individual's acceptance or awareness of

self, positively and significantly correlates with his acceptance of others. Such studies strongly suggest that group training is an effective means of increasing awareness and acceptance in the areas of the self and the phenomenological field or environment. The present study proposes that the changes brought about by group experience can be considered as growth (Argyris, 1977; Blumberg, 1977; Schutzenberger & Geffroy, 1979), or more appropriately, as a developmental experience (Blocker, 1966).

Relatively little work has been done on whether or not group training affects sensitivity to NVC. To the author's knowledge only the work of Delaney (1966; 1968) and his associates (Delaney & Heimann, 1966) have examined this question. These authors found that while the persons experiencing a didactic group changed their perceptions of the person communicating nonverbal cues they did not change their perceptions of the emotion communicated. Members of an experiential or laboratory training group seemed to change in their perceptions of the emotion communicated by nonverbal means but no change was evidenced in the group perception of the stimulus. As might be anticipated, the nature of the group influenced the kind of nonverbal sensitivity and awareness which developed.

It is interesting to note that while group experience appears to increase one's ability to receive communication, there is not necessarily a similar increase in one's ability to send messages. Some interesting work on this aspect has

been carried out by Bunker (1965). In a series of studies, he found that there was no statistically significant improvement in the "sending" part of communication but that there were significant differences in the "receiving" component as a result of training.

Additional Unexplained Issues Within NVC

While developing this study a number of other research questions not typically considered became apparent. Some such questions are as follows: 1) Why does an individual tend to more heavily weigh his interpretation of a situation on impressions (based on alternate channels of communication) than on the lexical content of the verbal message (Ekman & Friesen, 1969; Mehrabian, 1971; 1972)? 2) Can the historical and naive, though imprecise, notion of the body as a more valid indicator of a person's intent or affective state be affirmed experimentally? Freud (1905), Fast (1970) and Laban (1963) represent one point of view on this question, Birdwhistell (1963) quite another. 3) Can channel preference be taught (see Rosenthal, 1976; Archer, Dimatteo, Koivunaki & Rogers, 1974)? 4) What are the determiners of an individual's sensitivity, i.e., what are the sources and limitations (see Baliant, 1948a; 1948b; Escalona, 1968; 1969; Fries, 1938; 1953; Kestenberg, 1965a; 1965b; 1966; 1967a; 1967b)? Are there innate physiological factors which determine selection of the channel or channels to be decoded

by an individual (Argyle, 1975)? Can a strong (i.e., highly accurate) channel be used to help sensitize a weaker one? 6) Since it is known that one channel combines with and is altered by many others (Birdwhistell, 1970), why are better criteria not given for the selection of any particular channel for research purposes? More specifically, it might be pointed out that a greater effort needs to be made to integrate data from single channel research with overall communication and information processing research.

Recent and excellent overviews by Weitz (1979) and Harper, Wiens, and Matarazzo (1978) as well as bibliographical material found in Davis (1974), Hore and Paget (1975), and Key (1977) may act as a helpful source of background information to any reader interested in pursuing such questions

Restatement of Research Question

The major question in this thesis is whether or not the level of accuracy in decoding facial cues of affect increases as a result of group experience. It is hypothesized that accuracy increases positively as a result of group experience. More concretely, it is hypothesized that individuals who take part in a group experience more accurately decode facial cues of affect than individuals not having such an experience. While this study looks at discrete affect areas, there is no research to indicate preference for one area over another.

CHAPTER III

INSTRUMENTATION

Three major instruments were used in conducting this study. These were labelled ARS (Affect Recognition Scale), Q-Sort, and adapted Lieberman Questionnaire. Each of these instruments is discussed below.

Affect Recognition Scale

Background of Instrument

When seeking an instrument to test accuracy of sensitivity to NVC it quickly became apparent that the possibility of finding an instrument, the reliability of which had been established and which was readily available, was remote (Ekman, 1976; O'Sullivan, 1976; Rosenthal, 1976; Shapiro, 1976; Waxer, 1976). Most experimental research in this area used either video tapes of patients in therapy (Dittmann, 1962; Waxer, 1974) which are not available for ethical reasons, or photographs of emotional dimensions such as those used by Schlosberg (1952, 1954) which could be considered informal in nature, at best (Shapiro, 1976). While more reliable and valid NVC instruments may soon be available (Ekman, 1976; O'Sullivan, 1976; Rosenthal, 1976)

at the time of this research they were not available. In an effort to overcome this difficulty it was necessary to develop an instrument. The instrument developed (labelled Affect Recognition Scale or ARS) was based on the work carried out by Ekman and associates (1971a; 1975) and consisted of a series of slides depicting six affect categories--happy, sad, fear, anger, surprise, disgust, plus neutral and three intensity levels--slight, moderate and extreme.

Ekman's categories are comparable to those used in most major research in this area (i.e., research studies that look at decoding facial affect) (see Appendix A). The work of Ekman and his co-workers (1968; 1969; 1970; 1971a; 1972) plus that of Eibl-Eibesfeldt (1970; 1973), Izard (1968; 1970), and Winkelmayer, Exline, Gottheil and Paredes (1971) not only demonstrate that posed facial behaviour is a useful tool to assess NVC but also make a case for the use of emotion specific categories rather than the dimension approach used by Schlosberg (1954) and followers. (For further discussion see Ekman, Friesen & Tomkins, 1971a).

Development of Instrument

The instrument used in this study was based on a series of slides of facial affect drawn from Ekman's Unmasking the Face and from a supplementary series taken by the author following Ekman's detailed instructions (Ekman & Friesen, 1975, pp. 170-172). Care was taken in the pro-

duction of the photographs to insure that there was good quality lighting, so as to accentuate contrast and detail. With Ekman's original slides and the author's supplementary series the full face was shown so that features and wrinkles were not obscured by camera angle. As well, the author attempted to replicate Ekman's equal representation of male and female facial expressions of affect.

Those of Ekman's photographs which were used exhibit pure emotional categories (Ekman & Friesen, 1975) and are based on the anatomical work of Duchenne (1862), Hjortsjö (1970), Huber (1931), and other theorists concerned with affect such as Plutchik (1962) and Tomkins (1962; 1963). The accuracy of the affect displayed was checked by rater consensus in several experiments by Ekman (see Ekman & Friesen, 1975, pp. 18-32 for further elaboration).

All slides from Ekman were already categorized as to emotional state and intensity level. His work (1975) also provided a neutral or no affect category. The slides prepared by the author were categorized using anatomical descriptions found in Ekman's Unmasking the Face (1975). Before these slides were used in the present research, their categorization was checked informally using consensus among informed judges.

These sources provided a pool of 128 slides which were then separated into each of the appropriate emotional categories as supplied by Ekman (1975). Each of these

emotional categories were then further divided into three intensity levels (i.e., happy/slight, happy/moderate, happy/extreme). From each of these groupings three slides were selected to represent each emotional category at each of the three intensity levels. While the number of slides in each category varied, when more than six slides were available selection was random. Of the 128 slides which meet original criteria, 108 were chosen. Six neutral slides were also shown.

Nature of Specific Instrument

The final instrument consisted of two sets of 60 slides. Of these two sets, one set was used in the pretest and the other in the posttest. Each set consisted of nine slides representing each of six primary emotional categories (happy, sad, fear, anger, surprise, disgust) plus six neutral slides. Each set of nine slides representing an emotional category was further subdivided into groups of three slides to represent each of three levels of intensity namely, slight, moderate and extreme. These sets were used as stimuli to be judged by the subjects.

This instrument yielded 11 scores. Seven scores reflect the correct number of slides recognized in each affect category and three scores reflect the correct number of slides recognized at each intensity level. The eleventh score is a summated one based on the total number of correct

identifications of both affect category and intensity level.

In each testing session, the 60 slides were arranged randomly and projected for 30 seconds each. Subjects sat in a darkened room approximately 10 feet from the projection screen. Instructions given the subject were:

a) Correctly identify the affect category presented in each picture by circling the appropriate word.

b) At the right hand side of the page, circle the number indicating the intensity or degree to which you feel that the emotion is indicated in the picture. (Please note: If you feel that there is no emotion expressed in the picture [i.e., a neutral category] it is not necessary to circle any number in the right hand column).

c) Even if you are not sure of your answer, make a guess for every picture. Do not spend too much time on any one answer; your first impression is usually best.

All responses were recorded on a report form based on and adapted from Ekman and Friesen (1975) (see Appendix B). The level of intensity was recorded using an ordinal scale, i.e., 1) slight; 2) moderate; 3) extreme. The emotional category indicated was recorded by circling one of the seven (including neutral) emotional categories.

Q-Sort

Background of Instrument

Sensitivity groups have typically had as a goal increased congruence--change in the level of self-awareness/

acceptance. Q-Methodology has often been used to measure this by examining changes in perceptions of the actual self and of the ideal self. Studies by Bunker (1962), Perlman (1972), and Truax (1965; 1968) among others suggest that through laboratory training an increase occurs in "positive viewing of self rather than in the view of the ideal self" (Gibb, 1971, p. 846). Such reduction of discrepancy between ideal and perceived self is considered as an increase in congruence and suggests by inference more self-acceptance or awareness (Rogers & Dymond, 1954, Chapter XVII).

In order to measure congruence (i.e., self-acceptance/awareness [see Chapter II, pp. 16-18] a Q-Methodology (Stephenson, 1953) was used. This methodology refers to a comprehensive set of philosophical, psychological, statistical, and psychometric ideas developed to research the individual. Q-Technique is a set of procedures used to implement Q-Methodology and centers particularly in sorting decks of cards called Q-Sorts and in the correlations among the response of different individuals to the Q-Sort. The Q-Sort usually contain between 60 to 120 cards which the sorter is instructed to put in varying numbers in several piles, the whole making up a normal or quasi-normal distribution. Sorting instructions and the objects sorted vary with the purposes of the research. Stephenson (1953, p. 53) claims that "the reliability of all Q descriptions is, at least, of the order of 0.90."

Development of Specific Instrument

From a 100-item Q-Sort first proposed by Butler and Haigh (1954), Dymond adapted the 74-item Q-Sort used in the present study (see Appendix B for a list of the 74 items). Using this particular set, Dymond (1954) found a reliability quotient of .86 when using a test-retest methodology on her control group. As well in her research, she found that the rank order correlations between the self-ideal correlations and the Q-Sort adjustment scores of 23 subjects at pre-therapy was .83 and the rank order of the same 23 at post-therapy was .92--a high degree of agreement between these two measures of improvement. Dymond's findings suggest some degree of validity for this particular Q-Sort. The question of how valid this Q-Sort is as a measure of change depends to a large extent on the degree to which it agrees in its ordering of the subjects with other measures of improvement.

Nature of Specific Instrument

The form of the instrument used consisted of 74 statements (list to be found in Appendix B). The subjects were required to sort the statements into nine piles, putting a prescribed number of cards in each, thus making a forced normal distribution. The items were sorted on the metrics "like me" to "unlike me" and "like--ideal" to "unlike--ideal." The subjects were given the following instructions

(from Butler & Haigh, 1954, p. 57):

1) Self-Sort. Sort these cards to describe yourself as you see yourself today, from those that are least like you to those that are most like you.

2) Ideal Sort. Now sort these cards to describe your ideal person--the person you would most like within yourself to be.

The required distribution looked like this:

	"Least Like Me"					"Most Like Me"			
Pile No.	0	1	2	3	4	5	6	7	8
No. of Cards	3	5	9	12	16	12	9	5	3

The scoring system involved was that used by Butler and Haigh (1954). The instrument yielded one correlation per subject per administration (pre-test and post-test).

Adapted Lieberman Questionnaire

Background of Instrument

Some means of checking the similarity of the laboratory groups used as well as a source of descriptive information about the group experience was necessary since the experimental group was composed of subjects involved in two quite separate laboratory training experiences. When reviewing studies on sensitivity training it became quite clear that the researchers have been most involved in looking at outcomes (Bednar & Lawlis, 1971; Gibb, 1971). As a result much of the instrumentation which has evolved

was not suitable for looking at group process.

The alternative methods proposed by Bales (1950) and Hill (1965) which did examine group process were discarded because they required the presence of a trained observer during the sensitivity experience.

In one of the few studies which attempted to report on a wide variety of group experiences, Lieberman (1974) used a series of questionnaires. On face validity, three of Lieberman's questionnaires were chosen to be used in this study.

Nature and Description of Adapted Lieberman Questionnaire

Three questionnaires found in Lieberman's First Facts (1974) were used to determine similarities between group experiences. The questionnaires used examined the subject's views on the following factors: leadership, feelings about the group, and important learnings from the experience (see Appendix B). The three questionnaires were presented as one instrument with following overall instructions. . . .

> Enclosed you will find three questionnaires on the nature of your group experience plus one other set of questions about you personally. Please read carefully and answer all questions. Thank you for your cooperation.
> Please note: Strict ethical standards will be maintained. All information volunteered on the questionnaire will be used only for research and educational purposes. The identification of individuals completing the questionnaires will be known only to the researcher.

Instructions for each questionnaire were those given by Lieberman. One item in the original questionnaires which referred to frequency of meeting was dropped. A few items which seemed to suggest the group was of an ongoing nature were altered (i.e., a verb was changed from a present to a past tense.)

Subjects were asked to fill in these questionnaires as part of the post-test battery. The data from these questionnaires was scored according to a system proposed by Lieberman (see Liberman, Yalom & Jules, 1974, pp. 476, 478-480).

Demographic Checklist

Lastly all subjects were asked to fill out a demographic checklist as part of the post-test battery.

CHAPTER IV

METHODOLOGY

Sample

A total of 27 subjects participated in this study. Nine subjects (2 male and 7 female) made up the control group; 18 subjects (7 males and 11 females) made up the experimental group. The control group was drawn from students beginning a Master's level programme in Counselling in the Faculty of Education at Memorial University. All subjects in the experimental group took part in either of two sensitivity/laboratory experiences. Limited availability of subjects necessitated the use of two different laboratory groups (see Table 1 for demographic factors describing the members of each group). All subjects voluntarily took part in this study.

Group of Laboratory Experience

The nine subjects taking part in Group 1 attended a two-day (26-hour) non-residential programme while nine subjects (Group 2) attended a seven-day residential one. Each group was lead by two professionally trained, experienced and accredited leaders. Both groups shared the common objectives of increased awareness and sensitivity to self and others.

TABLE 1

Sample Characteristics: Descriptive Data

Data	Mean	Standard Deviation	Range
EXPERIMENTAL GROUP (n=18) (11 females, 7 males)			
Age (years)	31.17	10.62	19-53
Number of Laboratory Experiences per Subject	1.61*	2.66	0-9
CONTROL GROUP (n=9) (2 females, 7 males)			
Age (years)	28.67	9.74	21-55
Number of Laboratory Experiences per Subject	.11**	.134	0-1

*7/18 persons had previously been involved in a laboratory experience. Among these the number of experiences ranged from 1-9 with a mean of 4.142.

**1/9 persons had previously been involved in a laboratory experience.

Both groups were designed with didactic (i.e., informational) and experiential (i.e., T-group) components as objectives. For Group 1 the didactic component was more formal as the group took the programme as an optional component in an undergraduate counselling course. In neither case was any formal individual assessment included as a part of the group experience.

In order to assess the comparability of the two groups a questionnaire adapted from Lieberman was administered. A more specific description of the Lieberman questionnaire is to be found in the section discussing instrumentation (pp. 28-29).

Procedure

All subjects completed a battery of pre- and post-tests which were administered on a group basis. The experimental group was tested within 12 hours prior to the group experience and within 12 hours following it. The test battery consisted of the ARS, and Q-Sort in the pre-test and the ARS, Q-Sort, adapted Lieberman Questionnaire plus the demographic checklist in the post-test. The ARS was administered first so that the subjects could complete the other instruments in the test battery at their own pace. One and one-half to two hours were required to complete each battery. The same room and administrator were used in both pre- and post-testing situations. As suggested in the earlier discussion of the ARS (p. 22) care was taken

to darken the room and to have the subjects all sit 10 feet from the projection screen. As well, the slides were timed; each slide was on the screen for 30 seconds.

The control group received no treatment. The interval between testing for the control subjects was twenty-six hours. The test battery was again administered using the same room and administrator and took one and one-half to two hours. The subjects completed the ARS and Q-Sort on the pre-test and the ARS, Q-Sort and demographic checklist on the post-test. The adapted Lieberman Questionnaire was not completed. The same care was taken with the administration of the ARS as discussed earlier.

Statistics and Design

A null hypothesis design was used. This study can be considered to be of a quasi-experimental nature and falls generally under Campbell and Stanley's Nonequivalent Control Group Design (see Campbell & Stanley, 1963, pp. 47-50).

To answer the question posed earlier (see Chapter II, p. 11) the following analysis was completed. Studentized t-tests were used to determine whether or not the two groups (Groups 1 and 2) drawn on as samples could be combined and labelled as the experimental group (see Appendix C for data). The scores from the ARS and Q-Sort for the collapsed experimental group and for the control group were compared using t-tests. Descriptive statistics, including means, distribution

and f-scores, were collected on both Q-Sort and ARS for the experimental and control groups.

Studentized t-tests were also compiled on descriptive data gathered during the post-test. Significance was considered to be $\leq .10$. This significance level was used because the consequence or error, in the present research, is not felt to be crucial. The rigor of a significance level of $\leq .05$ while eliminating error, would also negate the intention of the author to suggest new directions for subsequent research in NVC. All data was processed by Memorial University of Newfoundland Computer Services using SPSS programs, Pearson Corr, Condescriptive, Descriptive and t-tests.

CHAPTER V

RESULTS

In answering the research questions posed in this study the Q-Sort and ARS were used. Each administration of these instruments (pre- and post-experience) yielded one correlation for the Q-Sort plus a series of scores on the ARS (including an overall score), seven scores on emotional categories, and three scores on intensity level per subject (see Appendix D for Summary of Raw Data).

The means on the Q-Sort for both the experimental and control groups, along with distribution and F-scores, are presented in Table II. Changes in all means were in a positive direction (i.e., in the expected direction); however, none were significant ($F(8,17) = 1.68$, $p < 0.532$). The pre-test mean for the control group was .5726 as compared with .4549 for the experimental group. On the post-administration, the mean score for the control group increased by .0615 while the experimental group mean increased by .1249.

The means, distribution and F-scores for the 11 levels on the ARS for experimental and control groups are shown in Table III. While changes in the means of the overall scores were in a positive direction (i.e., more accurate rating) for both the experimental and control

TABLE II

Results of t-tests comparing experimental[a] and control[b] groups on Q-Sort. (Includes means, standard deviation, standard error, F-[c] and p-values)[d]

	Mean	S.D.	Standard error	F-value	p
Pre-experimental (Groups 1 and 2)	0.4549	0.177	0.042	1.32	0.598
Pre-control	0.5726	0.302	0.054		
Post-experimental (Groups 1 and 2)	0.5798	0.231	0.068	1.68	0.352
Post-control	0.6341	0.299	0.100		

[a] $n = 18$

[b] $n = 9$

[c] $F = t^2$

[d] significant at $\leq .10$

TABLE III

Results of t-tests comparing experimental[a] and control[b] groups on ARS. (Includes means, standard deviations, standard error, F-[c] and p-values)[d]

	Mean	S.D.	Standard error	F-value	p
Overall (PRE)					
Experimental (Groups 1 and 2)	19.5000	4.176	0.984	1.36	0.675
Control	19.4444	3.575	1.192		
Happy (PRE)					
Experimental (Groups 1 and 2)	8.6667	0.767	0.181	1.32	0.711
Control	8.7778	0.667	0.222		
Sad (PRE)					
Experimental (Groups 1 and 2)	6.8333	1.200	0.283	2.08	0.194
Control	6.3333	1.732	0.577		
Fear (PRE)					
Experimental (Groups 1 and 2)	6.3889	1.944	0.458	2.52	0.186
Control	6.3333	1.225	0.408		
Anger (PRE)					
Experimental (Groups 1 and 2)	6.5	1.823	0.430	2.22	0.254
Control	6.3333	1.225	0.408		

(cont'd.)

Table III (cont'd.)

	Mean	S.D.	Standard error	F-value	p
Surprise (PRE)					
Experimental (Groups 1 and 2)	6.1111	1.568	0.369	1.10	0.824
Control	5.7778	1.641	0.547		
Disgust (PRE)					
Experimental (Groups 1 and 2)	7.1667	1.654	0.390	1.69	0.348
Control	7.1111	2.147	0.716		
Neutral (PRE)					
Experimental (Groups 1 and 2)	2.2222	1.477	0.348	1.75	0.427
Control	3.0000	1.118	0.373		
Slight (PRE)					
Experimental (Groups 1 and 2)	4.7222	2.697	0.636	1.38	0.659
Control	5.6667	2.291	0.764		
Moderate (PRE)					
Experimental (Groups 1 and 2)	7.1667	1.917	0.452	2.10	0.287
Control	7.0000	1.323	0.441		
Extreme (PRE)					
Experimental (Groups 1 and 2)	9.1111	3.142	0.740	1.40	0.534
Control	8.4444	3.712	1.237		

(cont'd.)

Table III (cont'd.)

	Mean	S.D.	Standard error	F-value	p
Overall (POST)					
Experimental (Groups 1 and 2)	20.6667	4.270	1.007	5.71	0.017*
Control	21.7778	1.787	0.596		
Happy (POST)					
Experimental (Groups 1 and 2)	8.5556	0.856	0.202	1.46	0.598
Control	8.6667	0.707	0.236		
Sad (POST)					
Experimental (Groups 1 and 2)	7.0000	1.680	0.396	1.01	0.924
Control	7.1111	1.691	0.564		
Fear (POST)					
Experimental (Groups 1 and 2)	5.9444	1.662	0.392	1.55	0.537
Control	6.4444	1.333	0.444		
Anger (POST)					
Experimental (Groups 1 and 2)	7.2778	1.742	0.411	1.63	0.489
Control	7.1111	1.364	0.455		
Surprise (POST)					
Experimental (Groups 1 and 2)	6.1111	1.676	0.395	1.95	0.341
Control	6.2222	1.202	0.401		

(cont'd.)

Table III (cont'd.)

	Mean	S.D.	Standard error	F-value	p
Disgust (POST)					
Experimental (Groups 1 and 2)	6.9444	0.873	0.206	3.32	0.036*
Control	6.5556	1.590	0.530		
Neutral (POST)					
Experimental (Groups 1 and 2)	2.5556	1.294	0.305	2.15	0.272
Control	3.5556	0.882	0.294		
Slight (POST)					
Experimental (Groups 1 and 2)	6.5000	3.240	0.764	1.28	0.633
Control	7.7778	3.667	1.222		
Moderate (POST)					
Experimental (Groups 1 and 2)	8.3889	1.975	0.465	1.04	1.000
Control	8.3333	1.936	0.645		
Extreme (POST)					
Experimental (Groups 1 and 2)	7.4444	3.166	0.746	1.15	0.764
Control	6.4444	3.395	1.132		

[a] $n = 18$

[b] $n = 9$

[c] $F = t^2$

[d] significant at $\leq .10$

groups, the change was less for the experimental group (1.1 compared with 2.3 for the control group). A t-test of the post scores indicated that the change was significant ($F(8,17) = 5.71$, $p < 0.017$) for the control group (see also Table III). This significant increase by the control group on the post-test reflects an increase in overall accuracy in decoding facial affect.

There was a significant difference between groups on the ARS subtest disgust [$F(8,17) = 3.32$, $p < 0.036$ (see Table III)]. The experimental group increased in accuracy in decoding this affect category. No other significant differences were found between the groups on any of the affect categories and similarly no significant differences were found in the level of accuracy in ratings of intensity.

Although the major hypothesis was not supported, an overall trend in the expected direction was observed for the experimental group (i.e., increase in overall accuracy on the ARS). The control group showed a significant difference between the pre- and post-overall mean scores on the ARS. The results of the t-tests on the ARS's emotional categories and intensity levels showed that disgust was the one indicator of change among these ten subgroups.

It should be noted that it is possible with such a small number of subjects and large number of subtests, that on a chance basis, one might expect one or more of the sub-

tests to be statistically significant. While not statistically significant, it is of interest to note that the mean for both control and experimental groups changed in a similar negative or positive direction in all but two emotional categories (specifically, fear and surprise).

The data from the adapted Lieberman Questionnaire acted as a source of descriptive information about the group experiences. The Questionnaire was also administered to check the degree of similarity in the treatments given the two groups. T-tests were done on this data and the results showed that only three questions reflected a significant difference between the groups (see Appendix C for complete data). The three questions reflecting a difference were as follows:

1. When expressing my feelings of irritation, sorrow, annoyance or warmth in the group, I felt . . . ($F(8,8) = 5.00$, $p < 0.035$).

2. How did you feel about the group leader? ($F(8,8) = 7.98$, $p < 0.013$).

3. Understanding why I think and feel the way I do; discovering previously unknown or unacceptable parts of myself ($F(8,8) = 4.75$, $p < 0.041$).

The range of responses to the first ("When expressing my feelings or irritation, sorrow, annoyance, or warmth in the group, I felt . . .") differed between the two groups such that in group one, five subjects felt extremely comfortable and four subjects felt slightly to very uneasy while in group two, seven subjects felt very comfortable to com-

fortable and two felt slightly uneasy. The responses of subjects in group one were distributed more broadly over a continuum of answers representing degree of comfort. Subjects in group one seemed inclined to respond either more positively or negatively to the degree of emotional comfort within their group.

Eight members of groups one and two felt the group leadership was, at the very least, satisfactory. One member of group two thought the leadership extremely unsatisfactory and one member of group one failed to report.

In group two all subjects felt the statement "Understanding why I think and feel as I do; discovering previously unknown or unacceptable parts of myself," (Group 14), applied somewhat to their experience. Five subjects felt that this statement reflected an important part of their learning from the laboratory experience and three that the statement reflected two of their most important learnings. In group one three subjects felt this statement did not apply to their experience, two subjects felt that it did apply somewhat, and four felt that it was an important part of their learning.

While certain aspects of the two experiences were shown to be significantly different, it is felt that these differences were relatively minor in light of the overall data gained from the Lieberman on the group experiences. It is felt that with such a small number of subjects and so

many variables, some significant differences might legitimately be expected on a chance basis.

No significant difference was found between the two groups on 10 items of the 12 which made up the part of the Lieberman questionnaire, "Feelings About the Group" or 13 out of the 14 items on the part of the questionnaire, "How Encounter Groups Work." Some of the similarities between the groups are reflected in that 77.8 and 88.9% of subjects (1st group, 2nd group, respectively) had spent much or most of their time since the last sessions in thought about the group (feel 01); 88.9% of the subjects liked their group (feel 05); 100% and 66.7% felt that they were at least likely to attain their personal goals (feel 06); 66.6% and 55.5% of the subjects felt the group worked together at an above average level (feel 13). Of the subjects 55.6% saw helping others, being important to others, giving part of oneself to others as an important experience which resulted in self-knowledge (Group 02). Feeling involved and close to the other members of the group was an important factor to 77.8% of subjects in each group (Group 03). Of interest to this study is the finding that 50% to 55.6% of subjects felt able to express their feelings very fully, were able to say what they felt rather than holding it in; were able to express negative or positive feelings towards others (Group 04) and 33.4% and 44.4% of the subjects felt the group helped them understand the type of impact they had

on others (Group 07). These latter would appear potentially related to the communication focus of this study.

An inspection of data describing the frequency with which subjects rated group leaders in each of Lieberman's four categories (see Appendix D) indicates that the questionnaires did suggest that group leaders were perceived as belonging to Lieberman's "love" category rather than "charismatic" and seen as "peers" rather than "technical" experts.

CHAPTER VI

DISCUSSION AND IMPLICATIONS

This study explored the relationship between NVC and holistic theory. More specifically the study sought to discover whether changes in nonverbal sensitivity were reflected in congruence, a dimension of personality. This facet of NVC has been relatively unresearched. Operationally, the study examined whether group experience, as represented by sensitivity or laboratory group training, had a significant impact on the subject's accuracy in decoding facial affect cues. The study was based on the premise that such group experiences could be considered as a developmental experience. The study sought to determine whether a change in personal congruence (a frequent outcome of group experience) was reflected in a parallel change in NVC sensitivity.

One finding of the study was that change occurred for both experimental and control group on the Q-Sort, the measure of personal congruence. The direction of change suggested a greater (albeit not statistically significant) change in the level of congruence in the members of both groups. The Q-Sort was chosen because it was the best available instrument to measure changes in an individual's congruence. It must be appreciated by the reader that sensitivity groups

have not always resulted in congruence increases. The non-significant findings of this and other studies (see Bergin & Garfield, 1971, pp. 815-817) may reflect a lack of subtlety in the instrument itself or a lack of awareness on the part of researchers as to the effects of key variables in group experience.

The changes on the Q-Sort, which occurred for both experimental and control groups (while not significant) were in the proposed direction. In this research, while no statistically significant link was established between sensitivity or laboratory experiences and change in congruence as measured by the Q-Sort, it is the author's opinion that those changes which did occur reflect a trend in that direction (one which could possibly be verified with improved instruments) and is hence worthy of further study.

On the post ARS measures the control group was significantly more accurate in overall decoding of facial affect cues. The experimental group showed some, albeit insignificant, increase in overall decoding accuracy. While these results could have many alternative explanations, the data suggest that the sensitivity group experience did have some impact on the ARS scores. That the control group did show an increase on the post mean overall score on the ARS and that the experimental group did not suggest that the scores gained from the ARS were not contaminated by a practice effect.

Taken together, all the above findings suggest that

there was no major change in the views of self (as measured by the Q-Sort) or in sensitivity to others (as measured by the ARS) as a result of laboratory learning.

While such findings do not appear to support the theoretical model proposed, it is the author's belief that one should not totally discount the proposed model too quickly. Both theoretical and pragmatic variables which might account for such findings were not apparent prior to the study but became evident as the study progressed. These are outlined as follows:

i) Theoretically, an interesting question emerges from this study as to whether individuals with differential sensitivity to NV cues use group experience differently. The development of NVC skills may be far more complex than initially conceived. The findings of this study would appear to suggest, for example, that some kind of interaction may occur between selected facets of group experience and decoding accuracy as reflected in the individual's ARS scores. The data from the Lieberman questionnaires suggest that factors such as feelings about leadership (Feel 11), freedom to express (Feel 03) as well as insight into self (Group 14) may be useful ones to look at relative to NV sensitivity in subsequent studies.

A second theoretical concern emerges in attempts to further understand the type of findings obtained in the present study. Theoretically-oriented authors such as Dabrowski (1964)

may be useful. According to Dabrowski, persons having sensitivity or laboratory experiences may immediately after that experience still be suffering from a state of disintegration (i.e., a state in which the individual regresses to the previous integration level while attempting to assimilate or incorporate the new and more complex differentiation skills offered through the group experience). If this is the case then the post scores on the Q-Sort and ARS for the experimental group would not be expected to reflect any marked increase because the subjects had not had an opportunity to assimilate the NV information or skills gained through the experience. Taken in light of Dabrowski's views, the findings of this study also raise the issue of appropriate interval between treatment and post-testing.

ii) If the theoretical approach is appropriate there are a number of pragmatic reasons which may also account for the results of this study. These include both the nature of the sample used and also the appropriateness and power of instruments employed. Difficulty in obtaining a large enough sample prevented the random placement of subjects into the experimental or control group. While both groups were made up of volunteers and of people interested in and knowledgeable about group experience, it is possible, for example, that the control group, which was composed of counselor trainees, had greater or different motivation to increase their NV sensitivity to facial affect cues.

As was suggested, a second possible source of contamination might be found in the instruments used. It has been pointed out by Ekman (1975, p. 6) that the kind of photographs used in the ARS could be open to practice effects. The increase in overall decoding skills as was reflected in the control group could indicate just such an effect. More work on the ARS would clarify how much of a learning artifact does exist. If the repeated presentation results in the focusing of attention on NV cues, then the absence of the effect suggests (as was previously pointed out) the influence of other not clearly understood variables in the experimental group.

It may be that since the ARS as an instrument depends on visual discrimination, the scores of the experimental group were affected by fatigue. The design of the study was such that group members were required upon completion of the laboratory experience to immediately take the tests. The control group did not have any intervening experience and so may have been better rested and, therefore, possibly more alert. This seems a reasonable suggestion, particularly since during the post administration of the ARS several experimental subjects mentioned that they were tired. While accessibility to the sample determined the time interval used in this study, future studies might seek to control fatigue by, for example, giving the post-test 48 hours after the completion of the sensitivity experience or re-testing a week afterwards.

The control group might also be given some form of non-laboratory experience. Dabrowski's claim that old organizational sets must be broken down before new information can be utilized or internalized may be one explanation for the fatigue felt by the experimental subjects. Because of fatigue, regardless of source, the post-test given immediately after treatment may not adequately measure any changes which have occurred. It seems appropriate and of importance to specifically examine, in an independent study, the effects of fatigue on the ARS or on NVC in general.

As was suggested above, the lack of significant results may reflect the lack of power and appropriateness of the ARS. While the ARS was the best available means of assessing social sensitivity, it must be appreciated that little research was available which studied the validity of this measure. The decision to use this instrument was based on its face validity, and on both Ekman's (1975) rationale and his cross-cultural studies (1968; 1972; Ekman & Friesen, 1971; Ekman, Friesen & Malmstrom, 1970; Ekman, Sorenson & Friesen, 1969). Support for selecting the instrument also came from a cross-referencing between the anatomical works of Duchenne (1892) and Hjortsjo (1970) as well as unpublished validity and reliability studies referred to by Ekman in Unmasking the Face (1975, pp. 28-31).

The findings do raise a number of related issues which should be examined. The results suggest that the belief

that laboratory groups increase social sensitivity skills may be misplaced.

The findings of this study, though not conclusive, also serve to caution educators of teachers, counselors, and other members of the helping profession that they must examine more closely their assumptions and expectations regarding the relationship between group experience and NVC skill building. Heilman's work (1968) suggests that NV skill benefits, in some way, from both a didactic and experimental approach. In attempting to ensure that non-verbal skills become part of the acquired learning perhaps some didactic elements should be built into the laboratory or sensitivity training or accompany it.

If one looks closely at the ARS some other interesting findings become evident. For example, on the post-test, the experimental group did show a trend (albeit not statistically significant) towards more accurately decoding the intensity levels--slight and moderate. This trend was not paralleled in the control group. In one previous study, Ekman and Friesen (1965) suggested that intensity is more accurately read through the body. Sensitivity training of the kind undertaken by the subjects may be resulting in an improvement in specific decoding skills rather than in a more generalized one; hence, the change in certain intensity scores on the ARS and not in overall score. It is possible that the increased skill in decoding intensity levels reflects the subjects becoming more sensitive to more

subtle pieces of nonverbal information as a result of their training. The affect areas according to Kreutzer and Charlesworth (1973) have already long been assimilated and so may not reflect change as accurately as intensity levels. Interestingly, disgust, which is believed to be developmentally the most difficult emotion to recognize (Kreutzer & Charlesworth, 1973, pp. 140-141) was the one category to reflect significant difference between experimental and control groups ($F(8,17) = 3.32$, $p < 0.036$). It is possible that recognition of the other emotional categories may represent an already completed developmental task while disgust and the more subtle levels of intensity still represent developmental challenges and so more accurately reflect growth. So little research has examined NV skill building in any kind of developmental framework, let alone specifically within an adult population, that the whole area remains one in need of much clarification.

This particular study, while primarily heuristic in nature, represents an attempt to raise questions and issues concerning NVC and its development. This study is novel in attempting to use NVC (specifically, facial affect) as an index of differentiation. The methodology, which examines the sensitivity of self in relation to sensitivity to others, may be useful in further attempts at understanding the development of NVC. While there are difficulties with this study, it does offer a starting point for ensuing research. It is felt that a larger sample would allow the researcher to

more closely study interesting variables such as age, sex, and laboratory experience more fully. Prior to initiating either other research based on these findings or research using the ARS, this study should be replicated using a "true" experimental design taking into account the problems and variables previously discussed.

This study is valuable as a heuristic exploratory work rather than as a demonstration. It may be useful to subsequent research in that it focuses attention on variables such as fatigue, disintegration, and the group factors suggested by the results of the Lieberman Questionnaire. Theoretical questions are also raised concerning which factors determine how an individual uses sensitivity training, what is the exact relationship between awareness of self and others, and what are the variables, if any, which are involved in the translation of sensitivity from an intra- to an interpersonal mode. Specific questions also become evident in areas such as the role of laboratory training in promoting self-awareness and sensitivity to NV cues, the level of sophistication in the ARS and the methodological problem of how to look at adult development of NV skills.

The major concern of the author remains the absence of a readily available theoretical foundation for research on NVC. The whole area of NVC research needs to be examined by other than strictly descriptive means and by other than experimentally examining selective channels. This study

suggests and attempts to evolve theoretical directions for NVC research in the hope that a sound theory can be developed which will provide a structure for the proliferation of NV data which has resulted from the current and widespread interest in the area.

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APPENDIX A

EMOTION CATEGORIES PROPOSED BY FIVE INVESTIGATORS

Emotion Categories Proposed by Five Investigators

Woodworth 1938	Plutchik 1962	Tomkins & McCarter 1964	Osgood* 1966	Frijda** 1968b	Proposed
Love Mirth Happiness	Coyness Happiness Joy	Enjoyment	Complacency Quiet pleasure Joy Glee Worried laughter	Happy	Happiness
Surprise	Surprise Amazement Astonishment	Surprise Startle	Surprise Amazement Bewilderment Awe	Surprise	Surprise
Fear	Apprehension Fear Terror	Fear Terror	Fear Horror	Fear	Fear
Suffering	Pensiveness Sorrow Grief	Distress Anguish	Despair Boredom Dreamy sadness Acute sorrow Despair	Sad	Sadness
Anger Determination	Annoyance Anger Rage	Anger Rage	Sullen Anger Rage Stubbornness Determination	Anger	Anger

(cont'd.)

Disgust Contempt	Tiresomeness Disgust Loathing	Disgust Contempt	Annoyance Disgust Contempt Scorn Loathing	Disgust	Disgust/ Contempt
	Attentiveness Expectancy Anticipation	Interest Excitement	Expectancy Interest	Attention	Interest
	Acceptance Incorporation	Shame Humiliation	Pity Distruct Anxiety	Calm Bitter Pride Irony Insecure Skepticism	

*All categories which were found in at least two of Osgood's three types of data analyses have been listed.

**All categories which emerged in the analysis of judgments of both stimulus persons have been listed.

APPENDIX B

INSTRUMENTS

i) ARS RECORDING FORM

ii) Q-SORT ITEMS

iii) ADAPTED LIEBERMAN QUESTIONNAIRE

iv) DEMOGRAPHIC CHECKLIST

i) ARS RECORDING FORM

AFFECT RECOGNITION SCALE (ARS)

Instructions:

A. Correctly identify the affect category present in each picture by circling the appropriate word.

B. At the right hand side of the page, circle the number indicating the intensity or degree to which you feel that the emotion is indicated in the picture.

Please Note: If you feel that there is no emotion expressed in the picture (i.e., a neutral category) it is not necessary to circle any number in the right hand column.

C. Even if you are not sure of your answer, make a guess for every picture. Do not spend too much time on any one answer; your first impression is usually best.

									Slight	Moderate	Extreme
1.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
2.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
3.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
4.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
5.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
6.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
7.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
8.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
9.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
10.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
11.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
12.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
13.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
14.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
15.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
16.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
17.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
18.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
19.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
20.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
21.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
22.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
23.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
24.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
25.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
26.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
27.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
28.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
29.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
30.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3

									Slight	Moderate	Extreme
31.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
32.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
33.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
34.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
35.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
36.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
37.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
38.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
39.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
40.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
41.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
42.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
43.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
44.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
45.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
46.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
47.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
48.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
49.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
50.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
51.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
52.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
53.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
54.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
55.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
56.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
57.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
58.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
59.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3
60.	HAPPY	SAD	FEAR	ANGER	SURPRISE	DISGUST	NEUTRAL	—	1	2	3

ii) Q-SORT ITEMS

ADJUSTMENT SCORE ITEMS*

1. I put on a false front.
2. I often feel humiliated.
3. I doubt my sexual powers.
4. I have a feeling of hopelessness.
5. I have few values and standards of my own.
6. It is difficult to control my aggression.
7. I want to give up trying to cope with the world.
8. I tend to be on my guard with people who are somewhat more friendly than I had expected.
9. I usually feel driven.
10. I feel helpless.
11. My decisions are not my own.
12. I am a hostile person.
13. I am disorganized.
14. I feel apathetic.
15. I don't trust my emotions.
16. It's pretty tough to be me.
17. I have the feeling that I am just not facing things.
18. I try not to think about my problems.
19. I am shy.
20. I am no one. Nothing seems to be me.
21. I despise myself.
22. I shrink from facing a crisis or difficulty.
23. I just don't respect myself.

*Taken from Dymond, R.F. "Adjustment Changes Over Therapy from Self-Sorts." In Rogers, C.R. and Dymond, R.F. (eds.), Psychotherapy and Personality Change. Chicago: University of Chicago Press, 1954, 79.

(cont'd.)

24. I am afraid of a full-fledged disagreement with a person.

25. I can't seem to make up my mind one way or another.

26. I am confused.

27. I am a failure.

28. I am afraid of sex.

29. I have a horror of failing in anything I want to accomplish.

30. I really am disturbed.

31. All you have to do is just insist with me, and I give in.

32. I feel insecure within myself.

33. I have to protect myself with excuses, with rationalizing.

34. I feel hopeless.

35. I am unreliable.

36. I am worthless.

37. I dislike my own sexuality.

38. I make strong demands on myself.

39. I often kick myself for the things I do.

40. I have a warm emotional relationship with others.

41. I am responsible for my troubles.

42. I am a responsible person.

43. I can accept most social values and standards.

44. Self-control is no problem to me.

45. I usually like people.

46. I express my emotions freely.

47. I can usually live comfortably with the people around me.

(cont'd.)

48. My hardest battles are with myself.
49. I am optimistic.
50. I am liked by most people who know me.
51. I am sexually attractive.
52. I can usually make up my mind and stick to it.
53. I am contented.
54. I am poised.
55. I am impulsive
56. I am a rational person.
57. I am tolerant.
58. I have an attractive personality.
59. I am ambitious.
60. I have initiative.
61. I take a positive attitude toward myself.
62. I am assertive.
63. I am satisfied with myself.
64. I am likable.
65. My personality is attractive to the opposite sex.
66. I am relaxed, and nothing really bothers me.
67. I am a hard worker.
68. I feel emotionally mature.
69. I am intelligent.
70. I am self-reliant.
71. I am different from others.
72. I understand myself.
73. I am a good mixer.
74. I feel adequate.

iii) - Adapted Lieberman Questionnaire

Enclosed you will find three questionnaires on the nature of your group experience plus one other set of questions about your personality. Please read carefully and answer all questions. Thank you for your cooperation.

Please note: Strict ethical standards will be maintained. All information volunteered on the questionnaire will be used only for research and educational purposes. The identification of individuals completing the questionnaires will be known only to the researcher.

Please fill in the information below. Thank you.

Name: _____ Birthdate: ____ ____ ____
Month Day Year

Age: _____

Sex: ___Male ___Female

Previous Laboratory Group Experience: ___Yes ___No

Duration: _____

Please elaborate:

Any background in Dance/Movement (e.g., Jazz, ballet, improvisation, modern or interpretative - all forms other than social dancing)

Duration: _____

Please elaborate:

Previous Teaching Experience (more than 6 months in the classroom) ___Yes ___No

Duration: _____

Please elaborate:

Do you consider yourself as coming from an urban or rural community?

___Urban (over 5,000 population)

___Rural (under 5,000 population)

LEADERSHIP QUESTIONNAIRE

Each of the boxes below contains four words describing qualities of leadership. From each group of four words, circle the one word or phrase that best describes your group leader; choose only one from each group. Please read and answer each question in turn, without reference to the previous or following questions. Thank you.

A. Inspiring; Loving; Comradely; Has expertise

B. Giving; Relaxed; Solid; Really believes in what he is doing

C. Relaxed; Competent; Imposing; Caring

D. Knows his stuff; Has a vision; Warm; One of us

E. People want to be like him; People want to be with him; Easy to get close to; Convincing

F. Understanding; Stimulation; Intelligent; Easy to follow his lead

G. A nice guy; Decisive; Genuine; A very special person

H. Knowledgeable; Has a sense of mission; Sympathetic; Easy-going

I. Dramatic; Open; A friend; Rarely makes mistakes.

J. Kind; Makes people feel special; Thoroughly democratic; Skilled

Feelings About The Group

Answer the following questions in terms of your feelings at the present time. Circle the best answer.

1. In the group I have talked about intimate details of my life.

   A great deal - Very much - Much - Some - A little - Not at all.

2. I have expressed my feelings of irritation, annoyance, sorrow or warmth in the group.

   A great deal - Very much - Much - Some - A little - Very little - Not at all.

3. When expressing my feelings of irritation, sorrow, annoyance or warmth in the group I felt

   Extremely comfortable - Very comfortable - Comfortable - Slightly uneasy - Uneasy - Very uneasy - Extremely uneasy.

4. Since the last session I have thought about the group.

   All of the time - Most of the time - Much of the time - Some of the time - A couple of times - Once - Not at all.

5. I liked my group.

   Very much - Pretty much - It's all right - Don't much care - Dislike it a little - Dislike it - Dislike it very much.

6. I felt that working with this particular group would enable me to attain my personal goals.

   Definitely - Very likely - Likely - Uncertain - Unlikely - Very unlikely - Definitely not.

7. How well did you like the group you were in?

   (a) I liked it very much (b) I liked it pretty well
   (c) It was all right (d) Didn't like it too much
   (e) Disliked it very much.

8. If some of the members in your group decided to dissolve the group by leaving, would you have tried to dissuade them?

(a) I would have tried very hard to persuade them to stay.
(b) I would have tried to persuade them to stay.
(c) I would have made a slight attempt to persuade them to stay.
(d) It would have made no difference if they left or stayed.
(e) I would have definitely not tried to persuade them to stay.

9. If you could have replaced members of your group with other "ideal" group members, how many would you have exchanged? (Excluding the group leader)

(a) None (b) One (c) Two (d) Three (e) Four
(f) Five (g) More than five

10. To what degree do you feel you were included by the group in its activities?

(a) I was included in all the group's activities.
(b) I was included in almost all the group's activities.
(c) I was included in most of the group's activities.
(d) I was included in some activities, but not in others.
(e) I didn't feel the group included me in many of its activities.
(f) I didn't feel the group included me in most of its activities.
(g) I didn't feel the group included me in any of its activities.

11. How did/do you feel about the group leader?

(a) He couldn't have been better.
(b) I was/am extremely satisfied.
(c) I was/am satisfied.
(d) I guess he was O.K.
(e) I had/have many doubts.
(f) I was/am dissatisfied.
(g) I was/am extremely dissatisfied.

12. Compared to other groups, how well do you imagine your group worked together?
(a) probably the best (b) much better than most (c) above average (d) average (e) not quite as well
(f) not nearly as well (g) very badly.

How Encounter Groups Work

The following are some aspects of the encounter group experience which others in the past have found useful in helping them grow and learn. Please review in your mind the course of your encounter group; read all these items; then make a decision and indicate for each item whether it was an aspect of your group that was important for your learning.

1. The group members and/or group leader gave me some direct advice or suggestions about how to deal with some life problems or with some important relationships.

   (a) did not apply to my learning in the group
   (b) applied somewhat
   (c) definitely an important part of my experience leading to learning
   (d) the two most important experiences

2. Helping others, being important to others, giving part of myself to others has been an important experience for me and has resulted in a change in my attitude towards myself.

   (a) did not apply to my learning in the group
   (b) applied somewhat
   (c) definitely an important part of my experience leading to learning
   (d) the two most important experiences

3. The important issue was that I was an involved member of a group; I felt close to other members.

   (a) did not apply to my learning in the group
   (b) applied somewhat
   (c) definitely an important part of my experience leading to learning
   (d) the two most important experiences

4. I was able to express feelings very fully; I was able to say what I felt rather than holding it in; I was able to express negative and/or positive feelings towards others.

(a) did not apply to my learning in the group
(b) applied somewhat
(c) definitely an important part of my experience leading to learning
(d) the two most important experiences

5. I was able to use others as models, to pattern myself after another member and/or leader. Seeing how others approach problems gave me ideas of how I could; seeing others take risks in the group enabled me to do the same.

(a) did not apply to my learning in the group
(b) applied somewhat
(c) definitely an important part of my experience leading to learning
(d) the two most important experiences

6. The group was, in a sense, like my family. Rather than pass through blindly, however, I was able to understand old hangups with parents, brothers, sisters. It was like reliving, only in a more aware manner, my early family experience.

(a) did not apply to my learning in the group
(b) applied somewhat
(c) definitely an important part of my experience leading to learning
(d) the two most important experiences

7. The group helped me understand the type of impact I have on others; they told me honestly what they thought of me and how I came across.

(a) did not apply to my learning in the group
(b) applied somewhat
(c) definitely an important part of my experience leading to learning
(d) the two most important experiences

8. I learned that we're all in the same boat. My problems, feelings, fears are not unique and I share much with others in the group.

(a) did not apply to my learning in the group
(b) applied somewhat
(c) definitely an important part of my experience leading to learning
(d) the two most important experiences

9. Getting insight into the causes and sources of my hangups; learning that some of the things I am are related to earlier periods in my life.

(a) did not apply to my learning in the group
(b) applied somewhat
(c) definitely an important part of my experience leading to learning
(d) the two most important experiences

10. The group gave me hope; I saw others with similar problems and experiences were able to grow and overcome their hang-ups.

(a) did not apply to my learning in the group
(b) applied somewhat
(c) definitely an important part of my experience leading to learning
(d) the two most important experiences

11. The experience that despite the availability of others, I must still fact life alone and take ultimate responsibility for the way I live; learn to face the basic issues of life and death, thus living a life less cluttered with trivalities.

(a) did not apply to my learning in the group
(b) applied somewhat
(c) definitely an important part of my experience leading to learning
(d) the two most important experiences

12. The group helped me by encouraging me to experiment with new forms of behavior, by working out difficulties with some other member(s), by doing and saying things that I have not previously done with others.

(a) did not apply to my learning in the group
(b) applied somewhat
(c) definitely an important part of my experience leading to learning
(d) the two most important experiences

13. Revealing embarrassing things about myself and still being accepted by others.

(a) did not apply to my learning in the group
(b) applied somewhat
(c) definitely an important part of my experience

leading to learning
(d) the two most important experiences

14. Understanding why I think and feel the way I do; discovering previously unknown or unacceptable parts of myself.

(a) did not apply to my learning in the group
(b) applied somewhat
(c) definitely an important part of my experience leading to learning
(d) the two most important experiences

iv) Demographic Checklist

Please fill in the information below. Thank you.

Name: _____ Birthdate: ____ ____ ____
Month Day Year

Age: _____

Sex: ____ Male ____ Female

Previous Laboratory Group Experience: ____ Yes ____ No

Duration: _____

Please elaborate:

Any background in Dance/Movement (e.g., Jazz, ballet, improvisation, modern or interpretative - all forms other than social dancing)

Duration: _____

Please elaborate:

Previous Teaching Experience (more than 6 months in the classroom) ____ Yes ____ No

Duration: _____

Please elaborate:

Do you consider yourself as coming from an urban or rural community?

____ Urban (over 5,000 population)

____ Rural (under 5,000 population)

APPENDIX C

T-TESTS COMPARING GROUPS 1 AND 2 (THE PROPOSED EXPERIMENTAL GROUP) ON THE ARS, Q-SORT AND ADAPTED LIEBERMAN QUESTIONNAIRE

i) Results from T-Tests Comparing Groups 1[a] and 2[b] (Proposed Experimental Group) on the ARS[c]

Source	Mean	S.D.	F[d]	p
PRE OVERALL SCORE				
Group 1	20.555	4.693	1.76	0.442
Group 2	18.444	3.539		
HAPPY				
Group 1	8.6667	1.000	4.00	0.067
Group 2	8.6667	0.500		
SAD				
Group 1	6.4444	1.424	2.92	0.151
Group 2	7.2222	0.833		
FEAR				
Group 1	7.1111	1.453	2.25	0.272
Group 2	5.6667	2.176		
ANGER				
Group 1	6.6667	1.732	1.33	0.694
Group 2	6.3333	2.000		
SURPRISE				
Group 1	5.8889	0.928	4.94	0.037
Group 2	6.3333	2.062		
DISGUST				
Group 1	8.0000	1.0000	3.25	0.116
Group 2	6.3333	1.803		
NEUTRAL				
Group 1	2.3333	1.500	1.05	0.947
Group 2	2.1111	1.537		
SLIGHT				
Group 1	3.7778	2.863	1.56	0.543
Group 2	5.6667	2.291		

(cont'd.)

Source	Mean	S.D.	F	p
MODERATE				
Group 1	6.8889	2.147	1.52	0.566
Group 2	7.4444	1.740		
EXTREME				
Group 1	10.0000	3.873	3.58	0.090
Group 2	8.2222	2.048		
POST OVERALL				
Group 1	21.1111	3.756	1.95	0.365
Group 2	20.2222	4.919		
HAPPY				
Group 1	8.5556	1.014	2.03	0.337
Group 2	8.5556	0.726		
SAD				
Group 1	6.7778	1.986	2.03	0.337
Group 2	7.2222	1.394		
FEAR				
Group 1	5.7778	1.856	1.46	0.606
Group 2	6.1111	1.537		
ANGER				
Group 1	7.3333	2.179	2.80	0.166
Group 2	7.2222	1.302		
SURPRISE				
Group 1	6.7778	1.093	3.16	0.124
Group 2	5.4444	1.944		
DISGUST				
Group 1	6.7778	0.972	1.55	0.552
Group 2	7.1111	0.982		
NEUTRAL				
Group 1	2.2222	1.302	1.05	0.945
Group 2	2.8889	1.269		

(cont'd.)

Source	Mean	S.D.	F	p
SLIGHT				
Group 1	4.6667	2.915	1.36	0.674
Group 2	8.3333	2.500		
MODERATE				
Group 1	8.3333	1.323	3.73	0.081
Group 2	8.4444	2.555		
EXTREME				
Group 1	9.5556	2.128	1.49	0.585
Group 2	5.3333	2.598		

[a]Group 1; n = 9

[b]Group 2; n = 9

[c]significant at $\leq .05$

[d]$F = t^2$

ii) Results from T-Tests Comparing Groups 1[a] and 2[b] (Proposed Experimental Group) on the Q-Sort[c]

Source	Mean	S.D.	F-Value[d]	p
Group 1 (PRE)	0.3688	0.119	2.55	0.208
Group 2 (PRE)	0.5411	0.189		
Group 1 (POST)	0.4991	0.205	1.35	0.678
Group 2 (POST)	0.6604	0.236		

[a] Group 1; n = 9

[b] Group 2; n = 9

[c] significant at $\leq .05$

[d] $F = t^2$

iii) Results of T-tests Comparing Groups 1[a] and 2[b] (Proposed Experimental Group) on the Adapted Lieberman Questionnaire[c]

Feelings about the Group

FEEL 01

1. In the group I have talked about intimate details of my life

   A great deal - Very much - Much - Some - A little - Not at all.

   $(F(8,8) = 3.60, p < 0.089)$

FEEL 02

2. I have expressed my feelings or irritation, annoyance, sorrow, or warmth in the group

   A great deal - Very much - Much - Some - A little - Very little - Not at all.

   $(F(8,8) = 1.55, p < 0.549)$

FEEL 03

3. When expressing my feelings of irritation, sorrow, annoyance or warmth in the group I felt

   Extremely comfortable - Very comfortable - Comfortable - Slightly uneasy - Uneasy - Very uneasy - Extremely uneasy.

   $(F(8,8) = 5.00, p < 0.035)$

FEEL 04

4. Since the last session I have thought about the group

   All of the time - Most of the time - Much of the time - Some of the time - A couple of times - Once - Not at all.

   $(F(8,8) = 2.77, p < 0.171)$

(cont'd.)

FEEL 05

5. I liked my group

Very much - Pretty much - It's all right - Don't much care - Dislike it a little - Dislike it - Dislike it very much.

$(F(8,8) = 1.00, p < 1.000)$

FEEL 06

6. I felt that working with this particular group would enable me to attain my personal goals

Definitely - Very likely - Likely - Uncertain - Unlikely - Very unlikely - Definitely not.

$(F(8,8) = 1.12, p < 0.872)$

FEEL 07

7. How well did you like the group you were in?

(a) I liked it very much
(b) I liked it pretty well
(c) It was all right
(d) Didn't like it too much
(e) Disliked it very much

$(F(8,8) = 1.12, p < 0.863)$

FEEL 08

8. If some of the members in your group decided to dissolve the group by leaving, would you have tried to dissuade them?

(a) I would have tried very hard to persuade them to stay.
(b) I would have tried to persuade them to stay.
(c) I would have made a slight attempt to persuade them to stay.
(d) It would have made no difference if they left or stayed.
(e) I would have definitely not tried to persuade them to stay.

$(F(8,8) = 1.12, p < 0.866)$

(cont'd.)

FEEL 09

9. If you could have replaced members of your group with other "ideal" group members, how many would you have exchanged? (Excluding the group leader)

(a) None (b) One (c) Two (d) Three (e) Four
(f) Five (g) More than five.

($F(8,8) = 0.0$, $p < 1.000$)

FEEL 10

10. To what degree do you feel you were included by the group in its activities?

(a) I was included in all the group's activities.
(b) I was included in almost all the group's activities.
(c) I was included in most of the group's activities.
(d) I was included in some activities, but not in others.
(e) I didn't feel the group included me in many of its activities.
(f) I didn't feel the group included me in most of its activities.
(g) I didn't feel the group included me in any of its activities.

($F(8,8) = 4.22$ $p < 0.073$)

FEEL 11

11. How did/do you feel about the group leader?

(a) He couldn't have been better.
(b) I was/am extremely satisfied.
(c) I was/am satisfied.
(d) I guess he was O.K.
(e) I had/have many doubts.
(f) I was/am dissatisfied.
(g) I was/am extremely dissatisfied.

($F(8,8 = 7.98$, $p < 0.013$)

FEEL 12

12. Compared to other groups, how well do you imagine your group worked together?

(a) probably the best (b) much better than most (c) above average (d) average (e) not quite as well (f) not nearly as well (g) very badly

($F(8,8) = 1.01$, $p < 0.966$)

How Encounter Groups Work

GROUP 01

1. The group members and/or group leader gave me some direct advice or suggestions about how to deal with some life problems or with some important relationships.

   (a) did not apply to my learning in the group
   (b) applied somewhat
   (c) definitely an important part of my experience leading to learning
   (d) the two most important experiences

   $(F(8,8) = 1.03, p < 0.957)$

GROUP 02

2. Helping others, being important to others, giving part of myself to others has been an important experience for me and has resulted in a change in my attitude towards myself.

   (a) did not apply to my learning in the group
   (b) applied somewhat
   (c) definitely an important part of my experience leading to learning
   (d) the two most important experiences

   $(F(8,8) = 1.77, p < 0.442)$

GROUP 03

3. The important issue was that I was an involved member of a group; I felt close to other members.

   (a) did not apply to my learning in the group
   (b) applied somewhat
   (c) definitely an important part of my experience leading to learning
   (d) the two most important experiences

   $(F(8,8) = 1.26, p < 0.770)$

GROUP 04

4. I was able to express feelings very fully; I was able to say what I felt rather than holding it on; I was

(cont'd.)

able to express negative and/or positive feelings towards others.

(a) did not apply to my learning in the group
(b) applied somewhat
(c) definitely an important part of my experience leading to learning
(d) the two most important experiences

$(F(8,8) = 1.56, p < 0.574)$

GROUP 05

5. I was able to use others as models, to pattern myself after another member and/or leader. Seeing how others approach problems gave me ideas of how I could; seeing others take risks in the group enabled me to do the same.

(a) did not apply to my learning in the group
(b) applied somewhat
(c) definitely an important part of my experience leading to learning
(d) the two most important experiences

$(F(8,8) = 1.63, p < 0.504)$

GROUP 06

6. The group was, in a sense, like my family. Rather than pass through blindly, however, I was able to understand old hangups with parents, brothers, sisters. It was like reliving, only in a more aware manner, my early family experience.

(a) did not apply to my learning in the group
(b) applied somewhat
(c) definitely an important part of my experience leading to learning
(d) the two most important experiences

$(F(8,8) = 1.69, p < 0.476)$

GROUP 07

7. The group helped me understand the type of impact I have on others; they told me honestly what they thought of me and how I came across.

(cont'd.)

(a) did not apply to my learning in the group
(b) applied somewhat
(c) definitely an important part of my experience leading to learning
(d) the two most important experiences

$(F(8,8) = 1.94, p < 0.369)$

GROUP 8

8. I learned that we're all in the same boat. My problems, feelings, fears are not unique and I share much with others in the group.

(a) did not apply to my learning in the group
(b) applied somewhat
(c) definitely an important part of my experience leading to learning
(d) the two most important experiences

$(F(8,8) = 1.11, p < 0.885)$

GROUP 9

9. Getting insight into the causes and sources of my hangups; learning that some of the things I am are related to earlier periods in my life.

(a) did not apply to my learning in the group
(b) applied somewhat
(c) definitely an important part of my experience leading to learning
(d) the two most important experiences

$(F(8,8) = 1.86, p < 0.400)$

GROUP 10

10. The group gave me hope; I saw others with similar problems and experiences were able to grow and overcome their hang-ups.

(a) did not apply to my learning in the group
(b) applied somewhat
(c) definitely an important part of my experience leading to learning
(d) the two most important experiences

$(F(8,8) = 1.50, p < 0.580)$

(cont'd.)

GROUP 11

11. The experience that despite the availability of others, I must still face life alone and take ultimate responsibility for the way I live; learn to face the basic issues of life and death, thus living a life less cluttered with trivialities.

(a) did not apply to my learning in the group
(b) applied somewhat
(c) definitely an important part of my experience leading to learning
(d) the two most important experiences

$(F(8,8) = 1.47, p < 0.596)$

GROUP 12

12. The group helped me by encouraging me to experiment with new forms of behavior, by working out difficulties with some other member(s), by doing and saying things that I have not previously done with others.

(a) did not apply to my learning in the group
(b) applied somewhat
(c) definitely an important part of my experience leading to learning
(d) the two most important experiences

$(F(8,8) = 1.56, p < 0.542)$

GROUP 13

13. Revealing embarrassing things about myself and still being accepted by others.

(a) did not apply to my learning in the group
(b) applied somewhat
(c) definitely an important part of my experience leading to learning
(d) the two most important experiences

$(F(8,8) = 1.06, p < 0.941)$

GROUP 14

14. Understanding why I think and feel the way I do; discovering previously unknown or unacceptable parts of myself.

(cont'd.)

(a) did not apply to my learning in the group
(b) applied somewhat
(c) definitely an important part of my experience leading to learning
(d) the two most important experiences

$(F(8,8) = 4.75, p < 0.041)$

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[a] $n = 9$

[b] $n = 9$

[c] significant at $\leq .05$

[d] $F = t^2$

APPENDIX D

i) SUMMATED RAW SCORES FOR EXPERIMENTAL AND CONTROL GROUPS ON THE ARS

ii) PEARSON PRODUCT-MOMENT CORRELATIONS AND TRANSPOSED Z-SCORES FOR EXPERIMENTAL AND CONTROL GROUPS ON THE Q-SORT

iii) LEADERSHIP

i) Summated Raw Scores for Experimental and Control Groups on the ARS

(PRE) Summated Raw Scores for Experimental Group on ARS

	AFFECT CATEGORIES								INTENSITY LEVEL		
Subject	Overall	Happy	Sad	Fear	Anger	Surprise	Disgust	Neutral	1	2.	3
1	23	9	7	7	5	5	8	2	5	6	14
2	20	9	6	7	8	7	9	2	2	3	13
3	24	9	8	6	7	6	9	4	8	8	7
4	18	9	8	8	6	5	8	0	5	10	7
5	12	6	4	4	7	5	9	3	1	7	2
6	24	9	7	7	8	5	8	1	5	9	13
7	26	9	8	8	8	7	7	2	7	6	12
8	23	9	8	8	3	7	9	5	1	5	12
9	15	9	8	8	7	6	7	2	0	6	8
10	16	9	8	8	5	3	7	1	6	6	8
11	22	8	6	7	8	6	7	4	6	9	6
12	16	8	7	6	7	5	5	1	2	7	11
13	25	9	8	6	8	7	9	4	9	4	6
14	12	8	7	1	7	5	3	0	4	5	7

(cont'd.)

	AFFECT CATEGORY								INTENSITY LEVEL		
Subjects	Overall	Happy	Sad	Fear	Anger	Surprise	Disgust	Neutral	1	2	3
15	18	9	8	4	5	9	5	2	4	9	7
16	23	9	8	8	7	5	8	4	7	6	10
17	19	9	8	6	2	9	6	1	8	8	10
18	18	9	6	5	7	8	7	2	6	8	6
19	22	9	5	5	7	7	7	2	10	6	8
20	21	9	9	7	5	5	9	4	7	8	4
21	16	7	6	5	8	5	9	3	2	6	12
22	19	9	8	8	6	5	8	2	4	5	12
23	19	9	6	6	7	8	8	2	6	7	7
24	19	9	8	5	6	8	6	2	6	6	11
25	27	9	8	8	6	6	8	5	5	8	13
26	16	9	4	7	7	3	2	3	4	8	6
27	16	9	4	6	4	5	8	4	7	6	3

(POST) Summated Raw Scores for Experimental Group on the ARS

		AFFECT CATEGORY							INTENSITY LEVEL		
Subjects	Overall	Happy	Sad	Fear	Anger	Surprise	Disgust	Neutral	1	2	3
1	15	6	5	2	5	7	6	0	3	6	10
2	21	9	8	8	8	6	7	2	0	6	13
3	24	9	9	7	9	6	6	3	7	8	10
4	18	9	6	6	9	6	7	1	2	8	9
5	20	8	5	4	6	8	5	4	4	8	8
6	24	9	4	7	8	6	7	2	8	10	8
7	27	9	9	7	9	8	6	2	9	10	10
8	23	9	6	5	3	6	9	4	4	9	12
9	18	9	9	6	9	7	6	2	4	9	6
10	19	9	9	8	7	2	6	2	9	10	7
11	18	9	7	4	9	7	7	3	7	7	6
12	17	8	5	5	9	4	9	3	6	5	9
13	29	9	9	8	8	5	7	4	14	10	6
14	13	7	7	7	5	7	7	0	7	5	3

(cont'd.)

	AFFECT CATEGORY								INTENSITY LEVEL		
Subject	Overall	Happy	Sad	Fear	Anger	Surprise	Disgust	Neutral	1	2	3
15	22	9	7	4	8	8	7	3	7	13	3
16	26	9	8	7	7	4	6	4	6	9	9
17	19	9	6	6	6	5	8	3	10	9	4
18	18	8	6	6	7	7	8	4	7	9	2
19	23	9	7	6	9	6	7	4	11	8	6
20	19	9	8	6	8	5	6	3	9	8	4
21	20	8	7	7	5	5	7	4	2	8	8
22	22	9	8	8	8	5	7	3	5	6	12
23	22	9	9	7	6	8	4	2	6	13	5
24	22	9	9	7	6	6	8	3	6	7	10
25	24	9	7	8	8	7	8	4	6	8	7
26	22	7	4	5	8	6	4	4	12	7	4
27	24	9	5	4	6	8	8	5	13	11	1

ii) Pearson Produce-Moment Correlations and Transposed Z-Scores for Experimental and Control Groups on the Q-Sort

Rank Order Correlations and Transposed Scores for the Experimental Group on the Q-Sort

Subject	Precounseling r	Precounseling Z	Postcounseling r	Postcounseling Z
1	.2918	.299	.3271	.332
2	.4607	.497	.5074	.549
3	.2054	.203	.4164	.436
4	.3981	.412	.2897	.288
5	.2395	.234	.2812	.288
6	.3598	.366	.4726	.510
7	.3424	.354	.4492	.472
8	.3684	.377	.7265	.908
9	.5257	.577	.6104	.709
10	.4670	.497	.3339	.343
11	.6453	.758	.8248	1.157
12	.4777	.510	.6831	.829
13	.3407	.354	.4543	.485
14	.5738	.648	.6248	.725

(cont'd.)

Subject	Precounseling r	Precounseling Z	Postcounseling r	Postcounseling Z
15	.3820	.400	.5211	.577
16	.2522	.256	.5508	.618
17	.5598	.618	.6214	.725
18	.6810	.829	.4560	.485
19	.4730	.510	.6185	.709
20	.3547	.366	.4334	.406
21	.4977	.536	.5640	.633
22	.7074	.867	.8265	1.157
23	.4190	.436	.3845	.400
24	.7354	.929	.7176	.887
25	.5683	.633	.7086	.867
26	.3594	.366	.2271	.224
27	.4781	.510	.4037	.424

iii) Lieberman Leadership Description by Subcategory: Frequency Distribution

Lieberman Leadership Description by Subcategory: Frequency Distribution

GROUP 1

FIRST LEADER - LOVE COUNT

Frequency of Response per Questionnaire	No. of Subjects	Relative Frequency (PCT)	Adjusted Frequency (PCT)	Cumulative Frequency (PCT)
2	1	11.1	12.5	12.5
3	2	22.2	25.0	37.5
4	3	33.3	37.5	75.0
6	1	11.1	12.5	87.5
7	1	11.1	12.5	100.0
99	1	11.1	Missing	100.0
Total	9	100.0	100.0	100.0

SECOND LEADER - LOVE COUNT

Frequency of Response per Questionnaire	No. of Subjects	Relative Frequency (PCT)	Adjusted Frequency (PCT)	Cumulative Frequency (PCT)
1	1	11.1	12.5	12.5
2	2	22.2	25.0	37.5
3	2	22.2	25.0	62.5
4	2	22.2	25.0	87.5
7	1	11.1	12.5	100.0
99	1	11.1	Missing	100.0
Total	9	100.0	100.0	100.0

GROUP 2

FIRST LEADER - LOVE COUNT

Frequency of Response per Questionnaire	No. of Subjects	Relative Frequency (PCT)	Adjusted Frequency (PCT)	Cumulative Frequency (PCT)
2	1	11.1	14.3	14.3
3	2	22.2	28.6	42.9
4	1	11.1	14.3	57.1
5	2	22.2	28.6	85.7
8	1	11.1	14.3	100.0
99	2	22.2	Missing	100.0
Total	9	100.0	100.0	

SECOND LEADER - LOVE COUNT

Frequency of Response per Questionnaire	No. of Subjects	Relative Frequency (PCT)	Adjusted Frequency (PCT)	Cumulative Frequency (PCT)
2	4	44.4	44.4	44.4
3	3	33.3	33.3	77.8
5	1	11.1	11.1	88.9
8	1	11.1	11.1	100.0
Total	9	100.0	100.0	

GROUP 1

FIRST LEADER - CHARISMA COUNT

Frequency of Response per Questionnaire	No. of Subjects	Relative Frequency (PCT)	Adjusted Frequency (PCT)	Cumulative Frequency (PCT)
0	4	44.4	50.0	50.0
1	1	11.1	12.5	62.5
2	1	11.1	12.5	75.0
3	2	22.2	25.0	100.0
99	1	11.1	Missing	100.0
Total	9	100.0	100.0	

SECOND LEADER - CHARISMA COUNT

Frequency of Response per Questionnaire	No. of Subjects	Relative Frequency (PCT)	Adjusted Frequency (PCT)	Cumulative Frequency (PCT)
0	2	22.2	25.0	25.0
1	4	44.4	50.0	75.0
2	1	11.1	12.5	87.5
3	1	11.1	12.5	100.0
99	1	11.1	Missing	100.0
Total	9	100.0	100.0	

GROUP 2

FIRST LEADER - CHARISMA COUNT

Frequency of Response per Questionnaire	No. of Subjects	Relative Frequency (PCT)	Adjusted Frequency (PCT)	Cumulative Frequency (PCT)
0	4	44.4	57.1	57.1
1	1	11.1	14.3	71.4
3	1	11.1	14.3	85.7
4	1	11.1	14.3	100.0
99	2	22.2	Missing	100.0
Total	9	100.0	100.0	

SECOND LEADER - CHARISMA COUNT

Frequency of Response per Questionnaire	No. of Subjects	Relative Frequency (PCT)	Adjusted Frequency (PCT)	Cumulative Frequency (PCT)
0	7	77.8	77.8	77.8
2	2	22.2	22.2	100.0
Total	9	100.0	100.0	

GROUP 1

FIRST LEADER - PEER COUNT

Frequency of Response per Questionnaire	No. of Subjects	Relative Frequency (PCT)	Adjusted Frequency (PCT)	Cumulative Frequency (PCT)
1	3	33.3	37.5	37.5
2	2	22.2	25.0	62.5
3	1	11.1	12.5	75.0
4	1	11.1	12.5	87.5
6	1	11.1	12.5	100.0
99	1	11.1	Missing	100.0
Total	9	100.0	100.0	

SECOND LEADER - PEER COUNT

Frequency of Response per Questionnaire	No. of Subjects	Relative Frequency (PCT)	Adjusted Frequency (PCT)	Cumulative Frequency (PCT)
0	2	22.2	25.0	25.0
1	2	22.2	25.0	50.0
2	2	22.2	25.0	75.0
4	1	11.1	12.5	87.5
6	1	11.1	12.5	100.0
99	1	11.1	Missing	100.0
Total	9	100.0	100.0	

GROUP 2

FIRST LEADER - PEER COUNT

Frequency of Response per Questionnaire	No. of Subjects	Relative Frequency (PCT)	Adjusted Frequency (PCT)	Cumulative Frequency (PCT)
0	1	11.1	14.3	14.3
1	1	11.1	14.3	28.6
2	1	11.1	14.3	42.9
3	1	11.1	14.3	57.1
4	1	11.1	14.3	71.4
5	1	11.1	14.3	85.7
6	1	11.1	14.3	100.0
99	2	22.2	Missing	100.0
Total	9	100.0	100.0	

SECOND LEADER - PEER COUNT

Frequency of Response per Questionnaire	No. of Subjects	Relative Frequency (PCT)	Adjusted Frequency (PCT)	Cumulative Frequency (PCT)
1	1	11.1	11.1	11.1
2	1	11.1	11.1	22.2
4	1	11.1	11.1	33.3
5	3	33.3	33.3	66.7
6	2	22.2	22.2	88.9
7	1	11.1	11.1	100.0
Total	9	100.0	100.0	

GROUP 1

FIRST LEADER - TECHNICAL COUNT

Frequency of Response per Questionnaire	No. of Subjects	Relative Frequency (PCT)	Adjusted Frequency (PCT)	Cumulative Frequency (PCT)
0	1	11.1	12.5	12.5
1	3	33.3	37.5	50.0
3	2	22.2	25.0	75.0
4	1	11.1	12.5	87.5
5	1	11.1	12.5	100.0
99	1	11.1	Missing	100.0
Total	9	100.0	100.0	

SECOND LEADER - TECHNICAL COUNT

Frequency of Response per Questionnaire	No. of Subjects	Relative Frequency (PCT)	Adjusted Frequency (PCT)	Cumulative Frequency (PCT)
0	1	11.1	12.5	12.5
1	2	22.2	25.0	37.5
4	1	11.1	12.5	50.0
5	2	22.2	25.0	75.0
6	1	11.1	12.5	87.5
7	1	11.1	12.5	100.0
99	1	11.1	Missing	100.0
Total	9	100.0	100.0	

GROUP 2

FIRST LEADER - TECHNICAL COUNT

Frequency of Response per Questionnaire	No. of Subjects	Relative Frequency (PCT)	Adjusted Frequency (PCT)	Cumulative Frequency (PCT)
1	5	55.6	71.4	71.4
3	2	22.2	28.6	100.0
99	2	22.2	Missing	100.0
Total	9	100.0	100.0	

SECOND LEADER - TECHNICAL COUNT

Frequency of Response per Questionnaire	No. of Subjects	Relative Frequency (PCT)	Adjusted Frequency (PCT)	Cumulative Frequency (PCT)
0	2	22.2	22.2	22.2
1	3	33.3	33.3	55.6
2	1	11.1	11.1	66.7
3	2	22.2	22.2	88.9
4	1	11.1	11.1	100.0
Total	9	100.0	100.0	